THE INTERFACE BETWEEN ENTERPRISE CONTENT MANAGEMENT AND RECORDS MANAGEMENT IN CHANGING ORGANIZATIONS

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To Anders, Kevin and Felicia
ABSTRACT

The increased demand from citizens for efficient service delivery from public sector organizations has implications for the information that underpins those services. Robust and effective information management is required. Information is looked upon as a resource that can give organizations a competitive edge if it is well leveraged. To address the need for more services and for more efficient service delivery, the Swedish government has promoted e-government initiatives and the two municipalities that are the subjects of this research have responded by engaging in e-service development and provision. e-Government has at its core the use of information and communication technology (ICT). The municipalities have embarked on the analysis and automation of their business processes and hence the use of information systems.

Web-based technologies have created a two-way communication flow which has generated complex information for the municipalities to address. This development calls for stronger information and records management regimes. Enterprise Content Management is a new information management construct proposed to help organizations to deal with all their information resources. It promotes enterprise-wide information management. There is, however, little knowledge and understanding of ECM in the Swedish public sector. Further, how e-government developments have affected the management of information is an issue that has not been explored. Traditionally Swedish public authorities have employed records management to address the challenges of managing information. Records management has been used for the effective and systematic capture of records and the maintenance of their reliability and authenticity. While information helps with the daily running of business activities, records carry the evidentiary value of the interactions between the citizens and the municipalities. This research critically examines the interface between Enterprise Content Management (ECM) and records management as information/records management approaches. This has meant examining what the similarities and the differences between the two approaches are. The research instrumentally used the lens of the Records Continuum Model (RCM), which promotes the management of the entire records’ continuum, a proactive approach, combines the management of archives and records and supports the pluralisation of the captured records. The research further highlights the information management challenges that the municipalities are facing as they engage in e-government developments.

Keywords: Enterprise Content Management, Records Management, E-government, Long-term Preservation, Business Process Management, Enterprise Architecture.
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Proscovia Svärd, October, 2011
PROLOGUE

The motivation to undertake this research came from my work in a government organization. My various roles as an archivist, research administrator and project co-ordinator, exposed me to the fact that records management underpins all human activity. The role of archivist revealed to me the challenges of implementing effective strategies and convincing management and staff of the value of good records management to accountability, transparency and retaining the corporate and societal memory. When I was recruited as a doctoral student under the auspices of a European Union (EU) funded project, Centre for Digital Information Management (CEDIF) and read about the research areas that had been defined within the project, I was exposed to Enterprise Content Management (ECM), a strategy which focused on tools, methods and strategies to assist organizations in managing their content. My interest developed due to the fact that the ECM proponents claimed to have integrated records management in their ECM strategy. These developments in ECM, combined with the challenges that I encountered in the workplace, aroused my interest in researching the interface between Enterprise Content Management and Records Management.

The CEDIF project addressed the following areas of research:

- Enterprise Content Management (ECM);
- Enterprise Architecture (EA);
- Business Process Management (BPM);
- Documentation;
- Metadata;
- Records Management;
- The borders between records management and archives management;
- The archive as a function; and
- Systems for long-term preservation.

My research has focused on two information management approaches that is, Enterprise Content Management (ECM) and records management in the context of e-government developments being undertaken by the two municipalities that were used as case studies.
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"Good records management is like diet and exercise -- it is good for us, but getting there is another story," Bruce Whitney, former chief litigation counsel at Air Products and Chemicals, 2009.

1. INTRODUCTION AND BACKGROUND

Public authorities have been characterized as lethargic in nature and therefore slow in responding to change (Perrow, 1993). This is, however changing since economic challenges and the increased demand from the citizens for better service delivery is forcing them to modernize their work processes. Governments around the world are engaging technology to harness service delivery, effectiveness, accountability and transparency (Sarikas & Weerakkody, 2007, p. 153). The transformation of organizations using information and communication technologies (ICT) surfaces in many research articles (Al-Busaidy, 2009; Andersen, 2006; Layne, 2001). This modernization process is also promoted by the Swedish government through e-government initiatives and its emphasis on the effective use of information. The Swedish E-Government Delegation’s report, for example, emphasized the effective management of information in the development of the third generation e-government. The third generation e-government aims to develop a demand driven e-government that also considers the society around it, that is, the citizens and private companies. They are looked upon as capable e-government co-developers with the capability to use government information to develop new services and hence increase the innovation and development potential of the society at large. The management of information therefore, ought to be co-ordinated to reduce the administrative burden and to make it easily accessible in order to facilitate business transactions (Statens Offentliga Utredningar (SOU), 2009:86).

The objective of the Swedish e-government development is to make it as simple as possible for as many people as possible to exercise their rights and access public administration services. e-Government is therefore looked upon as a tool that has the potential to impact the whole society, through the continuous development of public services to cater for new needs and expectations (SOU 2009:86). e-Government has at its core, the use of information and communication technology (ICT). e-Government developments have created a two-way information flow and increased the amount of information that public authorities have to manage (Asproth, Borglund, Samuelsson, & Öberg, 2010).
Swedish public authorities have traditionally employed records management as an information and records management approach. The Swedish records management approach does not differentiate between records in current use and records of permanent and long-term value known as archives. All records have to be made readily accessible to the general public upon request (Gränström, Lundquist, & Fredriksson, 2000). Records are different from general content in an organization. According to ISO International Standard 15489-1 a record is defined as “Recorded information produced or received in the initiation, conduct or completion of an institutional or individual activity and that comprises content, context, and structure sufficient to provide evidence of that activity” (Bantin, 2008, p. 27). Records management is an established discipline and practice that has been used both in the private and public sector to ensure effective management of information and records (Shepherd & Yeo, 2003). It aims to efficiently and systematically control the creation, receipt, maintenance, use and disposition of records. It includes processes for capturing and maintaining evidence of and information about business activities in the form of records (Duranti & Preston, 2008). The systematic management of records means that relevant records are maintained to support business processes, accountability and decision making processes. Records arise organically from business transactions and reflect the functions and processes of a business (Shepherd & Yeo, 2003).

The increase in the channels through which citizens interact with the municipalities require information and records management strategies that will capture the communication that transpires, the information generated and the records that are created by the various interactions. Information in organisations is both structured and unstructured. Unstructured data includes project spaces, shared disk drives, and desktops (MacMillan & Huff, 2009; Reimer, 2002). According to MacMillan and Huff, unstructured information is information that is outside the managed environment. While imported and stored in different places in an organization, it can also be information upon which decisions are based. MacMillan and Huff argued that 80 percent of the information within most organizations is unstructured. Enterprise Content Management (ECM) is an emerging information management strategy and discipline currently being promoted as a solution to all contemporary information management problems. It is designed to help organizations to manage their information resources effectively and in a manner that gives them a competitive edge (Glazer, Jenkins, & Schaper, 2005; MacMillan & Huff, 2009; vom Brocke et al., 2008).
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MacMillan & Huff contend that ECM is about creating the culture of sharing information. They also consider it as a solution to the management of structured and unstructured information. Shegda & Gilbert (2009) posited that ECM consists of the vision and framework to integrate a broad range of content management technologies and content formats in the entire organization. MacMillan & Huff further state that ECM is in the first instance about people, and secondly, about the context and content, and lastly about technology. Bantin (2008) confirms that it is only 20 percent of business information that is stored as structured data in databases. The recognition of the importance of documents that are scattered in different places in an organization’s information management systems led to the development of document management systems. He argued that the changes that have taken place within the document management applications sphere, have led to the emergence of records management applications and the creation of ECM systems. These systems have evolved from simple systems with simple records management functionality to ECM systems (Bantin, 2008).

The effective management of information has grown in importance and the New Public Management (NPM) theory emphasizes the role of information in the management of performance and control of the agents’ actions, (Harries, 2009). NPM theory is about introducing private sector practices into the public sector, strengthening the prerogatives of managers, measuring performance, increasing competitive pressures and cutting costs (Larbi, 1999; O’Donell, Allan, & Peetz, 1999). The United Kingdom’s Office of Public Section Information stated that “Information, particularly Public Sector Information (PSI), is at the head of the citizen’s relationship with government and the public sector” (Office of Public Sector Information, 2009, p. 18). Therefore, a holistic and proactive approach to information and records management is crucial to the development and promotion of e-government. The proactive approach ought to include long-term preservation of information (Tillbury, 2008; Öberg & Borglund, 2006).

Business process management and enterprise architecture are models that are being adopted by organizations in order to engage in a holistic improvement of their business operations and information management (Butler Group, 2004; Goikoetxea, 2007; Johnson & Ekstedt, 2007; Ljungberg & Larsson, 2008). The Technical report, Information and Documentation – Work Process Analysis for Records (ISO/TR 26122, 2008) emphasizes the fact that records are intrinsically linked to business processes. There is also a school of thought that Enterprise Architecture (EA) ensures the effective deployment of information systems and facilitates decision making processes (Goikoetxea, 2007; Johnson & Ekstedt, 2007).
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Disparate information systems affect information access since they create information silos.

Sweden is currently pursuing a discourse on the merging of all government information flows in order to create a single point of access for citizens. This makes the management of information crucial. Information is further looked upon as a national resource that ought to boost national development (SOU 2009:86). Logan (2009) argued that electronic document management and collaboration systems are supposed to help with the creation and capture of information. However, attention has to be paid to the organization of the content if any value is to be realized from it. The effective use, re-use and sharing of information require strong information and records management regimes. According to the literature reviewed, both ECM and records management are meant to enable organizations to effectively manage their information resources (MacMillan & Huff, 2009; Nordheim & Päivärinta, 2004; Päivärinta & Munkvold, 2005; Shepherd & Yeo, 2003; vom Brocke, et al., 2008).

1.1 Statement of the Problem

Swedish local government authorities is the context for this study. The management and use of information and records in the e-government environment is central to the research problem. The information municipalities generate is public and is meant to promote the principles of accountability and transparency. Under Swedish legislation, the information that municipalities generate constitutes public records and must be managed using sound records management principles. In Swedish public institutions, information management is regulated according to the Archives Act, and citizens have a right to access information on demand. Freedom of information is enshrined in the Swedish Constitution and dates back to the eighteenth century (Gränström, et al., 2000). This way, the media and the ordinary citizens have been enabled to scrutinize government operations.

One of the most important instruments of citizens’ control of public authorities is the principle of public access to official documents, that is, records generated by public institutions, in conduct of their business. The concept of official documents is defined in the Swedish Freedom of the Press Act, a constitutional law, which considers a document official and a record, as soon as it is created and prepared according to certain criteria, or received by an agency (SOU 2009:86 p. 39). Municipalities are therefore required to create, manage and preserve their records according to the set rules in order to promote information access.
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Electronic document and records management systems are recommended as a means to assist with the capture and management of information in a manner that meets with the archival requirements (International Council on Archives, 2008).

As municipalities engage in the development of e-government in order to deliver high quality services and to increase efficiency, their information resources, have to be managed in a manner that promotes access, openness and transparency; issues associated not only with business processes but also with records as evidence of these processes. e-Government initiatives have meant the use of web-based technologies to disseminate information to the citizens and hence, a two-way communication flow has been established (Richard, 1999; Worall, 2010). The management of information is crucial to this process and to the delivery of quality services. The burgeoning information needs to be managed in an effective way in order to comply with the rules and regulations governing public information.

