STRATEGIC DECISIONS TO ADOPT ELECTRONIC CONTENT MANAGEMENT SYSTEMS

Master thesis

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DECLARATION

I, Christoph Wagner, declare that this thesis titled, 'Strategic Decisions to adopt Electronic Content Management Systems' and the work presented in it are my own. I confirm that:

- This work was done wholly or mainly while in candidature for a research degree at this University.
- Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated.
- Where I have consulted the published work of others, this is always clearly attributed.
- Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work.
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ABSTRACT

This era is an information era. The amount of content, which consists of data and information, is rapidly growing in our society, in public entities as well in private corporations. The options and tools to address the problems when handling content are exhaustive and can be specialized at times. These systems are called Enterprise Content Management Systems (ECMS) and enable an organisation to structure their content and make it available in an easily accessible way. It is known how to implement these systems in organisations properly, and it has been researched what influences these systems have on organisational performance. However, it is unknown for what reasons organisations actually choose to adopt an ECMS. This exploratory research identifies key areas for possible adoption drivers based on prior literature and presents nine case organisations which chose to adopt an ECMS. It presents the reasons and drivers why these organisations adopted the system, if it was because their competitor had a system in place, if it was merely a coincidence, or if it was strategic planning and strongly aligned with business functionality and the processes in place within the organisation. The study proposes adjusted and extended framework based on the case interviews. As this exploratory research emphasises the strategic aspect, it is mentionable that among the cases, the organisations where the adoption was driven also by strategic aspects, thorough planning and alignment, came out on top. These organisations had a stronger performance than others. However, the most likely driver for ECMS adoption is the discontent with the organisational IT landscape and its scatteredness. That factor, along with improved ability to search for documents and make content easier available, was the most cited among the cases. The easiness to adopt ECMSs has also been a factor, as most of the systems are easily integratable nowadays. The study proposes an extended framework to assess ECMS adoption for future researchers to give additional coherent and holistic insight into reasons and drivers for ECMS adoption.

ZUSAMMENFASSUNG

Wir befinden uns in der Informations-Ära. Die Anzahl an Inhalten, welcher aus Daten und Informationen besteht, wächst stark an, in öffentlichen wie in privaten Organisationen. Dies führt in vielen Organisationen dazu, dass der Überblick leicht verloren geht. Die Optionen um diese Probleme in den Griff zu bekommen sind reichhaltig und teilweise sehr speziell. Derartige Systeme werden Enterprise Content Management Systems (ECMS) genannt und ermöglichen es einer Organisation, ihren Inhalt klar zu strukturieren und einfach zu publizieren. Es ist bekannt, wie diese Systeme vorteilhaft einzuführen sind und es wurde erforscht welchen Einfluss ECMSe auf die Performanz und Effizienz eines Unternehmens haben. Allerdings ist unbekannt aus welchen Gründen und mit welcher Motivation Unternehmen sich entscheiden ECMSe einzuführen. Diese wissenschaftliche Arbeit ergründet diese Frage mit Hilfe von herausgearbeiteten Schlüsselfaktoren die für eine Einführung solcher Systeme motiviert und identifiziert die Faktoren in der realen Unternehmenswelt anhand von 9 Fallstudien. Die Arbeit präsentiert die Gründe und Motivationen für eine Einführung solcher Systeme, ob dieser Prozess eher Zufall war, vom Mitstreiter abgeguckt wurde oder ob strategische Planung und Verzahnung mit den Organisationsprozessen hinter der Einführung stand. Sie schlägt eine verbesserte und erweiterte Version der früheren Faktoren vor, welche stärker auf die heutige Unternehmenswelt zutrifft. Da diese Arbeit besonders den strategischen Aspekt beleuchtet, da eben dieser in früheren Rahmenmodellen nicht vertreten war, ist fest zu stellen, dass die Fälle, in denen die Einführung strategische Motive hatte, diese am Besten meisterten und ohne große Probleme funktionalisierten. Es ist allerdings zu notieren, dass der überwiegende Großteil der Organisationen die Einführung von ECM Systemen aus Gründen der Zersplitterung der IT Landschaft im Unternehmen und der daraus resultierenden Unzufriedenheit und Prozessunklarheit geschieht. Zusätzlich spielten die Faktoren der erleichterten Dokumentensuche und höheren Datenintegration eine große Rolle. Außerdem führte die leicht Einführbarkeit heutiger Systeme meist zu einer schnellen Entscheidung diese Systeme zu nutzen. Basierend auf den 9 Fallbeispielen präsentiert diese Arbeit abschließend ein um den strategischen Aspekt erweitertes Rahmenmodell für zukünftige Studien zum Thema ECMS Einführung, die mehr Einblick in die Entscheidungsfinden zur Einführung von ECM Systemen geben sollen.

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GLOSSARY

ECMS	"Enterprise Content Management Systems comprise the strategies, processes, methods, systems and technologies that are necessary for capturing, creating, managing, using, publishing, storing, preserving and disposing content within and between organisations" (Grahlmann et al., 2012).
IT	"Information technology (IT) is the application of computers and telecommunications equipment to store, retrieve, transmit and manipulate data" (Daintith, 2009).
Adoption	Adoption generelly stands for the decision to introduce a new element into the environment at hand (possibly an enterprise). "In the adoption phase, the initial requirements for an ECM system are investigated, the impact of the system on the organization is analyzed, and the goals and benefits of the system are determined" (Alalwan & Weistroffer, 2012).
ERP	"Enterprise Resource Planning software systems (ERP) encompass a wide range of software products supporting day-to-day business operations and decision-making. ERP serves many industries and numerous functional areas in an integrated fashion, attempting to automate operations from supply chain management, inventory control, manufacturing scheduling and production, sales support, customer relationship management, financial and cost accounting, human resources and almost any other data- oriented management process" (Hitt et al., 2002).
TOE	Technology, Organisation and Environment framework as proposed by Tornatzky and Fleischer (1990). It incorporates the basic contexts of technology, organisation and environment to enable assessment of these topics on an organisational level related to information technology.

1 INTRODUCTION

1.1 BACKGROUND

With humankind entering the information era in the early 90's, the focus in business and society shifted towards information. Today, almost any information is available in an instant any given time at any given place. The digitally created or replicated information in the world amounts to a total of 1.2 million petabytes in the year 2010. Gantz and Reinsel (2010) predict that in 2020 the information globally stored will add up to 35 million petabytes.

The rapid growth impacts the way we will think about information in the future, as studies prognose that the storage capacity will not be able to grow at the same rate, which creates needs for guidance on what information is useful and which information should be left out. Enterprise data, and thus enterprise content incorporates a large amount of globally stored information, as companies require very detailed information and data (Alavi & Leidner, 2001).