The proliferation of compound documents and unstructured information on the Internet, mail servers and hard-drives in form of web pages, email, RSS feeds, office documents, images, video and sound (MacMillan & Huff, 2009; Reimer, 2002), is posing challenges. All this information/records need to be brought in a managed environment and this environment should include plans for long-term preservation of information. Municipal interactions with citizens now take place in a web-based environment via emails, blogs and other social interaction options in addition to traditional paper-based correspondence. These developments call for effective information/records management strategies. As ECM promises to deliver enterprise-wide information management it was appropriate to critically examine it in order to establish if it is any different from records management, an approach that is used by Swedish municipalities.

1.2 The Aim and Scope of the Research

The research aims to critically examine the interface between ECM and records management. Examining the interface means looking at similarities and differences between the two information management approaches. This will be done by establishing whether or not the records management strategies that are espoused by the municipalities are the same or similar to ECM. The records management strategies employed by the municipalities are guided by the legal framework governing public records. A strategy is developed and implemented to achieve a specific goal, and municipalities therefore have strategies that guide the employees in information/records management issues.
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The aim of the research is to contribute to a better understanding of ECM as a new information management construct in relation to records management and also to further highlight the role of records management in government administrations. It is of paramount importance, that the solutions to information and records management that government authorities use as they work towards becoming e-government administrations maintain their open governance structure. Public entities have a function to fulfil in a society unlike private companies whose major aim is to maximize profits.

During the course of this research, no substantial discourse on ECM by information professionals like archivists or records managers has been found. However, Page (2007) who is a certified records manager and consultant wrote a three page article arguing for records managers to be the leaders of ECM implementation projects. He offered examples of two large companies which suffered losses of 29 and 600 million US dollars due to inadequate email management systems. The two companies did not have a records management sponsored ECM program in place. He therefore posited that the underlying focus of ECM is compliance, risk and e-discovery challenges, and not IT. He was of the view that records managers should be the leaders of ECM projects because they can ensure that records retention rules are accurately implemented and that legal hold systems are administered.

ECM prescribes factors that include;

- Business process management;
- Collaboration;
- Change management;
- Repurposing of information;
- Knowledge management;
- System integration;
- Enterprise architecture; and
- The lifecycle management of information (Glazer, et al., 2005; Jenkins, 2006; MacMillan & Huff, 2009; Rockley, Kostur, & Manning, 2003).

Records managers and archivists are well placed to assist with meeting the challenges of the prescribed factors. In order to do this well, they need to have a deep understanding of these factors and the associated technologies.
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The study therefore aims to examine the interface between ECM and records management. The literature review revealed that there is not much research on ECM and whether it has been implemented in local government administrations in Sweden. Very little research has been done on the challenges that the municipalities are facing in managing the increasing amounts of information as they engage in e-government developments.

The research will address the following questions:

1. What are the similarities and differences between Enterprise Content Management and records management?

2. Could the information and records management strategies being implemented in the two public administrations be considered to be the same as or similar to Enterprise Content Management?

1.3 The Thesis Structure

The thesis comprises two parts, namely the cover paper and four peer-reviewed articles. The cover paper provides the introduction and background to the research, the purpose of the research, a theoretical framework and the general research findings. The second part of the thesis presents two articles published in conference proceedings and two journal articles. One of the articles that set the exploratory journey of this research was co-authored with Maria Kallberg, a fellow doctoral student and Assistant Professor, Håkan Sundberg. The co-authored paper was based on a study designed by the researcher and her fellow doctoral student. The researcher and Maria Kallberg conducted, transcribed and analysed the interviews. The final analysis of the study resulted in a co-authored paper. Håkan Sundberg contributed to the paper by reviewing it and through supervision. The researcher and Maria Kallberg contributed equally and are therefore both first authors.

1.4 Included Papers

Paper I was based on the initial study which was of an exploratory nature and was a survey of projects within the municipalities that aimed to improve business processes. It enabled the researcher to get to know the research settings and to identify areas which needed further exploration and hence the two studies that followed.
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The second paper (Paper II) was also based on this exploratory study and highlighted the challenges of information management and the differences and similarities between ECM and records management. To establish the differences and similarities between ECM and records management, a literature review was undertaken. Paper I provided a preliminary consideration of the first research question. Paper III and IV addressed research question two by establishing whether the information management strategies the municipalities employ could be the same or similar to ECM and highlighted the transformation that the municipalities are at the moment undergoing.

The following papers have been included and are found in the second part of the thesis:


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October, 2010. Accepted for publication, in the Archives & Manuscripts, Vol. 39, No. 2, November 2011, pp. 96-118.

An additional paper on the management of geodata and its long-term preservation in ten Swedish municipalities including those that are the subjects of this research was also undertaken. It is not included in this thesis. This paper was a result of study three:


1.5 The Concepts of Information and Records Management and Enterprise Content Management

Information and records management is a term that will be used in this thesis to refer to both general information that needs to be managed for the execution of business activities, and to records management as an approach to ensure that evidence of business activities is captured and its integrity and authenticity maintained. Millar, Cook, Lachapelle, Roper & Thurston (1999, p. 5) define information as, “knowledge that human beings perceive through one or more of their senses. It remains intangible until it is represented in a formal manner as data. When represented as data in a document, information can then be stored, communicated and used.” Information management focuses on information products used to support business activities, rather than the evidence of activities themselves. These products include in-house publications, reference books, journals, technical manuals, CD-ROM publications, data mining and decision support systems, and websites and informational databases”(Shepherd & Yeo, 2003, p. 18).

Records management issues are broad and are discussed by authors such as Hurley (2004, p. 1) who argues that there is a variety of definitions for records management, document management, information management and knowledge management, and that there are no mutually agreed definitions.
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Records management is the “field of management responsible for the efficient and systematic control of the creation, receipt, maintenance, use and disposition of records” (Shepherd & Yeo, 2003, p. 1). Records management enables organizations to make informed decisions and to utilize past experiences by using the generated records as a reference source (Shepherd & Yeo, 2003). Through records management, actions of governments, organizations and individuals are captured. It further facilitates the maintenance of reliable, authentic and usable records of action to function contemporaneously and over time (McKemmish, 1997).

The concept of the record has been defined by various authors to bring about clarity between a record and document. However, according to the literature reviewed, these two concepts are interchangeably used. Yeo (2007, p. 315) who reviewed different definitions and perceptions of the concept of record discussed the challenges of defining records. He concluded that archivists and records managers view records as bearers of evidence and information. He argued that perceptions of records vary but that in general records are intrinsically related to the activities carried out by individuals, communities organizations and families (Yeo, 2007, p. 318). A record is defined as “a memorial directed at the establishment of authentic evidence of a fact or event (Hartland, McKemmish, & Upward, 2005, p. 91). The Archival Science perspective also emphasizes the context, provenance, integrity and authenticity of the records (Yeo, 2007, p. 318). Since records are defined as evidence of an activity, they are differentiated from other information objects that are meant to disseminate facts or information.

Eastwood (1994) posited that records are created to capture the matter of action for evidence, for future references and to extend memory of the actions and to make it enduring. Records therefore attest facts and acts and their trustworthiness depends upon the circumstances under which they are generated and preserved. Gilliland-Swatland (2000) explored the evidentiary value of the records and its crucial role in maintaining public trust. She further argued that the archival perspective has an evidence-based approach to recorded knowledge and that it is about organizational and personal processes and contexts through which records and knowledge are created. She concluded that this perspective is quite different from other information professionals’ perspectives.

Records management in Sweden embraces both records and archives management. There are two approaches to the theory and practices of records management, namely life cycle and Continuum. Unlike the life cycle approach which differentiates between records and archives, the records continuum model sees records as in the process of becoming and therefore can be recalled to be used
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in other contexts (McKemmish, 1997; Reed, 2005). It therefore combines the management of records and archives which is in line with the Swedish approach to records management. In this thesis information and records management will be used to imply general information that is used within an organization and records that are according to the ISO International Standard 15489-1 defined as, “Recorded information produced or received in the initiation, conduct or completion of an institutional or individual activity and that comprises content, context, and structure sufficient to provide evidence of that activity” (Bantin, 2008, p. 27). In the digital environment in which the municipalities operate, the concept of a record as evidence is crucial to the citizens’ right and government accountability and transparency.

The literature review on ECM (Glazer, et al., 2005; Jenkins, 2006; MacMillan & Huff, 2009; Nordheim & Päävärinta, 2004; Smith & McKeen, 2003) revealed that it is both defined as a technological and a non-technological strategy. Sometimes it is referred to as “the technologies” and at other times as a “strategy”, a “vision” or an “approach.” The definition of ECM that was officially and internationally adopted by the Association for Information and Image Management (AIIM) is, “Enterprise Content Management is the technologies used to capture, manage, store, preserve and deliver content and documents related to organizational processes. ECM tools and strategies allow the management of an organization’s unstructured information, wherever that information exists” (MacMillan & Huff, 2009, p. 4).

The definition of ECM that the researcher found most relevant was the one offered by de Carvalho (2007, pp. 173-183) because it takes up both technical and social aspects of content management. de Carvalho states: “ECM integrates the management of structured, semi-structured, and unstructured information, and related software and metadata in solutions for content production, publication, utilization, and storage in organizations, emphasizing the coexistence of technical and social aspects within the content management.” Since information and records management take place in a context which includes both social and technical aspects, de Carvalho’s definition of ECM was seen as the most suitable for this thesis.

There are however different ECM strategies and different ways of applying them. An organization can decide to implement ECM department by department or across the entire organization (MacMillan & Huff, 2009). Smith and McKeen wrote that an effective ECM strategy should address the following lifecycle stages:

- Capture – all activities associated with collecting content;
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- Organize – Indexing, classifying and linking content and databases together to provide access within and across business units and functions;
- Process – sifting and analyzing content in ways that inform decision-making and
- Maintain – ensuring that content is kept up-to-date (Smith & McKeen, 2003).

The ECM proponents support eight factors discussed below which include:

- Business process management;
- Collaboration;
- Change management;
- Repurposing of information;
- Knowledge management;
- System integration;
- Enterprise architecture; and
- Lifecycle management of information (Glazer, et al., 2005; Jenkins, 2006; MacMillan & Huff, 2009).

These factors were identified through the ECM literature review that the researcher undertook. These are factors that are quoted by the different authors as necessary for the successful implementation of ECM.

ECM applies a life cycle model to the management of information and MacMillan & Huff (2009, p. 24) for example wrote that in ECM terminology, “life cycle management is intended to incorporate the entire life cycle of content. For precision, throughout this book we use the terms “archiving” and “retention management, for the later stages of the life cycle. Retention reflects the policy governing the time period we must keep a document for, or the process by which we audit and destroy obsolete information.”

Strong (2008, p. 1) combined Enterprise Content and records management (ECRM) and defined both approaches as “the strategy, technology, and processes for managing information assets facilitated by information technology.” Strong (2008) further defines information asset management as a discipline that manages both digital and paper information to support business, objectives.