As technical evolution progresses and the importance of proper and effective use of technology in order to improve processes is acknowledged, it becomes more and more necessary for companies to manage their information assets (data, information, content) in way that strongly enables and supports the underlying business. The research of Brynjolfsson and Hitt (1996) was the first to prove actual value of technology to a business and since then more and more businesses adopted a sense for the use of technology and how it can provide competitive advantage needed in order to succeed in business. Furthermore, Drucker (1992) stated that "in this society, knowledge [and information] is the primary resource for individuals and for the economy overall", and that "land, labor and capital - the economist's traditional factors of production - do not disappear, but they become secondary" to information, content and knowledge. Those who did not quite accept the information-era got in trouble, especially during the past 4-5 years, when organisations that operated with a low adoption rate of technology or an unsuitable technological strategy, fell to the internet and information companies (Brynjolfsson & Hitt, 2000). This is resembled by the famous example of Neckermann, which failed to acknowledge the importance of technology and internet as a whole as a retail channel and ultimately filed for bankruptcy. Other examples of these include the retail sector as well as books and logistics businesses which cannot compete with informationally well-structured organisations like Amazon.

Knowing that data, information, content and knowledge are seen as key factors in todays society and in business, computational systems that support operations are experiencing a high adoption rate and account for increased spendings

(Leidner & Jarvenpaa, 1995; Paivarina & Munkvold, 2005; Blair, 2004). In the industrialised countries of the world, there are only few and rare sectors left that do not require a strong technological support. Adopting a technology refers to make the decision to utilise a new technology in an organisation. An ECMS provides disruptive technological capabilities to an organisation and generally has a strong positive influence on the underlying business (Grahlmann et al., 2012). Knowing what drives adoption is the key to know how to adopt and implement as system, it is crucial in order to understand the problems and failures that can be encountered during the process (Smith & McKeen, 2003).

1.2 PROBLEM STATEMENT

As the level of adoption of technologies that manage information and content and enable collaboration rises rapidly, it means that organisations need to think about why and how they want to adopt these systems. "Enterprise Conent Management is on the 'bleeding-edge' of information, content and knowledge management today. While many companies envision their information assets being well organized, easily accessible, and facilitating decision making at some nebulous point in the future, the current reality is considerable less rosy" (Smith & McKeen, 2003). It is an established and research backed opinion that adoptions which capture interest of the high-level management are more successful and promising than those without the support of high ranked managers and executives (Akkermans & van Helden, 2002; Somers & Nelson, 2001). The focus on the adoption drivers and decisions as well as the people involved seem to be critical success factors in adopting technologies. Electronic Content Management Systems (ECMS) play a significant role in giving organisations a means to handle their information, data and content and enable collaboration (Grahlmann et al., 2012). The decision to adopt technological systems such as ECMS is multifaceted and may not always be in the best interest of the organisation or may not provide a measurable value to the organisation. In regard to these questions, little is known about the actual drivers and decisions surrounding adoption of ECMS. This thesis serves to answer the question of 'What are key strategic decisions that influence the adoption of an ECMS'. It is important to know the decisions that led to adoption because deeper understanding of the process can help to understand why implementation fails or organisations cannot really leverage the advantages of these systems. Ultimately the research aims to answer the question if well thought through adoptions are in fact more successful or if there are additional factors than just planning to make a technological adoption payoff in the end.

1.3 RESEARCH QUESTION

The questions address the unawareness of the topic in general and point towards possible weaknesses in the use of ECMS. Additionally, literature on enterprise-centric research related to ECMS is scarce and the few studies which point in that direction also mention that a gap exists in this field (Smith & McKeen, 2006; Alalwan & Weistroffer, 2012). Based on the identified gaps in literature, previous

research and the matter at hand the following research question and subquestions are derived:

"What are the motivations and decisions that drive the initiation of an organisation's ECMS project and how are those related to the organisational IT strategy?"

a) What are the key problems and challenges organizations face with their ECMS?

b) What drivers and decisions led to the adoption of an ECMS?

c) Would a higher alignment of the ECMS implementation approach with regard to the IT strategy have helped to prevent problems?

1.4 RESEARCH APPROACH

To tackle the problem, semi-structured interviews with 9 representatives of 9 different companies are being conducted. The interviewees have positions in their organisation that enable them to answer the questions raised in the interviews, and ultimately to answer the research questions. They are responsible for ECMS activities and planning, some of them are in high-level position that inherit more than just responsibility for the ECMS (departmental manager, Head of Knowledge Management), but for the overall organisational technology portfolio (CIO). Each interview lasts around 40-50 minutes. Following the recorded interviews, the recordings are transcribed and scanned for emerging themes and general factors of the framework used. The transcribed data is summarised and presented for each case organisation and consequently analysed and discussed. Based on the findings, recommendations for practitioners are made, these include major factors to take into account when adopting an ECMS.

1.5 RELEVANCE

This exploratory research has relevance for practitioners as well as academic researchers. Scholars commonly point out a gap in enterprise-related ECMS research (Alalwan & Weistroffer, 2012; Tyrväinen et al., 2006; Munkvold et al., 2006) and call for relevant research which addresses the issue. Prior research concludes that significant insight into ECMS adoption is still lacking. This exploratory research addresses gaps in knowledge about the nature of adoption decisions made in organisations. It is also relevant for practitioners as common areas of mistakes are pointed out based on the interviews. Based on this, factors are established, which enables practitioners to focus on the critically important factors to ultimately succeed with the ECMS adoption and make it a benign one. This exploratory study is the first one to address the gaps mentioned in literature and is highly relevant to the field of enterprise-level ECMS literature.

The research document is divided into eight main sections. The introduction serves as a general introduction to the importance of technology today and is

pin pointing to questions that are of interest for this exploratory research. The second section is concerned with the related ECMS literature and the historical background of IT advantages for organisations. Furthermore, it introduces some basic and widely acknowledged theories and models that help to understand the problem of this exploratory research. Proceeding, the third section provides the model for this exploratory research and introduces factors and motivations that drive adoption. The fourth section provides insights into the research method and explains in detail how answers are elicited and models and theories used in this research work together. The fifth section provides general descriptions of the companies and presents the results for each interviewed company. A cross case analysis and overall findings are to be found in section six. Section seven and eight close out with discussion of the research, conclusions and possible further implications for the future of related research.

The following literature review section provides a general introduction into ECMS definition and use in organisations, lays out the benefits of IT-business alignment and describes the differences in ERP and ECMS adoption based on the nature of these systems. Which is followed by an overview of specific adoption models which are to be considered for this research. After this summary of the topic, the research is adequately positioned within the IS/IT and ECMS domain and accordingly justified. As a result of the literature review, the research question and sub-questions are stated.

2 LITERATURE REVIEW

As ECM is coming off a hype and is experiencing growth in general usage. However, literature on why organisations actually adopt ECMSs is scarce and it is not known whether companies are just adopting it because of a general "fashion-wave in IT" (Baskerville & Myers, 2009) and simply follow the lead of similar organisations, which is called the "bandwagon effect" by Markus and Tanis (2000), or if these systems are adopted due to the requirements of the business and if the adoption is planned accordingly. According to scholars, top-management support and proper strategic planning enhances benefits of IT adoption (Tallon & Pinsonneault, 2011), contrarian to just adopting IT because it is "fashionable" (Baskerville & Myers, 2009), which leads to less benefits (Baskerville & Myers, 2009; Markus & Tanis, 2000). This explorative research analyses the motivations and decisions behind ECMS adoption. This requires deeper insight into the field of IT adoption and IT in general which is provided in the following section. The literature review provides a general overview of the field of ECM and ECMS, its history and recent research and gaps which relate to the statement above.