12
She looked at records as a subset of all content and records management as a critical component of enterprise content management.

Table 1 presents the characteristics of ECM and records management based on the literature review conducted by the author.

**Table 1: Characteristics of ECM and records management**

<table>
<thead>
<tr>
<th><strong>Enterprise Content Management (ECM)</strong></th>
<th><strong>Records Management</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Emerging discipline and practice. ECM is a subfield of information systems for the computing disciplines.</td>
<td>Established scientific discipline and practice.</td>
</tr>
<tr>
<td>Endeavours to bring all of an organization’s unstructured content into a managed environment in order to promote information sharing, controlled access, retrievability and archiving. Is also defined as an integrated approach (an initiative) to managing all of an organization’s information content.</td>
<td>Aims to efficiently and systematically control the creation, receipt, maintenance, use and disposition of records.</td>
</tr>
<tr>
<td>ECM systems are meant to facilitate access to all the relevant information within an organization.</td>
<td>Records management systems have been used to effectively manage records and to improve the quality and coherence of processes.</td>
</tr>
<tr>
<td>Rationale behind ECM is driven by the global collaboration needs of an organization’s employees, customers and partners through digital information content.</td>
<td>Driven by legislative requirements. Underpins government accountability, freedom of information and privacy legislation, protection of people’s rights and entitlements, and the quality of the archival heritage.</td>
</tr>
<tr>
<td>Is a convergence of document management, web content management and digital asset management. Claims to improve business process management; collaboration; change management; repurposing of information; knowledge management; system integration; enterprise architecture; and the lifecycle management of information.</td>
<td>Meant to address the records’ integrity, reliability, authenticity, retention, disposition and transparency. Takes care of risk management, knowledge sharing and organizational efficiency.</td>
</tr>
<tr>
<td>Focuses on Content.</td>
<td>Focuses on records which are differentiated from other types of information because of their evidentiary value.</td>
</tr>
<tr>
<td>Have social and technical aspects</td>
<td>Have social and technical aspects</td>
</tr>
<tr>
<td>Life-cycle view: active, semi-active and retention or destruction</td>
<td>Long-term preservation view.</td>
</tr>
<tr>
<td>Technology and vendor oriented.</td>
<td>Both technology oriented and analogue.</td>
</tr>
<tr>
<td>ISO 9001 and ISO 17025</td>
<td>Guided by international standards and best practice</td>
</tr>
</tbody>
</table>
| These are quality assurance standards. | The records management standards among many include: ISO 15489:2002 Records Management –
In summary, the section above clarifies the differences between the concepts of information and records management and ECM which are central to this research. The section below presents previous research that is related to the issues being discussed in the thesis.

2. PREVIOUS RESEARCH

There is a significant amount of literature on records management (Bearman, 1994; Dollar, 2000; Duranti & Preston, 2008; Eastwood, 1994; Gilliland-Sweatland, 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 researcher has not identified papers that have discussed the relationships and integrations, if any, between ECM and records management. As ECM can be considered a relatively new concept, the literature on it is emerging. Few papers identified are based on formal research. The majority of the papers identified are either written by practitioners within the information technology industry or scientists in the information systems discipline. This demonstrates the need for professionals with an archives and information management perspective, to engage in the ECM discourse to enhance the role that records management plays in a democracy and to uphold records management principles. It further demonstrates the need for more formal research in the area.

Information underpins the functions of government. Information management is of paramount importance to e-government developments since e-government is about the effective use of information and technology to improve service delivery. The two municipalities that are subjects of this research are engaged in e-government developments. It was therefore important to establish what e-government researchers have discussed as barriers to its successful implementation and its relationship to information management. Scholl argues
that e-government research has grown into a conglomerate of partially intersecting studies from different disciplines (Scholl, 2007). This bears relevance to this research since it is nowadays impossible to discuss issues of information and records management in the municipalities without understanding the effects of e-government developments. Information management takes place in a context which, in this case is the two municipalities. This research does not aim to discuss e-government as a discipline rather it considers the work of researchers who have addressed some of the key issues of e-government implementation in relation to information management and organizational changes.

2.1 E-Government

Andersen (2006, p. 1) addressed the motivation behind e-government adoption and 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, 2006, p. 1). His research identified as of key concern among others, security regarding wireless email and the minimisation of data loss. Scholl (2006, p. 74) 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.” Richard (1999, p. 82) 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 would be required to think horizontally and to standardize their information package in order to meet the citizens’ demands and expectations.

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 which included; 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. The aim of their research was to contribute to a better understanding of the progress, success and failure in e-government development. Grundén (2009) on the other hand tackled the fact that there was much focus on the technical aspects of e-government and contributed towards 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 was 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.

Lazer & Binz-Scharf (2004) examined the model of business 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 would require process and information systems integration and harmonization between disparate organizations. Sundberg (2006) who did research on the problems in e-service development in Swedish public organizations confirmed that e-government has meant change in the way public authorities deliver services to the citizens and a re-design of ordinary ways of doing business (Sundberg 2006). In 2010 Aydinli, Brinkkemper & Ravesteyn (2010) carried out 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 were 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. The above mentioned research on e-government was identified as relevant to the issues being discussed in this thesis because they emphasized the transformation of organizational structures, processes and the management of information systems if e-government is to succeed.

2.2 Enterprise Content Management

Smith and McKeen (2003) wrote that ECM was an emerging concept that academics, managers and vendors were trying to understand through research. They examined the scope of the challenges facing companies, discussed the reasons
why organizations felt it was 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 were still grappling with understanding what ECM involves and
that ECM was at the edge of knowledge management. A year after Nordheim &
Pääväärinta argued that there was lack of empirical research on the customization of
ECM systems. They in addition criticized the fact that ECM research had ignored
the organizational point of view of content and had focused on the promotion and
analysis of technical functionalities (Nordheim & Pääväärinta, 2004).

Tyrväinen, Pääväärinta, Salminen & Livari (2006, p. 630) tried to characterize the
evolving research on ECM because they were of the view that it had received little
attention from the information systems community. They also came up with a
framework which covered, content, technology, enterprise and process,
(Tyrväinen, et al., 2006). They argued that, “ECM research from the enterprise
perspective was very limited, consisting mostly of early conceptual and theoretical
recommendations and a limited set of empirical studies.” They were of the view
that much of the ECM research had focused on its role in the communication
processes of an enterprise.

Perry and Lancaster (2002) and the Butler Group (2003) examined the enterprise
content developments and argued that document management, web content
management and digital asset management represented 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 converged and have created a framework to manage both structured
and unstructured enterprise information.

In 2005 Pääväärinta and Munkvold carried out an analysis of 58 cases on ECM
implementation and established 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 (Pääväärinta & Munkvold, 2005, p. 1). They concluded 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 IT 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 view that ECM did not represent anything new compared to established constructs of information management like information resource management (IRM), electronic document management (EDM) and knowledge management (KM) (Päivärinta & Munkvold, 2005). In 2007 Iverson & Burkart contended that information, knowledge and other content types are important assets of an organization. They identified three stages of document life cycles in ECM implementations. These included content, reification and commodification/process as the content management model. They however warned against the overcommodification and dehumanization of work processes through automation (Iverson & Burkart, 2007).

Vom Brocke, Derungs, Ivoclar, Herbst, Novotny & Simons (2008) explored the relationship between ECM and Business Process Management. They were of the view that the border between these two concepts was blurring and that they both affected each other. However, Information Systems researchers had 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 was unexplored. Their research which focused on two cases studies established that the challenges that are driving ECM implementation from a process perspective included; recreation of existing content, inappropriate re-use of content, poor information quality, reducing paper based processes and capturing externally created content.

MacMillan & Huff and Rockley, Kostir & Manning addressed the importance of knowledge management in modern organizations. They argued that there were 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 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 (MacMillan & Huff, 2009; Rockley, et al., 2003). Rockley et. al (2003, p. 3) discussed the issues of creating a unified content repository and emphasized 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. She 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, pp. 5-7).

Sprehe (2005) presented three cases studies that demonstrated the benefits of electronic records management to non-records management functions within the
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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 Butler (2003, p. 24) a leading provider of information technology research, analysis, and advice identified the reasons below as justification 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 was 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, Päivärinta, Tero, Hodne, Stangeland, (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) also confirmed that collaboration is central to ECM. He argued that it is about openness and knowledge sharing.

Since ECM is about the effective capture of all an organisation’s information resources, long-term preservation of information/records of enduring value ought to be planned for. Therefore, Korb & Strodl, (2010) carried out a gap analysis between ECM and OAIS. OAIS stands for Open Archival Information System
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reference model upon which the architecture of archival and preservation repositories are built (Bantin, 2008, p. 55). Korb & Strodl concluded 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 (Korb & Strodl, 2010). Previous research on ECM highlights the salient issues to the management of content.

2.3 Records Management

Sundberg & Wallin (2005) looked at how information, IT strategies and processes have to integrate with e-service processes. They contended that the development of new information technologies and organizational forms required the integration of records management. They emphasized the fact that combined, complex and automated e-services and inter-departmental co-operation will necessitate the establishment of methods and systems to guarantee compatibility and the usage of electronic records. 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 ACterm Project which meant accelerating positive change in electronic records management. It focused on designing an organisation-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 among many confirmed that few organizations had 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, preferences, knowledge and skills, there were few published in-depth critical case studies of success or failure, or post implementation evaluation. However, records management principles appeared to be applicable to
electronic records management but that practice needed to be adapted (McLeod, et al., 2010). McLeod’s findings are further confirmed by research that was pursued by researchers at Mid Sweden University.

Anderson, Borglund & Sundqvist (2009) of Mid Sweden University carried out a study on a project that was being conducted by the Swedish National Rail Administration and concluded that information that was created during the conduct of the project was not easily accessible and transparent for the entire organization and the general public. They further argued that knowledge transfer and re-use was also hindered due to lack of effective information management. Government information is supposed to promote transparency and accountability and hence its effective management is crucial.

Meijer (2005) used government organizations as case studies to explore the relations between ICTs, authentic records and accountability. He concluded that there were 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 established 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/records were being preserved without appraisal and the printing of digital information on paper was being used as a long-term preservation strategy. She was of the view 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. This however is a dynamic environment that does 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 here stands for the maintenance of digital records’ reliability and authenticity. His research therefore resulted into 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 which are required to be 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 was a belief embedded in the Records Continuum Model (RCM) (E. Borglund, 2006).

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 therefore records creation is distributed. This environment requires the maintenance of reliable and authentic records. Information systems therefore 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 since, in a good majority of cases, they 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 will call for the identification of the users of information in order to preserve the right information. Sundqvist (2009) therefore addressed the issue of search processes, user behaviour and archival representational systems. Sundqvist conducted research in two Swedish public organisations; a municipality and a governmental agency. She addressed the issue of the 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 objects represented. Sundqvist research made a contribution in understanding the information seeker’s behaviour an aspect that is relevant as organisations endeavour to capture and preserve information.

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 drew a conclusion that records management will be use based than store based. Versace (2010) who published a short article on a website called Wikibon, which is a professional community
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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 revigorated the interest in records management, the profession of records management and the value of records. He urged organizations to go back to the basics of records management in order to cope with the proliferating information assets. He contended that there is need to understand the distinction between content management and records management. The basics of records management constitute accountability, integrity, protection, compliance, availability, retention, disposition and transparency.

e-Government scholars discussed issues that are relevant to this research. The issues included restructuring of organizations and 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, et al., 2010).