The literature review presents the history and definition of ECM, the value of IS/IT (from now on referred to as only 'IT') and ECM for businesses, the use of ECMS and the state of its research to give a deeper understanding of the topic. Furthermore, IT adoption models of previous research are examined and gaps in research literature concerned with adoption decisions with ECMS are examined to justify this exploratory research.

This chapter firstly provides an overview of ECMS history and it's relevance to today's businesses. This is supported by related literature on the value of IT in general and strategic alignment. An overview of the usage of ECMS is given and the different nature of ERP and ECMS systems are explained. Furthermore, an overview of adoption theories and models is given to establish a basic understanding of how to assess organisations when looking at their technology decisions and initiatives. To conclude the literature review, gaps are exploited, which are to be filled with this exploratory research, which is positioned within the overall ECMS research efforts and justified. From these, the research questions to be answered are derived.

2.1 ECM/ECMS HISTORY & DEFINITION

ECM is an emerging and dynamic concept as it follows a subtle and yet ever so pivotal paradigm of structuring, organising and managing data, information and content. The predecessive concept of ECM is electronic document management (EDM). A need for systems that enable document management started to emerge when the first mature technologies for organisations arrived. In 1978, Swanson

and Culnan (1987) pointed out that the electronic management of documents is important for management decisions that influence planning and control of a firm, but that the topic has received little attention. By the mid-90's, a Gartner Group Strategic Analysis Report forecasted "that by 1995 document management functions will become the most important service on Local Area Networks" (Sprague, 1995). Disruptive technologies in early- and mid-90's opened entirely new perspectives on the concept of EDM. The Internet and the Web offered a wide variety of possibilities in the area of managing and sharing documents. Particularly the Web brought a plethora of innovations with it that were greatly leveraged by organisations and the people of the world in general as one can witness today. The term 'Enterprise Content Management' (ECM) has been coined by the Association for Information and Image Management (AIIM) around 2001 and merged 'Web Content Management' with EDM. Whereas in the beginnings of EDM the term referred to a single imaging or document management software, the term emerged to a broader meaning of Electronic Document Management Systems (EDMS) representing multi-product software packages such as an office suite. With systems and software products being progressively more integrated and offered more functions. ECM was generally in the state that is still there today. Today's ECMSs are deeply integrated and offer a large number of functions ranging from optical character recognition (OCR) to collaborative text creation and records management. ECM is still further developing, the most recent innovation being the use of cloud-computing that puts organisations, that offer functions that are within the field of ECM like Salesforce.com, ahead of other conservative businesses in the industry. Concluding the history of ECM two points are evident:

1) ECM is a dynamic, ever-changing field
2) ECM offers a plethora of solutions

Due to the ever-changing nature of ECM and the wide variety of problem solving opportunities, scholars cannot agree on one comprehensive definition of the term ECM. There is a multitude of different definitions by researchers, practitioners and industry associations. ECM is still an emerging topic and thus inherits an immature and crowded "market with varying product philosophies, architectures, functionalities and price tags" (Päivärinta & Munkvold, 2005). Nonetheless there are definitions that aptly cover the intended purpose and paradigm of ECM.

Smith and McKeen (2003) state that "there is considerable confusion" about every aspect of ECM in general and ECMS specifically. The large amount of opinions and different perceptions of such technologies leads to a wide variety of aspects to be considered within ECM and ECMS. Perceptions multiply, as practitioners and vendors are highly involved in the ECM field. Smith and McKeen's study (2003) views ECM as "the strategies, tools, processes and skills an organisation needs to manage all its information assets (regardless of type) over their lifecycle".

Vendors may use very specific and narrow definitions of ECM in order to position their product in the best possible way. However, even among scholars there is no consensus of weather unstructured data is to be considered within the ECM field as well as structured data, or if they exist mutually exclusive (Grahlmann et al., 2012). Grahlmann et al. (2012) identified two groups of definitions in ECM research and practice whereas the first group is focusing on content and technology perspectives, the focal point of the second group is the enterprise and process perspectives. Grahlmann et al. (2012) point out, that there is "notable difference" in a number of definitions among scholars and practitioners, as they refer to unstructured data and structured data mutually exclusive in their definitions. Taking Smith and McKeen's (2003) definition into account, the term "information assets (regardless of type)" should result in a non-exclusive viewpoint. As Grahlmann et al. (2012) conclude their exhaustive study on definitions of ECM in related literature, a comprehensive definition of ECM is provided based on "all relevant perspectives of ECM that have been mentioned in the first seven years of research on this topic" (Grahlmann et al., 2012).

"Enterprise Content Management comprises the strategies, processes, methods, systems and technologies that are necessary for capturing, creating, managing, using, publishing, storing, preserving and disposing content within and between organisations" (Grahlmann et al., 2012).

ECMSs as mentioned, are considered multi-products and may have impact on an organisation as a whole. Firms choose to use ECMSs and information technology in general for a variety of reasons, "among these are: pressures to cut costs, pressures to produce more without increasing costs, and simply to improve the quality of services or products in order to stay in business" (Legris et al., 2003). To present the advantage of IT and ECMSs, the following section elaborates on previous research on what information systems and technology contribute to an organisation and what the impact of strategic alignment enables.

2.2 VALUE OF IS/IT AND STRATEGIC ALIGNMENT

ECMSs are positioned within the IT domain and may play a significant role in consolidating information and knowledge. Dillnut (2006, 2006a) investigated the emergence of ECM as discipline and concludes the reasons for "the increasing demand of document-based information management and the reasons behind ECM adoption" (Alalwan & Weistroffer, 2012). In order to justify the relevance of research in IT it is essential to emphasis on the importance of the value IT can provide to organisations and the imminent benefits of a business-IT alignment. As to be explained, there is potential value specifically when adopted systems are aligned with the IT strategy or overall business strategy of an organisation.

David's (1990) is the first to direct research of IT value into the right direction. His research takes mismeasurement of IT value and lag of appropriate models to assess the value into account. This was further developed by Brynjolfsson (1993). This view of the use of disruptive technology being a long-running revolution

is also being shared by Brynjolfsson and Hitt (1996). In 1996, Brynjolfsson and Hitt present scientific evidence for the value of IT investments for organisations by taking the four exposed mistakes into account. An optimised dataset and new angles of performance measurement resulted in significant evidence of positive impact of IT investments. Brynjolfsson and Hitt (1996) conclude, that by 1991 the indication of positive impacts of IT becomes evident. They also point out this might be due to the rate of adoption of IT and the maturity which is a result of a nearly 20 year long economic change.