The discourses on ECM, information and records management challenges are engaging records managers, information systems scientists and the information technology industry.

Figure 1: Based on the literature reviewed above, the professions that are engaged in the ECM strategy discourse include the following: (Glazer, et al., 2005; Jenkins, 2006; MacMillan & Huff, 2009; vom Brocke, et al., 2008)

From an ECM perspective business analysts engage in analytical process to enhance business activities, the enterprise architects focus on the strategic information asset base which defines an organization’s mission and business activities that support its mission, important information for its operations, technological needs, organizational needs and the transitional strategies that will support the implementation of business and technological change. The information
architects identify the different informational needs that an organization has in order to leverage information in a manner that can give it a competitive edge. Information systems scientists and practitioners from the information technology industry are the two categories of people engaged in the discourse on ECM. The research on ECM is just emerging while a lot of research has been carried out on records management.

The researcher has found no previous research examining the interface between ECM and records management meaning the differences and similarities between the two information and records management approaches. This research therefore contributes to the existing body of research on records management and brings an Archives and Information Science perspective to the ECM discourse. It is different from the previous research reviewed above because it discusses information and records management issues from a different angle. That is, it investigates the manner in which public organizations are engaging in e-government developments and the challenges of information and records management this development poses. This is achieved in the context of two Swedish municipalities. It therefore contributes new knowledge to the existing body of knowledge.

The section that follows presents the methodology and the research process that enabled the researcher to address the research questions. It presents an overview of the research design and the salient parts of the approach pertaining to data collection and analysis.

3. THE RESEARCH METHOD

Conducting a sound investigation requires rigor and veracity. Research should be built on a sound research design. Pickard argues that regardless of the methodological approach, it is important to demonstrate the value of an investigation (Pickard, 2007).

3.1 Qualitative Research

The researcher identified the qualitative research approach as the most suitable research methodology to address the research questions because it is conducted in real life situations that reflect the everyday lives of people, organizations, societies and groups (Miles & Huberman, 2002). It helps the researcher to establish a holistic overview of the context being studied. The approach was viewed as appropriate to this particular research because the research problem and the research questions were centred on the actions of people and organizations in relation to specific
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achievements and endeavours, and how they utilized technology and processes. Addressing these issues would involve intense interactions with people in organizations, observing and learning from the environment and their relationship with that environment.

There are a range of qualitative methods and they include ethnography, case studies, action research, grounded theory, phenomenology and narrative (Miles & Huberman, 2002, p. 8). These methods focus on the interpretation and understanding of the research subjects through documentary analysis, participant observation and direct observation and unstructured or semi-structured interviews (Deacon, Pickering, Golding, & Murdock, 1999, p. 4). Qualitative analysis of texts is a common method used by many social scientists and connects a research topic to already existing research (Esaiasson Peter, Gillja, Oscarsson, & Wängnerud, 2004, p. 233).

Qualitative research is interpretive. That is, it emphasizes the meanings made by people in their attempts to understand their world (Williamson, 2002).

3.1.1 The Case Study Approach

This research employed case studies as a method to obtain answers to the research questions. A case study approach has been used and enabled the researcher to establish a firm foundation for the research (Remenyi & Arthur, 2006, p. 200). Case studies are employed in exploring and deepening our understanding of group, organization, social, political and related phenomena. They further help researchers to understand complex social issues. They require a rigorous and fair presentation of the empirical data gathered by the researcher (Baharein & Noor, 2008; Pickard, 2007; Yin, 2009). Case studies offer a variety of evidence through interviews, documents, artefacts and observations (Yin, 2009, p. 11). The goal of the analysis in the case study method is to reflect the complexity of human interaction from a perspective of the respondents, based on actual events and to make this complexity understood by others (Rubin & Rubin, 2005).

Case studies require the researcher to formulate good research questions, and to understand their limitations and strengths (Yin, 2009). They are meant to address "how" and "why" questions and therefore require the researcher to focus on a phenomenon in a particular real-life context. Yin further argues that "how" and "why" questions are more explanatory. Ascertaining answers to them requires undertaking cases studies, histories, and experiments as suitable research methods (Yin, 2009, p. 9). The formulation of research questions should be based on a
thorough literature review. Case studies entail selecting a unit of study (single or multiple), collecting data, analyzing data and composing a study report.

Yin states that there is a school of thought that claims that case studies are only suitable for the exploratory phase of an investigation. He argues against it and insists that experiments with an exploratory motive have always existed (Yin, 2009, p. 6). He outlines three types of case studies. That is, descriptive, exploratory and explanatory. Case studies involve conducting interviews and consulting documentary information. They enable direct observation of the phenomenon being studied and interviews of the people involved (Yin, 2009, pp. 10-11).

Yin posits “Case study research includes procedures that are central to all types of research methods, such as protecting against threats to validity, maintaining a “chain of evidence”, and investigating and testing “rival” explanations” (Yin, 2009, p. 1). Case studies are not free from bias since they involve an interviewer and interviewee. This problem can be minimized with the in-depth insight generated during the interaction with the interviewees and the reading of other sources to verify the supplied information, (Remenyi & Arthur, 2006, p. 200-201). The case study methodology has been referred to as a soft form of research states that the strength of a case study method is the opportunity to use different sources of evidence.

Based on an initial analysis of the research problem and situation and a consideration of the literature, the researcher was able to formulate questions that would address the problem and generate the data needed in order to draw certain conclusions. The case studies undertaken were interpretive and had descriptive data that was used to develop categories that supported the conclusions the researcher drew in the published articles. A case study researcher collects as much information as possible in order to interpret or theorize the phenomenon being researched (Merriam, 1988, p. 28). According to Williamson (2002, p. 113) interpretive case study research focuses on complex descriptions of specific cases. This enhances an understanding of social phenomena and their context. Schell (1992) confirms that there is no exclusivity between exploratory, descriptive and exploratory case studies since some of the best case studies can either be exploratory and descriptive or explanatory and descriptive.

3.2 Research Setting

An ideal case study should provide a) a possible entry, (b) a high probability of a rich mix of the phenomena of interest, c) the possibility to build a trusting relationship with participants and d) a reasonable assurance of data quality and
credibility, (Sundqvist, 2009, p. 31). Therefore, settings, actors, events and processes are parameters that ought to be considered while selecting case study sites (Darke & Shanks, 2002, p. 116).

The research took place in two medium sized municipalities that are currently engaged in e-government developments. Municipalities engage in a complex web of processes that facilitate the delivery of services to the citizens. The services that they deliver include education services, community and welfare services such as child care and care of the elderly, cultural and recreational services and housing. They also provided infrastructure and utilities such as water and electricity. In addition, they are responsible for local and regional transport, municipal planning and environmental planning (Larsson & Bäck, 2008). All these activities generate an enormous amount of information. Municipalities are also often consulted by citizens interested in accessing public records (Sundqvist, 2009).

The two municipalities qualified as suitable research subjects because:

- They are public institutions whose activities are regulated by law. The first study had its point of departure in the development of business processes. The literature revealed to the that the municipalities cannot re-engineer their business processes in any way they want because they fulfil a defined function in society (Scott, 2008; Sundberg, 2006);

- They are built on an open governance structure and are by law required to maintain the information they generate in a manner that will promote transparency, accountability and accessibility (Bohlin, 2010; Gränström, et al., 2000); and

- They are engaged in the use of information technology and information (e-government) in order to elevate efficiency and improve service deliver but also enhance citizen access to information.

The municipalities therefore provided case studies that enabled the researcher to achieve her research objectives.
3.3 Data Collection Methods

A case study requires a researcher to decide on what information will be needed to address the problem being researched, and by what means (Merriam, 1988). The following data collections techniques were employed:

3.3.1 The Literature Review

A literature review and analysis of articles on ECM and records management was undertaken. This was done by searching databases like Google Scholar, Emerald, Libris, JSTOR and ScienceDirect. Books written by researchers and practitioners were also consulted. Merriam (1988) is of the view that all research should take into consideration previous work in the area of investigation. She further argues that neglecting prior research might lead to duplication of studies already done and this might jeopardize the intent of research which is to build a knowledge base. A literature review facilitates an understanding of the area of research interest by presenting the state of the art (Merriam, 1988). ECM research that is not vendor biased is only emerging and there were not lots of articles that tackled the subject.

3.3.2 Documentation

The municipalities’ document management policy and strategy documents were analyzed and informed the researcher on the guidelines that were being espoused in addition to the legal framework that governs public information and records. Yin (2009) argues that documentary information is relevant to every case study and that the documentation can take many forms. It might include letters, administrative documents, formal studies or evaluations, news clippings or other articles. Data found in the documents can be used in a similar manner as that ascertained via interviews or observations. Documentary material offer the advantage of stability since the researcher cannot alter what is being studied. Documents are therefore more ‘objective’ sources in comparison to other sources like interviews and observations (Merriam, 1988, p. 108).

3.3.3 The Interviews

Interviews are a common means of collecting qualitative data and were the primary data collection technique used (Merriam, 1988). The researcher needed to interact with the interviewees within the municipalities in order to establish a deeper understanding of their information and records management strategies.
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This is because there are both social and technical dynamics involved in information management issues. Person-to-person interviews were predominantly used in which one person elicits information from another. Since interviews are pursued in form of a conversation, they were based on an exchange of knowledge on a subject of common interest (Merriam, 1988). William (2002) contends that for a social scientist, research is a process that enables a better understanding of human interactions. This understanding is achieved by gathering information about actions, reflecting on their meaning in order to evaluate the information and draw conclusions.

There are different types of interviews that is, structured, unstructured, and semi-structured (Williamson, 2002). Semi-structured interviews guided by a list of questions were employed. Merriam (1988) argued that in semi-structured interviews, the order of the questions and the wording is not determined ahead of time. This allows the researcher to respond to situations that arise and ideas that emerge during the course of the interview. The formulation of the interview questions was particularly based on the ECM prescribed factors that is: Business process management; Collaboration; Change management; Repurposing of information; Knowledge management; System integration; Enterprise architecture; and The lifecycle management of information (Glazer, et al., 2005; Jenkins, 2006; MacMillan & Huff, 2009) and records management challenges. This process and how the informants were chosen are elaborated on in the research process and in the papers in part two of this thesis. The researcher tested the concept of ECM on all respondents who participated in the case studies. Certain questions were maintained on the questionnaires as a way to validate how ECM as a concept was understood by the different categories of interviewees. This is also reflected in the interview guides and in the repetitive nature of the research findings in the papers. The interview method is, however, not based on equality since it is the researcher who defines and controls the situation and critically follows up the given answers. Nevertheless it enriches and broadens established knowledge in social sciences (Kvale, 1997). The researcher gains an understanding of the meaning of the interviewees' experiences prior to the scientific explanations (Kvale, 1997).