These findings lead to suggest that IT is not a common invest-and-benefit technology, but empowers change, restructuring, rethinking and innovation. Brynjolfsson and Hitt (2000) conclude two main impacts of how IT adds value to an organisation. Firstly, a substantial amount of IT investments enable "complementary organisational investments such as business processes and work practices" (Brynjolfsson & Hitt, 2000), which secondly, "lead to productivity increases by reducing costs and, more importantly, by enabling firms to increase output quality in the form of new products or in improvements in intangible aspects" (Brynjolfsson & Hitt, 2000). Today, the value of IT to a business is undisputed (Melville, 2004; Brynjolfsson & Yang, 1997; Barua et al., 1995; Dehning & Stratopoulos, 2000 & 2003;).

Since researchers found that the aspect of value of IT investments has multiple facets, the importance of appropriate use and strategic planning of IT investments received more attention, due to the fact that IT by itself does not lead to competitive advantage (Peppard & Ward, 2004). Additionally, scholars pointed out that the failure of achieving significant benefit from IT, may be mostly due to neglection of alignment and adequate use of IT (Henderson & Venkatraman, 1993). As early as in the 1980's, scholars point out the difference of IT capabilities in successful and less profitable banks (Bharadwaj, 2000). Organisations with widely announced IT investments that are were linked to "superior business performance" (Bharadwaj, 2000). However, there are many firms falling behind that also have high IT investments, but cannot elicit profit from its investments (Bharadwaj, 2000). Bharadwaj (2000) states that these differences follow a different approach to IT within the corporate strategy and the status of IT within the firm. According to Peppard and Ward (2004), studies of the early 90's (Earl, 1989; Henderson & Venkatraman ,1993; Venkatraman, 1991) draw the conclusion, that "investments in IT should be formally planned for and aligned to corporate strategy", furthermore, "the necessity to consider both alignment and impact has become established in the process of IT strategy formulation" (Peppard & Ward, 2004). Dvorak et al. (1997) state "what distinguishes companies deriving significant value from IT is not technical wizardry but the way they handle their IT activities".

According to Dehning and Stratopoulos (2002), strategic alignment between IT and organisational strategy and goals significantly increases the value of IT. Alignment of IT and business always involves two main angles that interact with each other. Luftman (2000) defines these as 1) "how IT is aligned with the busi-

ness", and 2) "how the business should or could be aligned with IT". According to Dehning and Stratopoulos (2002), "an IT-enabled strategy is a corporate strategy that uses IT at its core to support and enable major economic activities performed by the firm". This demands an effective and efficient use of IT that is well thought through and meets the requirements and demands of the business, its processes and operations. Luftman (2000) puts the core meaning of alignment in a nutshell: "Doing the right things (effectiveness), and doing things right (efficiency)". Achieving a mature level of IT-business alignment can significantly improve organisational processes and structure as well as operating costs. Luftman (2000) and Dehning and Stratopoulos (2002) emphasise the nature of IT-business-alignment being bilateral.

To improve implementation processes of IT-business alignment and access maturity of the alignment Henderson and Venkatraman (1993) developed a Strategic Alignment Model (SAM). The SAM is defined as a IT-business management framework which enables successful implementation of business and IT and their related infrastructure components (Henderson & Venkatraman, 1991 & 1993; Luftman et al., 1993). The SAM is widely used and assesses the maturity of alignment in an organisation. Luftman and Kempaiah (2007) provide a recent interpretation of the SAM as he utilises six components to assess the maturity: communications, value, governance, partnership, scope and architecture, and skills. His model "found an association between higher levels of IT-business alignment maturity and firm performance" (Luftman & Kempaiah, 2007). Which indicates that the higher level of maturity and the better the practice of IT-business alignment, the better the organisation performs and the more the firm gets out of IT investments.

The section presented evidence for usefulness and advantage of IT. Today it is evident that IT positively contributes to an organisation (Melville et al., 2004; Barua et al., 1995) and even enables new innovations (Davenport, 1992; Chesbrough, 2003). To relate to this explorative research the importance of alignment and the general requirement to think about the needs of your organisation before making technological adoption decisions is critical. Alignment of IT and business improves the decision-making process of ECMSs and is a recipe for success when talking about sound adoption decision-making (Markus & Tanis, 2000). Having presented the definition and history of ECMSs as well as the importance of such systems for today's organisations, the following section presents an overview of the ECMS related literature on the use of ECMS.

2.3 USE OF ECMS

This section is designed to give an overview of the current developments in the ECMS area and about related research and important case-studies. Relevant studies are elaborated and summarised.

The first fundamental conclusions made about ECMS and the importance of these systems roots back to Smith and McKeen (2003) as their study describes

a fundamental to-date analysis of the field. As pointed out in section 2.2, IT in general, and IT-business alignment specifically, inherit an undisputed value for organisations. Smith and McKeen (2003) describe the basic principles of the ECMS lifecycle: capture, organize, process and maintain. They conclude some fundamentals based on their focus group interviews and point out, that ECMS in companies at the time are typically used as 'Intranet Portals for Company Materials', 'Information Search Engine' and 'Web Content Management'. Additionally they conclude that most of the organisations take a bottom-up approach to ECMS.

2.3.1 *Studies on ECMS*

There appears to be a narrow stream of literature that covers ECMS and choices/drivers to adopt ECMS that support content management activities. This is also being pointed out in several discussions in related literature (Tyrväinen et al., 2006; Croteau & Bergeron, 2001). There has been some research on the usage of ECMS (Päivärinta & Munkvold, 2005; vom Brocke et al., 2011) and the impacts of ECMS implementations in organisations (Grahlmann et al. 2012) which are subsequently elaborated on.

Päivärinta and Munkvold (2005) analyse the state of use of ECM based on 58 mainly practitioner focused cases. Claiming that ECM "represents a modern, integrated perspective on information", Päivärinta and Munkvold (2005) seek to present and unveil issues related to ECMS that require top-management attention in order to be successful with an ECMS initiative. They conclude practical advices from their studies, the most notable for this exploratory research being to justify ECMS initiatives not necessarily based on financial matters, as put forward by Hallikainen et al. (2002), but in "relation to the enterprise's objectives" (Päivärinta & Munkvold, 2005). Among the 58 used cases are two studies related to long-term enterprise-wide ECMS initiatives conducted at J.D Edwards (Scott et al., 2004), an ERP and B2B-collaboration-software vendor, and Statoil (Munkvold et al., 2006), a Norwegian oil company. Published under the category of knowledge management, Scott et al. follow an eight-year ECMS initiative that involves three kinds of different ECMS at J.D. Edwards. The study utilises Damsgaard and Scheepers' four-stage interpretation (Damsgaard & Scheepers, 2000) of the Nolan Stage Model (Nolan, 1973) which is split up in four project stages, initiation, contagion, control and integration. The model received critique among scholars (Benbasat et al., 1984) but is used at J.D. Edwards because their experience matches the model (Scott et al., 2004). Each stage is analysed and the three initiatives [1] are mapped to them. Scott et al. (2004) provide aid for understanding ECMS initiatives as being phase-based. Furthermore, they conclude critical actions and processes in each phase. The study is important for the use of ECMS and for strategic approaches of ECMS initiatives, but it does not contribute to the body of adoption decisions regarding ECMS. This may be due to the fact, that by 1998 companies just became aware of the internet and its poten-