Interviews can pose challenges of validity and reliability because of the interviewer effect. Factors that may bias an interview include the characteristics of an interviewer such as experience at interviewing, education level, race, age, sex and the interviewer’s opinions and expectations. This might affect the interviewee’s answer (Darke & Shanks, 2002). This interview effect was managed by the researcher by conducting enough reading about the phenomenon that was
being researched, reading about the interview techniques in the literature and establishing how interviews are conducted and hence being made aware of the necessity to develop good listening techniques. The validity and reliability issue was also observed since the interviews were recorded verbatim. The recording of the interviewees’ responses offer an exact record of the expressions that transpired during the interviews.

3.4 Data Analysis

Throughout the research process, data was collected, analyzed and the results of each study were published. The analysis process is an iterative and burdensome process and therefore the earlier the data is analyzed the better. Merriam (1988) advises that simultaneous analysis and data collection allows the researcher to manage the data collection phase more productively and to develop a database. Williamson (2002) contends that in qualitative research, there are no strict rules which have to be followed while analyzing data. However, there are techniques which can be used to help with the interpretation of the gathered data. These techniques might include; transcribing data, reading through each transcription in order to familiarise oneself, categorising the data, playing with ideas (Williamson, 2002, pp. 293-294). The interviews were recorded and transcribed verbatim. This is a tedious and frustrating process but it nevertheless gave the researcher a deeper understanding of what was going on in the municipalities. This would not have happened if she had employed somebody else to do the transcription. This led to an accumulation of data which had to be consolidated and reduced to manageable levels.
The researcher read each and every transcript as the categorisation was being undertaken. Figure 2 represents the steps the researcher undertook during the analysis of the data:

![Diagram]

**Figure 2: Data analysis steps followed in the studies.**

Using categories allows researchers to code and retrieve data. The coding and retrieving process means labelling passages of the data according to the content of interest in them. Williamson posits that categorisation, coding and indexing are interchangeably used. Categories comprise of a short title and the data that relates to the category. The categories were reduced to sub-categories for precision, (Williamson, 2002, p. 295). The purpose of categorising data is further to facilitate retrieval. The researcher used categories that were based on the rubrics of the questions that were used during the interview.

### 3.5 The Research Process

As indicated in the prologue, prior to becoming a doctoral student, the researcher had worked as an archivist, a research administrator and project co-ordinator. These engagements embedded her in the challenges of information and records management. She therefore embarked on the research not as an objective investigator as far as records management was concerned, but a person who was coloured by her past.

The research process commenced with the formulation of a research proposal which required an extensive literature review. The process of writing a research proposal enabled the researcher to acquaint herself with the literature on ECM and
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records management. Based on the literature review the researcher formulated a research problem, undertook a research design and decided on the most suitable methodology and theoretical framework for the research. This entire process therefore informed the design of the first explorative study. Each phase of the conducted studies increased the researcher’s understanding of questions being researched.

When the second study revealed that ECM was not a well-known phenomenon in the municipalities, the researcher maintained the questions related to it in the third study in order to test the concept on other categories of the interviewees. This clarifies the repetitive nature of some of the research findings and similarities in the interview schedules.

The studies are presented in detail here below:

![Image]

**Figure 3: The outline of the three studies and their interrelationships.**

3.5.1 **Study 1: A Survey of Projects directed at business process improvements**

The research journey started with an explorative study referred to as Study One. This study was designed together with my fellow doctoral student, Maria Kallberg. This study enabled us to interact with the project managers who had a
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deep understanding of what was going on within the projects and the municipalities. The projects aimed to improve service delivery. Ljungberg & Larson (2008) argued that projects as a model focus attention on the improvement of a particular process and are therefore suitable as a business improvement strategy. Using the interview schedule which had semi-structured questions, we interviewed 16 project managers in the respective municipalities. One of the project managers was responsible for two projects which brought the number of projects to 17. We elicited answers to questions regarding: ownership and finances, duration, Logic behind the project, project gains, personnel involvement, customer orientation (citizens), information systems and evaluation.

The interviews gave us an insight in the work that the two municipalities were undertaking and exposed us to some of the challenges the projects were facing. The interviews were recorded, transcribed and analyzed. The transcriptions generated a lot of raw data that had to be categorized in order to select, simplify and transform the raw data. This was necessary in order to abstract data that was relevant to the questions we had formulated. The conclusions that we drew from the study were based on this process. Williamson (2002) refers to it as data reduction. Merriam (1988) also confirms that data analysis enables the consolidation of data and hence facilitates its interpretation. Data can be reduced and transformed in many ways and these include selection, summarizing or paraphrasing. The goal of data analysis is to be able to draw reasonable conclusions and generalizations based on the collected data.

The second paper was based on some of projects that had not been included in the first paper and a literature review on ECM and records management.

Results:


3.5.2 Study 2: Explored the Concept of ECM in relation to Records Management

Study 2 was formulated based on the conclusions that study 1 had generated. This study was carried out between May – June 2010. The literature review that the researcher had conducted during the formulation of the research proposal had increased her understanding of Enterprise Content Management (ECM) which did not exist prior to the research. Study 2 therefore aimed to establish whether the concept of ECM was known in the municipalities and whether the information management strategies that the municipalities were espousing were the same or similar to ECM. It was based on the factors that ECM entails and therefore questions relating to the following sub-themes were formulated: management of structured and unstructured information, business process analysis and enterprise architecture, information management systems, e-government and e-services, organizational changes, effective information management, collaboration and information dissemination, repurposing of Information, information overload, knowledge capture and long-term preservation of information. Study Two was also based on a designed interview schedule with semi-structured questions. A total of 18 interview schedules were sent by email to targeted groups of prospective interviewees and 17 responses were received. Fourteen administrative managers from both municipalities and three information technology strategists/information officers from municipality A were interviewed. The interview schedule particularly targeted administrative managers because they can make decisions and hence institute change and because information and records management issues require top management support, (Shepherd & Yeo, 2003).

Results:

3.5.3 Study 3: Aimed to establish if ECM factors could mitigate long-term preservation challenges

Qualitative interviews were conducted and the interview guide was based on the literature on ECM and records management. This study was carried out between September – December, 2010. The interview guide solicited opinions on: ECM, structured and unstructured information, Business Process Management (BPM), Enterprise Architecture (EA), organizational changes, information overload, effective information management, Long-term preservation of information, Storage repository and Media. 14 people participated in the face to face interviews and the 15th respondent answered the questions by email. The face to face interviews took between 45 – 60 minutes and an audio recording was made by the researcher. The study focused on municipal officers who were dealing with the strategic management of information. The researcher applied the lens of the Records Continuum Model (RCM) because it reflects what is happening in Sweden regarding issues of information and records management. We are witnessing emphasis on co-ordination and re-use of information (Statens Offentliga Utredningar (SOU), 2009:86). The four dimensions of the RCM helped observe the management of information and records from a continuum perspective. This meant observing the creation, capture, management and pluralisation of information/records (Reed, 2005). The study started with the municipal archivists who recommended a member of staff that they thought would most suitably answer the questions. That person in turn recommended the next interviewee. This is known as snowball sampling. Through interviews and observation one respondent advises on issues that need further inquiry and hence directs the researcher to another person that might offer more answers (Pickard, 2007, p. 65). The results of this study are to be published during the next phase of the Ph D. The study gave a deeper understanding of the challenges of long-term preservation in the municipalities. It therefore enabled the researcher to have a holistic view of information management by establishing how information and records were captured from creation to preservation.
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Results:

This study offered a deep understanding of the challenges of long-term preservation, which further demonstrated the most problematic area of information management as far as the entire records continuum is concerned. Due to time constraints, the results of this study were analyzed and resulted into a paper which is still in a draft form. This paper will be published during the second phase of the Ph D. The second paper from this study was presented and published as follows:


3.6 Research Quality

A research design is assessed according the concepts of credibility, confirmability and data dependability. In the context of research and the research design, it is important to be mindful of the view that case investigators could fail to develop enough operational measures, and that subjective judgments may be used to collect the data (Yin, 2009).

Credibility: is a question of the truth and the study needs to ensure that the findings make sense, are credible to the people that have been studied and to the readers (Miles & Huberman, 2002, p. 278). Credibility is also achieved by prolonged engagement with the research participants (Pickard, 2007, p. 20). Miles and Huberman (2002, p. 278) further suggest that credibility can be enhanced by:

- Descriptions that have to be content rich and meaningful;
- The use of triangulation of methods;
- Data should be linked to theoretical or conceptual categories, prior to the investigation or emerging from it;
- The findings have to be internally coherent and concepts systematically related;

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- Identification and consideration of uncertainty, negative evidence and rival explanations; and
- Confirmation of conclusions by original informants and if not there should be a coherent explanation for it.

Confirmability: entails limiting bias since researchers engage in research with specific cognitive frameworks. Research should be built on objectivity and therefore confirmability ensures that research is done in an unprejudiced manner. The researcher’s own conclusions, should be traced back to the generated raw data of the research (Pickard, 2007, p. 21). Miles and Huberman (2002) postulate that the challenges of confirmability could be minimized by:

- Defining the methods and procedures in detail;
- Establishing an actual sequence of how data were collected, processed, condensed/transformed, and displayed for specific conclusion drawing;
- Explicitly linking conclusions to the exhibits of condensed/displayed data;
- Maintaining a record of the study’s methods and procedures that is detailed enough to be followed in an audit trail;
- A researcher must be self-aware of personal assumptions, values and biases, affective states – how they may have come into play during the study;
- Alternative interpretations and conclusions should be discussed; and
- Maintain data for reanalysis by others.

Data dependability: is meant to ensure that the process of the study has been “consistent, reasonably stable over time and across researchers and methods” (Miles & Huberman, 2002, p. 278). Guba and Lincoln (1989, p. 242) posit that dependability is parallel to the conventional criterion of reliability. It is a technique of documenting the logic of process and method decisions as the dependability audit. Pickard (2007) further argues that dependability is established by an inquiry audit and this means that an outside auditor can examine the accuracy of transcripts and document collection. It is concerned with the manner a study has been conducted and that the researcher needs to demonstrate that the methods and technique used were stable and suitable to the research.
Guba & Lincoln (1989) introduced the concept of transferability instead of external validity and generalizability. Transferability is the possible use of the research results in another setting. For this to happen, the researcher must describe the research setting in a manner that will facilitate for outsiders to understand the context, culture and the shortcomings that might have affected the research in the original setting.

To ensure the suitability of the research technique the interview guides were designed and sent to the researcher’s supervisors for comments. The conducted interviews were audio recorded and transcribed. Proper documentation on how the data has been analyzed and reduced to the conclusions that resulted into the published papers has been maintained. This is supposed to assist with the replication of the research and hence ensure its dependability. The results of the research that have been published in the papers in part two of this thesis have been grounded in the empirical data that was collected. Borglund (2006) argues that this makes it possible for people outside this research to track it back to its source. The results of this research can therefore be applied to other municipalities. The research methods have also clearly been described in the published articles.

The selection of the informants was done in a manner that would enable the researcher to achieve her research goals. The informants were members of staff of the two municipalities, who in different ways strategically dealt with information management or information systems and the unit managers who made decisions since, issues of information/records management require top-management support. The informants enabled the researcher to corroborate the pre-conceived ideas that she had and what she had found in the literature. This offered a richer understanding of issues of information/records management.

The quality of the study was further improved by the use of a theoretical framework and clearly defined research questions. The theoretical framework informed the way the researcher identified the challenges of information/records management.

Precaution was taken not to mix personal biases and convictions with the research findings. This is also reflected in the papers that make up part two of this thesis. For each paper that has been written within the context of this research, the method used has been elaborately described.

Triangulation of data was undertaken since the research entailed carrying out interviews which inevitably includes observations, the literature review that has been undertaken throughout the research and the analysis of the document management policies and strategies of the municipalities.
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The section below presents the context in which the research was carried out and the theoretical framework that guided it.

4. CONTEXT OF THE RESEARCH AND THE THEORETICAL FRAMEWORK

The municipalities are institutions which exist to enhance the social welfare of citizens. As such, they follow established rules and regulations in executing their obligations (Scott, 2008). They do have stakeholders that provide them with the resources and these are the citizens and the government, (Larsson & Bäck, 2008). Since they fulfill an indispensable function in society, they cannot choose to re-engineer their business operations outside the regulations that govern them, (Sundberg, 2006). The legal framework that governs their activities includes the effective management of information.

One of the areas that attract attention is the way the municipalities are managing their information assets as they engage in e-government developments. Public access to information is of great importance for democratic developments. The researcher therefore identified the Records Continuum Model as a model suitable for understanding issues of information and records management. This is because the model promotes a proactive approach that emphasizes the management of the entire records continuum. The RCM promotes the effective creation, capture, dissemination, repurposing, use, and preservation of public information. Therefore the RCM suits the nature of this investigation since records management and technological developments today take place in a dynamic context that requires established and proven model/theories in order to understand the complexities that they pose.

4.1 The Records Continuum Model

The model provides a framework for understanding the continuum of records management responsibilities (McKemmish, 1997). It challenges the traditional view that separates archives and records as distinct entities and instead offers a framework for understanding records and archives thinking and practice (McKemmish, 2001). It is defined as: “a consistent and coherent regime of management processes from the time of the creation of records (and before creation, in the design of records keeping systems), through to the preservation and use of records as archives” (Chachage & Ngulube, 2006, p. 5). The model is
culturally oriented and hence open for interpretations to suit the cultural context in which the records are generated and used (Chachage & Ngulube, 2006). Duranti and Preston (2008, p. 833) defined it as, “a model of archival science that emphasizes overlapping characteristics of records management, evidence, transaction, and the identity of the creator. The model views records as in the process of becoming and that can be recalled for further use (McKemmish, 2001).

McKemmish (2001, p. 334) posits that it “is built on a unifying concept of records inclusive of archives.” It emphasizes the evidentiary, transactional and contextual nature of records and takes a multidimensional view of records creation in both social and organisational activities. According to the model, records management is a continuous process that focuses on the activities that create the records. It therefore provides unified best-practice criteria built on a common understanding, consistent standards and interdisciplinary approaches and collaborations in records management and archiving processes for digital and paper records (McKemmish, 2005; Upward, 2005). The model promotes recordkeeping that connects the past to the future and is stable enough to deal with a dynamic and changing context that can be influenced by legal, political, administrative, social, commercial, technological, cultural, and historical variables across time and space (McKemmish, 2001). The model also highlights the role of recordkeeping in governance, in regulating relationships between people and organizations, and as instruments of power and authority.
Reed (2005) discusses the four dimensions of the continuum model which are: create, capture, organize and pluralize as defined below:

Reed refers to the model as a means by which different records environments can be understood:

- **Dimension 1 - Create**: represents the locus where all business actions take place. In this dimension, documents exist in versions and can be moved beyond this locus.
- **Dimension 2 - Capture**: is when a document is communicated or connected through relationships with other documents, with sequences of action. The records are in this dimension captured as
evidence of transactions and can be distributed, accessed and understood by others involved in the business transactions.

- Dimension 3 - Organize: Represents an aggregation of records above individual instances of sequences of actions. Here the records are invested with explicit elements needed to ensure that they available over time that exceeds the immediate environments of action. Here the records join multiple other records deriving from multiple sequences of action undertaken for multiple purposes. This is the archive or fond that forms a corporate or personal memory.

- Dimension 4 - Pluralize: This dimension represents the broader social environment in which records operate. The legal and regulatory environment which translates social requirements, different for every society and at every period, for recordkeeping. This dimension further represents the capacity of a record/records to exist beyond the boundaries of a single creating entity (Reed, 2005, pp. 20-21).

Upward (2005) argued that the way documents are created impacts the way information is captured, organized and pluralized (Upward, 2005).

4.1.1 Application of the RCM to this Research

The researcher instrumentally used the RCM to identify and examine the information management challenges during the conduct of the three studies. The four dimensions of the RCM Model were used to see how information was created, captured, organized and pluralized. This enabled the researcher to relate the problem areas to the dimensions. The RCM focuses on the entire records continuum. As demonstrated in the articles I – IV the challenges of information and records management require a proactive approach which was to a great extent lacking. The four dimensions of the RCM enabled the identification of the problems with the way information and records were managed in the municipalities. Within Archives and Information Science, there are two schools of thoughts; the one which espouses the Life Cycle Model and the other school of thought which embraces the RCM. The Life Cycle Model claims that records pass through various conceptual stages during their life that is, an active to a semi-active and a non-active or non-current phase (Chachage & Ngulube, 2006).
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It indicates that records are created, live through the administrative life span, age and die, (Shepherd & Yeo, 2003). The RCM model however underpins the fact that records continue to live after their non-current phase of the life cycle (Chabbage & Ngulube, 2006). A business activity for example generates a record as a trace, the trace is captured into a system and generates a record-as evidence, and if the record is captured within an organization, it generates a corporate memory that can be later pluralised as collective archives (McKemmish, 2001, p. 336).

Given the emphasis on the re-use of government information in order to develop new e-services, the RCM seemed the most suitable model to use since it integrates both active and semi-active information/records. It therefore fits the current Swedish information management discourse on the use of information to boost national development (SOU 2009:86). The convergence of all the government information flows will require a holistic information management approach. The effective use of the model’s four dimensions would promote the objectives of e-government. A lot of efforts are being made in the two municipalities to deal with information in a manner that would lead to heightened efficiency. However, this is being done in a fragmentary way. Since the model can also be culturally interpreted to suit the records management practices of the context in question, the researcher found it suitable for Swedish municipalities because it promotes records management regimes that are in line with the Swedish information access laws.

The model further promotes the fact that archivists/records managers need to be involved during system design to contribute with records management and archival knowledge in order to contribute to a better understanding of the capture of records and to avoid their disappearance in subsystems (Chabbage & Ngulube, 2006).

The problem that municipalities face today as they engage in e-government developments is the lack of a holistic approach to the management of their electronic information assets. The municipalities are according to the conducted studies investing a lot of effort in the improvement of their business processes in order to deliver quality service. However, their information management efforts are directed at the management of contemporary information. This is also confirmed by Lundell and Lings who examined how easily accessible public documents are for public consumption and re-use. The results of their research confirmed that some of the municipalities could not find the requested for information (Lundell & Lings, 2010). Lundell and Gamalielsson in their article “Towards a Sustainable Swedish E-Government Practice: Observations from Unlocking Digital assets,” further warned that there is a need to maintain digital
assets for access and editing over their full life-cycle. They hence argued that any action in the public sector must be based on a long-term vision (Lundell & Gamalielesson, 2011). These research findings confirm the necessity for public authorities to adopt a proactive approach to information and records management. This also further illustrates the necessity to employ robust information and records management strategies that will reinforce and effective capture, organization, management and pluralization of information.

The RCM through its dimensions would facilitate the pluralization of information as per the objectives of the Swedish government and the European Public Sector Information Directive (PSI) (Humphreys, 1998; Statens Offentliga Utredningar (SOU), 2009:86). It clearly demonstrates the dimensions that need to be actively managed in order to achieve a holistic management of information that is, from creation to capture. Therefore, generating knowledge on different information management approaches and the RCM might mitigate information management issues. The call to re-purpose information would function better where archives and records management operations are integrated. Life cycle makes a clear demarcation between current and historical records, and hence delineates information management from archives management. Atherton posited that records management and archives operations are interrelated, even intertwined (Atherton, 1985-86, p. 47). Given the different dimensions that the RCM promotes, it was seen as the most suitable model to apply to this research. The section below offers the results of the studies that were carried out and that closely relate to the different RCM dimensions.

5. RESEARCH RESULTS AND CONTRIBUTIONS

This section presents a summary of the problem each paper addresses, the research question, purpose and its general contribution.

5.1 A Summary of the Case Studies Results

This section presents a summary of the papers, the problem that each paper addressed the research question and purpose of the paper, identified challenges, and the paper’s general contribution to the aim of the thesis.
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5.1.1 Paper I


Problem Definition in the paper

Härnösund and Sundsvall municipalities conducted projects that aimed to improve business processes. e-Government aims to reform local government management to allow for citizen participation in policy making and to foster efficiency and transparency. Information management is crucial to this process and requires the effective deployment of information systems. Modern information technologies facilitate the automation of business processes within the municipalities and the delivery of e-services to citizens, who can now access public information via the websites. This development however requires new ways of thinking which promote collaboration beyond the administrative departments and a holistic way of using the available resources. Information management is crucial to the daily decision-making processes and in establishing an efficient and service-minded organization which is customer-centred. However, critical factors regarding project implementation, change management, business processes and the challenges of e-government implementation will have to be addressed if successful achievement of agile government structures is to be achieved. The paper therefore highlighted the challenges that still persist as local government bodies try to espouse the modernization process and identified areas that needed closer examination.

Purpose of the paper

This paper was a result of an exploratory study with the intent to identify ongoing service development and improvement projects and to detect problems that the projects were facing in both Sundsvall and Härnösand municipalities. The article analyzed the identified problems in the light of the theories of change management, project implementation, e-government and Business Process Management.
Summary of the Results

The article highlighted a couple of critical factors that need to be addressed if local government bodies are to effectively engage in e-government, stay accountable and transparent, improve the delivery of services to the citizens and create an agile e-administration that will cope with the competitive nature of the market and globalization. Some of the critical factors identified included:

- Stove pipe structures.
- Lack of top management support (TMS)
- System integration
- Knowledge management
- Resistance to change
- Long-term preservation of information

The fact that municipalities are hierarchical organizations hindered collaboration across units since the individual administrative managers focused on their small units. However, current budgetary constraints require a holistic use of the available resources and a development of business processes that involves the entire organization.

The effective management of information and records is crucial to business operations and for democratic developments. The array of systems operated by the municipalities complicated their integration and posed a threat to the maintenance of public information. This is a problem that will require proper planning and controlled procurement procedures. The municipalities also faced the challenge of effectively capturing the knowledge developed during the conduct of the projects. There is therefore need to establish a systematic management of this knowledge. Resistance to change was a fact experienced by some project managers.

Most of the undertaken projects had teams of people that represented the different departments but the archivists were often left out. Therefore issues of long-term preservation of information were not dealt with at the project level but rather the focus was entirely on the management of contemporary information.