1 The initiatives at J.D. Edwards include an intranet/extranet, a global collaborative enterprise solution and the global website community.

tial innovative impact on organisations, rendering decisions to adopt web-based collaborative systems as mostly being marketing-based. The second long-term study involves Statoil (Munkvold et al., 2006), "the world third largest exporter of crude oil" at the time. Statoil coins the initiative "e-Collaboration strategy" and aims to "establish a corporate 'knowledge-reservoir' that provides global access to management" (Munkvold et al., 2006). Equivalent to the study at J.D. Edwards, Munkvold et al. (2006) examine issues related to implementation and planning of ECMS initiatives. They do not focus on the stages of such an adoption, but on the main functions and business processes covered by the ECMS. The study does not approach the topic adoption decisions due to its 'implementation-centric' nature. The state of information managed at Statoil is described by Munkvold et al. (2006) as "scattered across a number of different storage media and applications" and being "typical of many large corporations". Hence, calling for centralisation efforts to consolidate information and knowledge. Therefore, Munkvold et al. (2006) supervise a new initiative to increase management opportunities and insight into organisational information and knowledge.

Being another major study aside from Päivärinta and Munkvold (2005), vom Brocke et al. (2011) aim to understand "what are the drivers behind ECM initiatives". Which strongly relates to and possibly builds a basis for this exploratory research. However, vom Brocke et al. approach this question utilising a process-oriented perspective concerned with the ECM lifecycle which is examined in the Statoil case (Munkvold et al., 2006) as well. The process perspective leads to a less high-level approach to answer the question of adoption decisions and drivers behind ECMS initiatives. Nonetheless, the study contributes to the body of ECMS usage in general.

Recently, a study by Grahlmann et al. (2012) emphasises on a less 'implementation-centric' perspective. Grahlmann et al. examine the impacts of ECMS in organisations by utilising prior cases in literature and categorising the findings to build an impact framework. Furthermore the proposed 'Functional ECM Framework' (Grahlmann et al., 2012) is being validated by case studies. Equivalent to this exploratory research, Grahlmann et al. (2012) take the stand "that although ECMSs are marketed under a single term, an ECMS implementation will be an integration of multiple software products", which is due to the mentioned wide variety of functionality that is provided by ECMSs. This is also supported by Reich and Behrendt (2007) and notable as the studies by Munkvold et al. (2006) as well as Scott et al. (2004) examine adoptions of ECMSs that inherit a vast amount of functionality and yet, they view them as separated ECM initiatives within a holistic enterprise-wide content-management initiative.

The body of research on actual evolution and appropriation of ECM is mainly considered by studies of Munkvold et al. (2006) and Scott et al. (2004). The latter two present cases of companies implementing large scale content management systems and what these companies have to deal with during the implementation phases and thereafter. Understanding of problems that occur during the usage of ECMS and probable guidance in the adoption approach with regard

to a better alignment of the initiative and the overall IT/KM strategy has not been mentioned in these cases. Existing studies do not focus on use and impacts of ECMS but provide a deeper understanding of the general planning around ECMS by analysing critical success factors for the implementation (Nordheim & Päivärinta, 2006) or by presenting a process-oriented framework for a better implementation (O'Callaghan & Smits, 2005). O'Callaghan and Smits (2005) elaborate on a process-oriented framework that supports the management in order to access the requirements for an ECMS and expose fundamental gaps in an organisation's information and knowledge management. To summarise the use of ECMS, we ascertain that previous ECMS literature is mainly focused on the use and problems related to ECMS. Furthermore the elaborated studies often choose process- and implementation-centric perspectives which explain issues directly related to the ECMS, but not to the organisation and environment it is operating in. This leads to a one-sided view that does not include initial purposes of the system or eventual detrimental planning decisions before the actual implementation. The following section addresses the gap in enterprise-related ECMS research and exposes gaps in common ECMS literature. Furthermore, this exploratory research is positioned within the ECMS research domain and calls for enterprise-related ECMS research are quoted as evidence for a gap in that direction to justify this research.

The key literature is summarized in table 1. The table lists the most important papers for this research related to ECMS and provides the basic topic of each of them. This concludes the literature review focus on ECMS. The upcoming sections are focused on ERP and ECMS adoption, adoption models and positioning and justification of this exploratory research, which includes some of the listed literature.

TITLE	FOCUS AND FINDINGS	AUTHORS
Characterizing the evolving research on enterprise content management	Presents ECM as a future research field of interest and presents research issues related to ECM. The authors show ECM as a multifacetted field, with large gaps in enterprise-focused research, and propose a general ECM research framework (figure 4).	Tyrväinen, P., Päivärinta, T., Salminen, A., & Iivari, J (2006)
Implementing enterprise content management: from evolution through strategy to contradictions out-of-the-box	Examines strategic development and implementation process of an ECMS at Statoil over a longer period of time. The study is a response to Smith & McKeen in order to narrow a gap in strategic ECM initiatives in organisations.	Nordheim, S., & Päivärinta, T. (2006)
Contemporary issues of enterprise content management	Presents a comprehensive strategic effort towards integrating knowledge resources throughout the entire corporation and presents different sub-initiatives. It is the first paper to specifically mention the highly integrative nature of ECMS and states elements of an organisation which are affected by ECMS implementation.	Munkvold, B. E., Päivärinta, T., & Kristine, A. (2006)
Developments in practice VIII: enterprise content management	This study presents a holistic ECM research framework and outlines the basic literature of the domain. It offers comprehensive insights into ECM literature and related research. Additionally it offers a process-oriented implementation view of ECMS.	Smith, H. A., & McKeen, J. D. (2003)
Enterprise content management research: a comprehensive review	This study provides the largest and deepest summary of literature on ECMS to date. Based on an exhaustive literature review, the authors propose an ECM research framework with substantial gaps in enterprise-related research, which are to be narrowed down in this exploratory research.	Alalwan, J. A., & Weistroffer, H. R. (2012)
Jungles and gardens: the evolution of knowledge management at JD Edwards	The paper depicts three different Knowledge Management and ECM initiatives at JD Edwards over a period of eight years. The authors propose a process-oriented implementation framework for organisations and state that top-management support in ECMS projects is as must-have for successful implementation. They proved that adoption of ECMS is beneficial for organisations.	Scott, J., Globe, A., & Schiffner, K. (2004)

Table 1: Key ECMS literature relevant for this exploratory research

2.4 ERP VS. ECMS ADOPTION

The clear definition of requirements, aspects and differences between ERP and ECMS is vital for the justification of this research. ERP systems are of different nature and have goals that distinguish themselves from the aims and traits of ECMSs. There has been research on the drivers and factors for ERP systems, however, these studies are not easily transferable to ECMS related topics, as the systems vary in their nature.