Despite the challenges identified above, both municipalities were making discernable efforts to improve their leadership, business processes and the management of their information resources. However, the challenges are still enormous and omnipresent because, while the private sector can fully optimize the
advantages of business process management, it is harder for local government bodies because their activities are executed within a specific legal framework and they have a given clientele.

**The paper’s General Contribution**

This paper was exploratory in nature and therefore set a foundation upon which the rest of the studies were built. It highlighted the challenges that needed further examination and illustrated the fact that municipalities are also facing changes that are forcing them to espouse modern ways of conducting business and it further demonstrated the changing organizations as indicated in the title of this thesis.

**5.1.2 Paper II**


**Problem definition**

This paper built on study one and further looked at the projects that had not been covered in the first publication of the study. It highlighted projects in which information management impacted the citizens’ lives in the two municipalities. It also discussed the interface between Enterprise Content Management and records management. The current financial global environment, pressure from the central government and the citizens is changing the rigidity which has been a typical characteristic of public administrations in reacting to change. We now see that the municipalities also re-engineering their work processes. The demand for high quality service delivery from the citizens is pushing this development. Business Process Management (BPM), Enterprise Architecture (EA) and Enterprise Content Management (ECM) are tools being recommended as the panacea for effective management of organizations. The management of information assets is crucial to this development. The municipalities’ engagement in e-government has meant a two-way flow of information between them and the citizens which has resulted complex information to manage.
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Research question and purpose of the paper

Research Question 1:

What are the similarities and differences between Enterprise Content Management and records management?

The paper partly contributed to the preliminary understanding of the differences between ECM and records management. It therefore partly answered Research Q.1. The paper further highlighted information management challenges that the municipalities faced as they strived to re-engineer their business processes.

Summary of the results

This study demonstrated how effective information management led to improved service delivery and a better utilization of resources. The quest for efficiency required a holistic approach to information management and the involvement of records managers/archivists to facilitate information management. The projects lacked a long-term preservation strategy to information management.

The paper's general contribution

This paper highlighted the central role that information and records management play in service delivery. It further confirmed that e-government developments will require broader information management strategies. It presented the differences between Enterprise Content Management and records management.

5.1.3 Paper III

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Problem definition

This paper examined whether the information management strategies that were being implemented in the municipalities could be considered to be the same as or similar to enterprise content management. Enterprise Content Management (ECM) is being promoted as the panacea to the exponentially increasing amounts of information. It is being deployed to enable the effective capture, management, distribution, retrieval, storage and preservation of both structured and unstructured information. Records management is the strategy being used to manage the municipal information resources, to increase efficiency and to enhance transparency and accountability.

Research question and purpose of the paper

Research Question 2:

Could the information and records management strategies being implemented in the two public administrations be considered to be the same as or similar to Enterprise Content Management?

The purpose of the paper was to establish if the information management strategies being implemented in the municipalities could be considered to be the same as or similar to ECM.

Summary of the results

The concept of ECM was not well known and both municipalities did not have enterprise architecture. The municipalities under consideration demonstrated that they were currently undertaking work in the area of information management which, at least in part, reflected factors prescribed for ECM. This was happening even though the municipalities were not aware of ECM and its aspects. The study identified the following challenges that need to be addressed in order to promote the current discourse of information reuse:

- Disparate information systems;
- The lack of system integration;
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- The long-term preservation of information;
- The lack of an enterprise architecture;
- The challenges of work process analysis;
- The reuse of information; and
- The implementation of knowledge management.

Both municipalities have realized the importance of system integration and have started discussing its implications, prior to the procurement of new information systems. Where smaller systems were concerned, both municipalities allowed individual units to select and procure systems without consultation across the organization which created an IT infrastructure with disparate systems.

The challenges of long-term preservation were understood differently but the interviews confirmed that preservation increased the opportunities to access records and prolonged their use as regulated in the Swedish Constitution. Respondents confirmed that the archivist should be involved in information planning and that system suppliers should be encouraged to use Open Source technologies. Issues of enterprise architecture had become more pronounced because there is now a growing awareness of how systems, processes and practices are linked even if these relationships are not well planned for or mapped. Both municipalities identified their major work processes as being associated with provision of services in support of education, child care, employment and growth, community development, and leisure and culture. Knowledge management in both municipalities was undertaken by allowing new employees to work alongside or shadow the officer who was vacating the position. This facilitated the maintenance of knowledge in-house while the replacement is being trained. The time period was limited as it was costly to pay two salaries for one position.

The paper’s general contribution

This paper established that there are differences and similarities between ECM and records management. However, there are overlapping areas. The study proved that the municipalities were also actively working with certain aspects of ECM. It contributed to a better understanding of ECM as a solution to the proliferating digital information and an understanding of why the ECM strategy has integrated records management. This confirms the importance of the role records management plays in ensuring the authenticity, reliability and accessibility
of records. It also confirmed that ECM proponents because of compliance issues integrated records management in their strategy.

5.1.4 Paper IV


Problem definition

This article was based on study two and described the transformation that was taking place in the two municipalities. It presented challenges of information management that the municipalities were faced with as they engaged in e-government developments. The municipalities are slowly but surely transforming from rigid organizations to organizations that are embracing change in order to cope with the increasing demand for high quality service from citizens. Collaboration among the municipal units and beyond is being promoted in both municipalities. However, transforming public administrations is a complex issue and the focus on efficiency draws attention to the management of contemporary information. This threatens to disregard information and records management principles because of the way information systems meant to support new services are being conceptualized.

Research question and purpose of the paper

The paper related to Q.2 but its purpose was to demonstrate the fact that municipalities are no longer static bureaucracies but organizations that are embracing change since they are also affected by the environment they operate in. They are therefore forced to adjust in order attain their ultimate goal of delivering high quality service.

Summary of the results
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This study further confirmed that ECM was not a well known information management concept and that records management was still the dominating information management approach that the municipalities are using. It illustrated how the municipalities were adjusting to new ways of working and therefore transforming but it also highlighted the challenges mentioned below:

- Challenges of creating of a one-point-access to information
- Lack of involvement of archivists in information planning.

A “one-point-access” strategy to information resources requires an information technology infrastructure with integrated systems. However, both municipalities operate disparate systems some of which served different purposes and therefore could not be integrated. The effective management of information will require engagement of different categories of organizational employees. Collaboration between the information technology units, systems co-ordinators/managers and archivists/records managers is crucial if information is to be leveraged in a manner that will lead to improvements in e-service delivery but also information access, transparency and accountability.

The paper’s general contribution

The research findings in this paper further confirmed that municipalities are no longer rigid organizations that cannot adapt to change. They are now transforming in order to deal with the increasing demands for quality services from citizens even though this is happening at slow pace. It further showed that concerted efforts are needed in order to manage information resources and archivists should be involved in order to bring in a proactive approach to information and records management.

6. SYNTHESIZED RESULTS OF THE RESEARCH PAPERS

The aim of the thesis was to examine the interface, if any, between ECM and records management. In this section, the findings from the papers are compared and contrasted and the results synthesized so as to determine the differences and similarities which exist between ECM and records management. The analysis and synthesis is presented in the context of the information management strategies and
the challenges of information management in the two municipalities which were the case studies in this thesis.

6.1 ECM and Records Management Characteristics

ECM is defined in both technological and non-technological terms. It is referred to variously as a technology, a vision, a strategy and an approach. MacMillan & Huff (2009) contend that it is not just about technology, nor is it about technology being of prime importance. Rather, ECM is about the people in an organization first, followed by the context and content, and lastly the technology. Neither records management nor ECM are purely about technology. However, they each have a slightly different focus. ECM focuses on the wider content of an organization while records management focuses specifically on the record.

Records management is an established information science discipline and practice. It continues to play a major role in the municipalities to ensure compliance, and also to serve broader democratic issues of transparency, accountability, the citizen’s right to access information and the enhancement of the collective society memory. Since records management ensures the systematic capture of records and enhances their reliability and authenticity, ECM proponents look upon it as a means to ensure compliance.

Both ECM and records management endeavour to help organizations to deal with the deluge of electronic information, enhance improved decision making processes, elevate efficiency and to facilitate compliance. ECM as Bantin (2008) argues grew out of the need to manage documents and the rest of the content that is outside records. The three studies that were conducted in the municipalities as part of this thesis, confirmed that ECM was not a known phenomenon. However, once the interviewees in both municipalities had been made familiar with the definition of ECM and the principles which underpinned it, they were able to confirm that there were similarities between ECM and their own information management strategies which are based on records management.

6.1.1 The municipalities and information management challenges

The explorative study which is referred to as Study 1 in the thesis, demonstrated that the municipalities were engaging in the re-engineering of their business processes and were employing information management systems to address some of the challenges of information and records management. Study IV also confirmed that the municipalities can no longer be regarded as static
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organizations because as demonstrated in the paper, they are adopting change in terms of leadership, the way they see their mission and how they look upon their employees. However, the changes are slow and the information management efforts are fragmentary. This is due to a number of challenges that will have to be addressed before enterprise-wide information management is achieved and successful e-government is implemented. The challenges include persisting stove-pipe structures, lack of top management support, system integration, knowledge management, long-term preservation strategies and resistance to change. Even though the municipalities have started engaging in the analysis of their business processes and are aware of the need for system integration, lack of enterprise architecture makes the integration of information systems difficult.

The municipalities are expected to maintain their information and records in a manner that enhances public access. They apply records management as a strategy to deal with their information resources. This is done according to specified laws like the Archival Law and the laws that govern the different areas of their operations, (Gränström, et al., 2000; Larsson & Bäck, 2008). To be successful, it is important that is done across the entire organization. Traditionally, municipalities have operated in silos. However, the legislative requirements above, and the current developments, necessitate a holistic view which promotes the management of resources, including information, in a manner that focuses on the entire organization not just parts of it. Fortunately in this regard, new thinking is emerging. The leaders in the municipalities are expected to espouse a more holistic view instead of the unit-based thinking that only promotes individual units. An example of this is the investments being made in one of the municipalities to create a unified information repository. There are however still many specialized systems that pose problems and create isolated islands of information. This has the potential to have an enormous negative impact on the opportunities for collaboration and information sharing.

6.1.2 The ECM and records management overlap
The ECM literature reviewed emphasized Business Process Management; Collaboration; Change Management; Repurposing of Information; Knowledge Management; System Integration; Enterprise Architecture; and The Lifecycle Management of Information (Glazer, et al., 2005; Jenkins, 2006; MacMillan & Huff, 2009). The literature on records management clearly shows that the discipline is centred on the management of the evidence that results from an organization’s business processes; its records. Records management underpins the processes of an
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organization and supports its accountability, transparency and access to information (Dynti & Preston, 2008; Eastwood, 1994; Gilliland-Swetland, 2000; Shepherd & Yeo, 2003).

Despite the differences, this research showed that there are areas of overlap, or commonality between the two information management approaches. Figure 4 demonstrates the overlap.

![Figure 4: The ECM and records management overlap](image)

The municipalities had records management functions and/or information management strategies. The research findings confirmed that the municipalities are also working with certain aspects of ECM. However, it was possible that the work being done on ECM was not taking into account its existing information management. This research was able to shed some light on whether or not there was any overlap between the two. Table 2 on the page that follows demonstrates the overlap which exists between the municipalities’ information and records management strategies and ECM.

The maturity level of the ECM prescribed factors is still low, and there are varying degrees of engagement in each of the municipalities. Both municipalities are engaged in business process development even though in municipality B this was still a very premature engagement. They had also started discussing ways of collaborating around information in order to develop a culture of sharing it. They further discussed information re-use even though currently it is not done systematically. The municipalities still have much progress to make before they
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can be said to be re-using information in any meaningful way. This is due in part to the fact that re-use of information also requires an IT infrastructure that enables systems to at least interface with each other. As such, the municipalities have realised the need to address issues of system integration. The research findings in papers III and IV attest to this conclusion.

Table 2: The ECM and records management overlap

<table>
<thead>
<tr>
<th>ECM Factors</th>
<th>Records Management Factors</th>
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</thead>
<tbody>
<tr>
<td>Enterprise Architecture</td>
<td>Municipality A: No Enterprise Architecture</td>
</tr>
<tr>
<td>Business Process Management</td>
<td>Municipality A: Process work is on-going and process owners appointed. Results led to the standardisation of case handling in one of the units and some merging of units.</td>
</tr>
<tr>
<td>Collaboration</td>
<td>Municipality A: Staff members engaged in information collaboration but not in a systematic way. A project to promote information sharing was planned. Some issues with collaboration and the requirements of the Public Records Act.</td>
</tr>
<tr>
<td>Repurposing of Information</td>
<td>Municipality A: Consultation of earlier documents and the archives. Investments in a common repository have been made. Had undertaken information modelling.</td>
</tr>
<tr>
<td>Knowledge Management</td>
<td>Municipality A: Employee to employee transfer of knowledge. Two projects were underway to systematise knowledge management.</td>
</tr>
<tr>
<td>System Integration</td>
<td>Municipality A: Taken into consideration at the systems procurement stage.</td>
</tr>
</tbody>
</table>

Table 2 also demonstrates the lack of a key element in both municipalities, namely, Enterprise Architecture. It is a factor that would solve the issues of disparate systems (Johnson & Ekstedt, 2007). The impact of a lack of an Enterprise Architecture was evident in the broad range of systems in operation in the
municipalities. If they are to avoid information silos, they will have to deal with the procurement process challenges presented by not having an Enterprise Architecture, where individual units have acquired systems that end up being specialized systems. Islands of information are created as these systems were not integrated. Usually, specialized systems can only be operated by a few people and need specific support and maintenance.

On a positive note, municipality A had invested in a unified repository and some of the systems had successfully been integrated with this system. Unfortunately, there were some systems that could not be integrated.

All in all, the municipalities are investing in the management of their information resources, but they still lack a holistic approach to information and records management. This means that they still have a long way to go before they can equate their information management strategies to what an ECM strategy prescribes.

6.1.3 The RCM Model and the Municipalities’ information management challenges

The researcher instrumentally applied the RCM model as a theoretical framework that informed this research and within which the research was conducted. The RCM Model is divided into four dimensions. These dimensions are:

- Create;
- Capture;
- Organize; and
- Pluralize.

The following section discusses the activities of the municipalities in the context of the dimensions.

**Dimension 1 - Create**: represents the locus where all business actions take place. In this dimension, documents exist in versions and can be moved beyond this locus.

The activities related to information and records management in the municipalities were concentrated in Dimension 1. However, there was not a holistic view. Primarily, the focus was on the management of contemporary information, the long-term perspective of information management and the
preservation of information was often neglected as reflected in the research findings in the published articles. In this study, this situation may have arisen due to the fact that the key personnel, such as the Archivists and sometimes the IT specialists, who would contribute to this holistic view were left out of the information management planning process. Archivists are experts in issues of retention and preservation and the general legal framework that governs information. Most people who were engaged in the information planning were not. This expertise that would have led to the maintenance of information crucial to the business activities was underutilized in both municipalities.

RCM promotes planning for the entire information and records continuum and this was overlooked in the municipalities. This is the dimension where issues of knowledge management, information sharing, re-use of information and long-term preservation ought to be addressed. This dimension is crucial to the remaining dimensions. If it is not planned well, all of the dimensions are compromised.

**Dimension 2 - Capture:** is when a document is communicated or connected through relationships with other documents, with sequences of action. The records are in this dimension captured as evidence of transactions and can be distributed, accessed and understood by others involved in the business transactions.

Information capture and thus information sharing is influenced by Dimension 1. If the initial Dimension is not well planned and executed there can be challenges in sharing and using information across an organization. In both municipalities, information and records were captured either in the information systems or printed out on paper. Information sharing in the municipalities was being carried out via integrated systems such as the finance and personnel systems, the Intranet and common network structures and servers. The effort in municipality A to create a unified content repository was a good attempt to capture information in a manner that is likely to enhance information sharing, access and re-use.

**Dimension 3 - Organize:** Represents an aggregation of records above individual instances of sequences of actions. Here the records are invested with explicit elements need to ensure that they available over time that exceeds the immediate environments of action. This is the archive or fond that forms a corporate or personal memory.
Dimension 3 is where organizations face not only the issue of organizing information in a manner that would enhance information sharing, but also the challenges to ensure long-term preservation. Since the municipalities in this study placed most of their attention on the management of contemporary information in order to elevate efficiency, the organization of information/records was fragmentary. The municipalities lack digital archives and still operate a hybrid system where information meant for long-term preservation is captured in a paper-based format. As e-government developments advance, the municipalities’ accumulated archives will require better management in order to enhance re-use and the development of e-services as per the public sector information directives.

Dimension 4 – Pluralize: This dimension represents the broader social environment in which records operate. The legal and regulatory environment which translates social requirements, different for every society and at every period, for recordkeeping. This dimension further represents the capacity of a record/records to exist beyond the boundaries of a single creating entity (Reed, 2005, pp. 20-21).

Dimension 4 promotes the fact that government information is created for a broader social environment. This particular Dimension enhances the on-going Swedish discourse about viewing information as a national resource meant to boost national development.

The municipalities’ information/records must be publicly available from their point of creation. Swedish citizens have a right to access them according to the legal framework governing public records. However in order for the information/records to be pluralized, Dimensions 1, 2 and 3 have to be well planned, in place and operating successfully.

7. CONCLUSION

The aim of this research was to examine the interface between ECM and records management. That involved establishing what the similarities or differences between the two information management strategies. This has been achieved by addressing the following questions:

1. What are the similarities and differences between Enterprise Content Management and Records Management?
2. Could the information and records management strategies being implemented in the two Public Administrations be considered to be the same as or similar to ECM?

The findings that have been published in the papers included in part two of this thesis provides the answers to these two questions.

ECM, like records management, endeavours to help organizations to manage their information assets. The biggest difference between the two strategies is that while ECM focuses on content, records management focuses on records or the evidence of an organization’s business processes. This means it ensures that the records evidential value, reliability and authenticity are maintained. By focusing on content, ECM ensures that the information that falls outside the managed records is also brought into a managed environment and leveraged in a manner that supports business activities. In the case studies, it was evident that the focus on records had led to the neglect of that which is not records, that is the information in information systems or documents.

The empirical data showed that there were similarities between ECM and records management. This was illustrated in Table 2 which shows the areas of overlap between ECM and records management. These overlapping areas included; Business Process Management; Collaboration; Change management; Repurposing of information; Knowledge management; System integration; and The Lifecycle Management of Information. However, the maturity levels of these factors require further development.

Based on the empirical findings, the researcher has concluded that is that there are similarities between ECM and records management. This is not to say that there are no differences. Records management does differ from ECM. As the ECM proponents state in their literature, records management has a strong compliance focus. It serves broader societal objectives such as upholding the two important tenets of democracy namely, transparency and accountability. It focuses on the evidentiary value of information.

Records management has been criticized as being to storage-based (James, 2010), instead of promoting information re-use. So it could be concluded that ECM and records management could play complementary roles in an organization. Records management would ensure compliance but also serve the broader societal environment and ECM would manage the content that falls outside the category of
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records. The underdeveloped ECM prescribed factors practiced in the municipalities need to be addressed and improved. Doing so will create a fully functioning information and management infrastructure. If the municipalities’ information management strategies had been systematically and fully developed, they would have addressed information in all formats and types, including records, and they would have laid the foundation for the complementary management approaches of ECM and records management. ECM and records management can and should complement each other. Records management would offer the theoretical framework that will enable public organizations to fully understand the implications their information/records management strategies have on the right to access information, transparency and accountability while ECM will cater for the efficient management of information through technology.

Even though the municipalities have started working with the ECM prescribed factors, they still have much work to do before they can be considered as having mature ECM in place. For example, there is a need to develop and implement an Enterprise Architecture to facilitate the establishment of a well-functioning IT-infrastructure that would eliminate stand-alone systems. Factors like knowledge management, collaboration, change management, business process management and long-term preservation of information need to be further developed. As indicated in the research findings in part two of the thesis, the municipalities are making discernible, albeit, slow improvements.

The researcher has also found that there is little or no evidence of professional communication and discussion on ECM by records managers/archivists and on records management by ECM researchers. This is critical because, records managers/archivists need to understand issues related to information systems and business processes, and ECM researchers and practitioners need to understand that records management has a role and function beyond compliance. It is this combination that would lead to the construction of information and records management systems that would promote effective information management. A deeper understanding of both strategies by both sides would enhance the achievement of effective information management that, not only focus on giving organizations a competitive edge, but also takes into consideration the broader community issues of societal memory and public accountability and transparency. The ideal situation would be to combine ECM and records management to create and deliver Enterprise Content and Records Management (ECRM).
This research has set a foundation for understanding what comprised an effective information management infrastructure. The thesis is part of an on-going Ph D process. It will therefore inform the next phase of the research.

7.1 Reflection on the Research Process and Recommendations for Further Research

This study has concentrated on the critical examination of ECM and records management. The research was based on a qualitative approach using two case studies undertaken in two municipalities.

 Municipalities in Sweden have the same clientele. They vary in size and have varying budgets available for their businesses. These differences notwithstanding, the challenges of information management faced by the municipalities are those faced by other organizations. As such the findings of this research can be generalized or considered as representative for many municipalities. The findings could be of value to other municipalities.

 The ECM component of this research has been informed mainly by the literature review as ECM as a practice and a discipline has not yet been instituted in the municipalities. However, in the near future it may be possible to identify public institutions that have implemented ECM. If this is the case, further research in these environments would provide a practical complement to this study.

 Considering the research process thus far, the researcher has learned a great deal from her experiences. As the study progressed she honed her research skills and analytical abilities by seeking advice from more experienced researchers and critically addressing the lessons learned. These lessons, together with a growing knowledge base will provide a sound foundation for progressing the study.

 The researcher has been enriched by this study. Her understanding of what a well functioning information management infrastructure ought to be has been informed, refined and enhanced. The research also reinforced for her that information management challenges persist despite e-government developments and technological advancements. Engaging in ECM as a new area of research has deepened her understanding of the very important and ongoing role that records management has to play even where new information management constructs arise. The research experience has confirmed for her that records management has a critical role to play in enhancing transparency and accountability as the core tenants of a democratic society even amidst technological advancements.
REFERENCES