Generally, there have been several studies on ERP adoption and the drivers of such adoption. However, the drivers in ERP adoption are not as wide in their spectrum as the effects of ECMSs functionality reaches. Research related to ERP adoption is mostly concerned with managerial performance and inner-organisational efficiency improvements and fit (van Rooij, 2013; Buonanno et al., 2005; Poba-Nzaou et al., 2012). Additionally, there are studies which point out that financials, unexpectedly, are not key drivers for SME's and large corporations decisions to adopt an ERP (Buonanno et al., 2005). However, older research suggests financials are among the top 3 drivers (organisational fit, flexibility, cost) for an ERP adoption decision (van Everdingen et al., 2000). The decline of the financial driver in recent studies suggests that a the point of time of the van Everdingen et al. study (2000), ECMSs were new and the problems of ECMS adoption had not been seen or thought of yet. As more recent research suggests that financials are not in the top 3 (Poba-Nzaou et al., 2012; van Rooij, 2013; Buonanno et al., 2005).

There are studies that engage in the topic of ERP adoption, but not with adoption focused on ECMS. ECMSs and ERPs are different in their nature. Van Rooij (2013) examines the difference of ERP and ECMS systems in the scope of requirements management, standardization, data migration, interfacing, infrastructure, organization and change management. Requirements management accounts for a wider range of scope when considering ECMSs. This also influences the range of standardization, as the consideration of more stakeholders and processes substantially exacerbates and widens the scope. Data migration and interfacing require higher attention in an ECM adoption as in an ERP adoption. ERPs are mostly concerned with structured data, ECMSs with unstructured data and information and consequently have a greater complexity and connectedness(van Rooij, 2013; Jenkins & Schaper, 2005). Considering the infrastructure perspective, ECMSs demand higher bandwidth and storage demands than ERP systems. Within the organisation, an ECMS affects a higher number of diverse stakeholders and number of end-users, which in turn affects the number and depth of changes of processes. Summarizing these points, change management and management commitment have an even higher value when dealing with ECMS instead of ERP systems. This is also observable in the ERP adoption literature, there is little stated about inter-organisational or external aspects, as the most-cited adoption drivers in these studies are related to inner-organisational aspects, which is the nature of an ERP adoption (van Rooij, 2013).

These observations mean that it is necessary so select a more holistic view when examining the surroundings of ECMSs. The scope is a larger and wider than within the ERP domain. ERP adoption may not necessarily be as strongly influenced by external/environmental, regulatory and inter-organisational factors as ECMS might be. As stated, the most cited reason for ERP adoption is related to managerial performance and administrative efficiency improvements within the organisation (Poba-Nzaou et al., 2012; van Rooij, 2013).

In order to select a framework appropriate to the research, the nature of an ECMS needs to be taken into account and since there has been research on ERP adoption, the differences between the properties of these systems have been laid out. The comparison focuses on the natures of those two types of systems and the nature of ECMSs, being broader in scope and more intertwined within an organisation as well as inter-organisational. This is the key difference between ERP and ECMS adoption and needs to be taken into account when selecting appropriate mechanisms to prove the thesis stated in this work.

2.5 ADOPTION THEORIES AND MODELS

Different theories have been used in adoption- and implementation-themed research that relate to IT. Adoption of new technologies and systems is bi-folded. It affects the side of the user and the side of a higher entity, mostly being organisations. Previous research projects in that direction developed different kinds of models and theories that are used to assess the impacts and difficulties during adoption and implementation projects some of which are presented in the following section. Based on the bi-folded nature of past research, models and theories that have been created can generally be divided in two schools of thought, namely user-centric and organisation-centric perspectives on IS.

For the user-centric school of thought, users and end-users have large influence on adoption of technologies and new ideas as in the end, user acceptance decides at what rate the adoption is going to be worthwhile. As IT systems "offer the potential for substantially improving with collar performance" (Davis, 1989). In later work Davis takes the position that "user acceptance is often the pivotal factor determining the success or failure of an information system project" (Davis, 1994). Davis developed one of the most known models in the field of user perception, the technology acceptance model (TAM) (Davis, 1986). It is widely known and used in the field of IS and has received a magnitude of attention by other scholars (Venkatesh & Davis, 2000; Mathieson, 1991; Koufis, 2002). Furthermore, also practitioners orientate themselves by the TAM as it provides a deeper understanding of the matter and can have a positive impact on the implementation project at hand. TAM has a large impact and importance in its field of research and is one of the leading models for the past two decades in that regard (Bagozzi, 2008). Due to the nature of being important, the model has also received critique among scholars. Bagozzi (2008) argues that TAM contains fundamental problems and proposes a paradigm shift. He claims that the majority of TAM related research is focusing on introducing further predictors for intentions, hence the

TAM has been broadened since it was introduced. Almost no research is related to the deepening of the TAM, such as "reconceptualizing existing variables in the model, or introducing new variables explaining how the existing variables produce the effects they do" (Bagozzi, 2008). Legris et al. (2003) claim that the TAM excludes important perspectives i.e. variables related to "human and social change processes and to the adoption of the innovation model" (referring to the Diffusion Of Innovation model by Rogers (2003)). Legris et al. (2003) refer to Orlikowski and Hofman (1997) as their research points out that technological implementation and innovation is "related to organisational dynamics, which will have a strong impact on the outcomes" and "that the effectiveness of any change process relies on the interdependence between the technology, the organisational context, and the change model used to manage the change" (Legris et al., 2003). Concluding their research, Legris et al. (2003) suggest that based on their analysis, TAM has no potential of further growth on its own, but only in the context of a broader model that involves organisational and social factors as well.

The second school of thought envelopes the organisation-centric perspective of information systems and technology adoption. Organisation-centric models and theories put the organisation itself and their environment into the center. Contrary the user-centric perspective, organisation-centric models inherit different focal points in their concept (Orlikowski, 2000). There are models that are dedicated to the organisation and solely analyse the internal organisational behavior and conditions. But there are also models that take external partnerships or specific industry markets into account. Concluding this, the organisation-centric view taking the strategic level of adoption into account, which is important for this exploratory research. Organisation-centric models are used in this exploratory research and the following section provides a deeper insight into the theories operating in that domain.

Four main theories and models have been used in prior research studies to evaluate adoption at the firm level. Oliveira and Martins (2011) analysed previous research and had a brief look at studies that used either one of these four theories or customised them by merging them together to fit the purpose of the study. The four theories, namely 1) 'Diffusion Of Inovations' (DOI) (Rogers, 2003), 2) the Iacovou et al. (1995) model, 3) the Institutional theory (Scott, 1987a; Scott, 1987b; Scott & Christensen, 1995) and 4) the Technology, Organisation and Environment (TOE) framework (Fleischer & Tornatzky, 1990), are introduced and compared in the following section. This is to present the theories and models that prior literature utilised to study adoption of IT in organisations. Based on the introduction of four different theories, section 4 elaborates on one of the theories and establishes a basis for the interview questions on ECMS adoption. The following paragraphs provide an overview of well used and established adoption theories and models.

2.5.1 *Diffusion Of Innovations (DOI) theory*

The Diffusions Of Innovation (DOI) theory was described by Rogers in 2003. The theory was initiated back in 1962 when the first edition of his book on the DOI was released. In 1995 the fourth edition of the book added more value by providing an analysis of studies that used his theory. The studies supported the general validity of Rogers theory. Prescott and Conger (1995) found over 70 articles published between 1984-1994 that utilised the DOI theory.

DOI explains why and at what rate diffusion of technology and innovation happens. Despite being a model aiming at firm level, DOI focuses heavily on the general firm culture and the profound process of diffusion of information through networks and spreading of information. The term 'early adopter' nowadays is known to describe a circle of persons that use new technologies already in a very early stage of development. This circle thereby relates to a larger group of people, who adopt those technologies in later development stages, but who are in majority. The term has been coined by Rogers (1962) and is part of his diffusion of innovations theory, which emphasizes the networking and cultural focus of his theory.

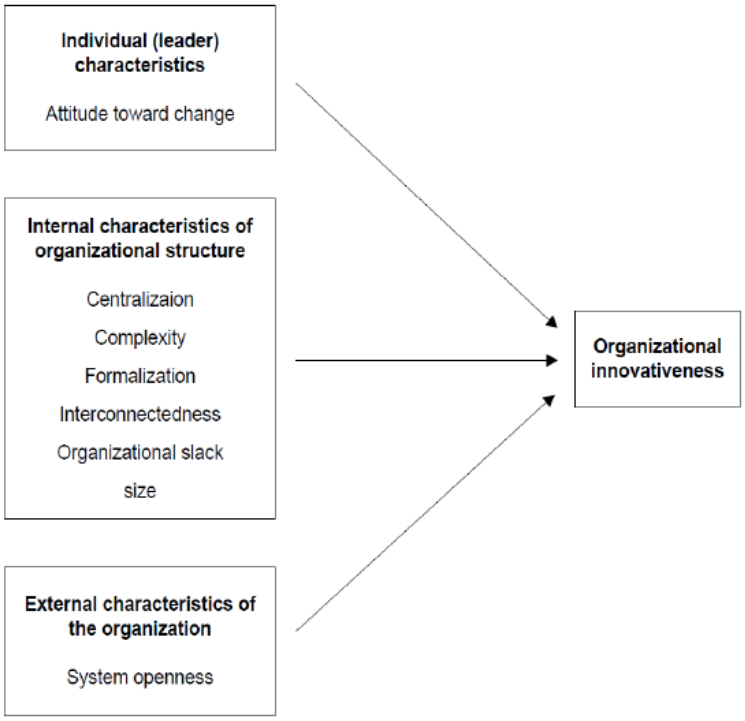

Figure 1: DOI theory by Rogers (2003)

Figure 1 depicts the three main contexts of the DOI theory. Two of the three contexts focus directly on internal characteristics of the organisation (internal and individual characteristics), whereas the third one covers the external context. The first context, namely 'Individual (leader) characteristics', involves the general attitude towards change, meaning the top management approach to innovative changes and the willingness to foster them. The second context focuses on

internal characteristics of the organisational structure. This essentially involves attributes the organisation itself inherits i.e. the degree of centralisation of its structure and the complexity. Furthermore, the formalisation of business process and the interconnectedness within the firm, as well as the overall size of the company. Additionally, organisational slack, the ability to absorb organisational turbulences (Tan & Peng, 2003), is taken into account. Bourgeois (1981) defines organisational slack as "a cushion of actual or potential resources which allow an organisation to adapt successfully to internal pressures for adjustment or to external pressures for change in policy [...]". Taking a closer look at the third context, the focus of the context named 'External characteristics' suggests to cover non-internal factors, for instance market pressure, but this is not the case in the DOI theory. System openness and respectively innovation openness is a research field within the R&D domain and is considered to be part of an organisation's structure, strategy and behaviour as shown in a study at Procter & Gamble (Dodgson et al., 2006), a large international and successful company. This suggests that the model aims to explain diffusion of innovation and technology by centering the view on inner-organisational networks ('Interconnectedness') and general culture of the firm ('Attitude toward change').

2.5.2 *The Iacovou model*

The Iacovou, Benbasat, and Dexter model is described by Iacovou et al. (1995). The model was derived as a customisation of the Technology, Organisation and Environment framework to fit the research challenges of electronic data interchange (EDI) adoption in organisations and in inter-organisational relations. The study focussed on several previous studies that deepened understanding of adoption, among them various articles that used a customised TOE framework as basis, and demonstrated the original TOE constructs as significant adoption factors. Iacovou et al. (1995) proposed their model on the basis of these previous studies and the work by Tornatzky and Fleischer (1990) and conducted seven case studies to prove their model.

The model (Figure 2) is set in the environment of EDI and e-Business systems which strongly leverage inter-organisational functions and concentrate on a beneficial network of partners. Iacovou et al. emphasised this by the 'Trading partner power' in the external context of the model, thereby relating to inter-organisational partners to cover the multi-organisational nature of the systems studied by them. The other two contexts are 'Perceived benefits' and 'Organizational readiness', the latter one covering the financial and IT resources of an organisation with regard to the adoption system/technology in question. 'Perceived benefits' sets the advantages of the adoption at the center of its point of view.

2.5.3 *Institutional theory*

The institutional theory sets the organisation and the employees at the center of the point of view. It is similar to the DOI and does not solely focus on the firm,

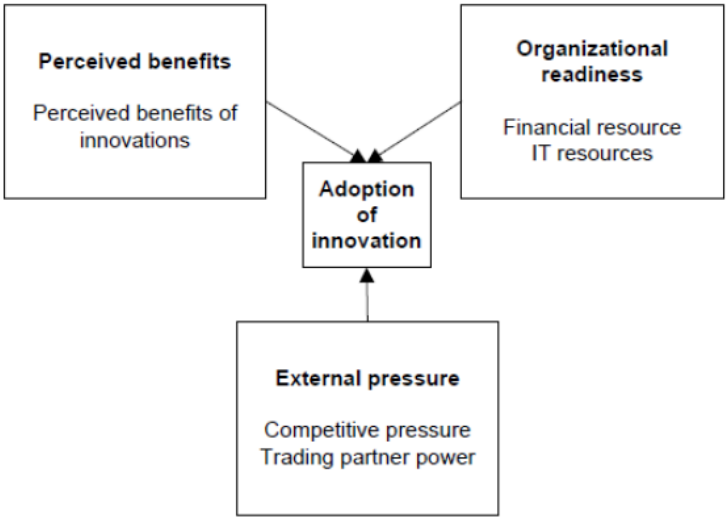

Figure 2: Iacovou, Benbasat, and Dexter model by Iacovou et al. (1995)

but on the surroundings and the external pressures that a firm is facing (Scott & Christensen, 1995). "This means that firms in the same field tend to become homologous over time, as competitive and customer pressures motivate them to copy industry leaders" (Oliveira and Martins, 2011). Therefore, the institutional theory suggests that adoption processes may not only be driven based on internal rationale, but by isomorphic pressures from competitors or partners (Oliveira & Martins, 2011). DiMaggio and Powell (1983) claim that "there are two types of isomorphism: competitive and institutional", furthermore they suggest three mechanisms of isomorphism: coercive, mimetic and normative. Coercive processes refer to political influence and the issue of legitimacy. Mimetic processes are related with uncertainty and high risks, typically resulting in process "organisations may model themselves on other organisations" (DiMaggio & Powell, 1983). DiMaggio and Powell (1983) quote the case of Japan's modernizers, that introduced governmental changes to Japan in the late nineteenth century. Governmental officers were sent to France, Great Britain and the USA to study their court-, banking-, and postal systems and to implement these positive examples in the japanese systems. Japanese leaders claimed this mimicking technique "Japanese spirit, Western technology" (Westney, 1987). Normative isomorphic processes are induced by professionalisation, meaning professionals finishing the perfect project based on their intentions and possibilities. As DiMaggio and Powell (1983) point out, professionals often have to compromise with "non-professional clients, bosses or regulators". Hence, DiMaggio and Powell (1983) conclude that normative processes may be influenced by mimical or coercive isomorphisms. Following this, the Institutional theory considers aspects of the business ecosystem and the market environment the organisation at hand is operating in.

These isomorphic mechanisms and pressures have been demonstrated in institutional environments by studies (Chatterjee et al., 2002; Soares-Aguiar & Palma-Dos-Reis, 2008; Teo et al., 2003) and may "influence an organisation's predisposition toward an IT-based interorganisational system" (Teo et al., 2003). Dacin et al.

(2002) review a set of 74 studies that utilised the Institutional theory by the means of internal and external pressures and found various drivers and motivations for adoption decisions and processes.

2.5.4 *Technology, Organisation and Environment (TOE) framework*

The Technology, Organisation and Environment framework (TOE) was postulated by Tornatzky and Fleischer in 1990. It is part of their well established book 'The Process of Technological Innovation' about the current state of research on technological innovation. It depicted the best overview of the field up to that point in history. The book is addressed to practitioners as well as researchers that are concerned with technology innovation and adoption. It provides an exhaustive number of real-world cases and contributes to the overall literature back then.

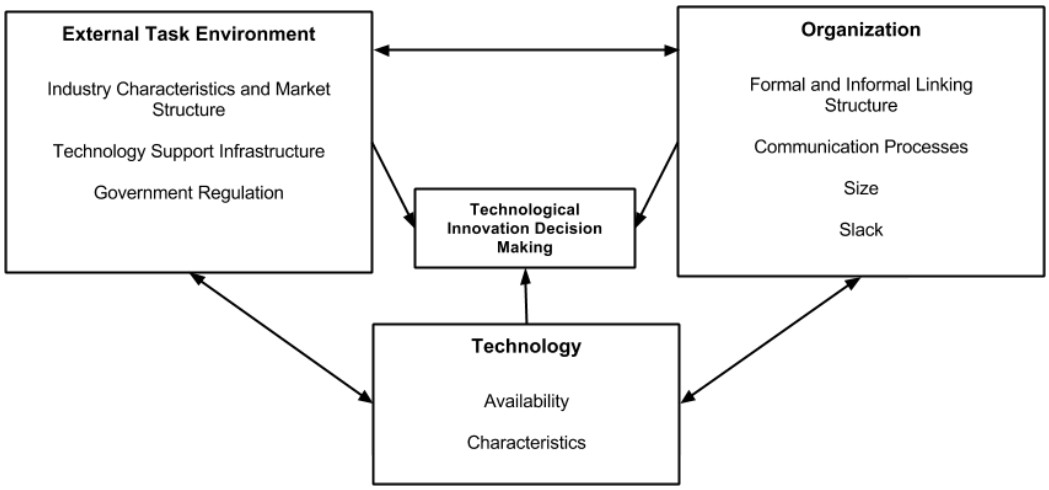

Figure 3: Schematic depiction of the TOE framework by Tornatzky and Fleischer (1990)

The TOE framework (Figure 3) takes into account several factors that influence decision making when adopting technology. It identifies three key contexts, namely environmental, organisational and technological as the drivers that motivate technological decision-making. The technological context looks at the factors of the technology available, both externally (e.g. best practices) and in the organisation as well as technological characteristics of the firm. The organisational context includes measures such as size, scope managerial structure and slack of the firm. The external (environmental) context focuses on the arena the organisation conducts business in, the industry, government and law as well as competitors. All the contexts and factors may influence or even drive the adoption decision of ECMS in organisations.

The TOE framework has been used in several studies dealing with the adoption of technology in organisations. These studies aim to explain different adoption decisions that relate to technologies such as: "open systems (Chau & Tam, 1997); web site (Oliveira & Martins, 2008); e-commerce (Liu 2008; Martins & Oliveira,

2009; Oliveira & Martins, 2009); enterprise resource planning (ERP) (Pan & Jang, 2008); business to business (B2B) ecommerce (Teo et al., 2006); e-business (Zhu et al., 2003; Zhu & Kraemer, 2005; Zhu et al., 2006b; Lin & Lin, 2008; Oliveira & Martins, 2010a); knowledge management systems (KMS) (Lee et al. 2009)" (Oliveira & Martins, 2011). Some of these studies involve rich datasets e.g. face-to-face interviews with 89 companies (Chau & Tam, 1997) or 6964 european companies that have participated in a survey (Oliveira & Martins, 2010a). The studies mentioned are solely based on the TOE framework and additional to these, several others combined the TOE framework with other IT adoption theories to comply with the study requirements at hand.

A comprehensive comparison of the mentioned adoption theories and frameworks is to be found in Table 2. The table includes the four discussed theories and models and provides their specific contexts as well as their orientation and focus. As they significantly differ in scope and research target, it is evident that the TOE framework is the most suitable model for this exploratory research due to its individualized and proven nature in similar research studies.

Additionally, it connects the external focus of the DOI and Iacovou models with more internal and technological aspects. As explained, an ECMS typically has a broader context than an ERP, which includes a more external set of viewpoints. Due to this nature, the TOE framework matches the requirements needed for appropriate research in the ECMS adoption field.

MODEL	CONTEXT	ORIENTATION/FOCUS
Diffusion Of Innovations Theory (Rogers, 2003)	- Individual characteristics - Internal characteristics of organisational structure - External characteristics of the organisation => organisational innovativeness	The DOI is focussed on external factors and internal factors with regard to culture and social influences in adoption environments.
Iacovou (Iacovou et al., 1995)	- Perceived benefitss - Organisational readinesss - External pressures => Adoption of innovation	Derived from the TOE framework, it is similar to it and in the focus. The difference is the external context, which enables to examine inter-organisational influences in technology adoption. This was also the purpose of the study the model originates from.
Institutional theory (Scott & Christensen, 1995; DiMaggio & Powell, 1983)	- a model is not 'set in stone' by researchers and is applied to explain general organisational behaviour related to innovation and adoption	The institutional theory heavily aims at explaining organisational adoption of systems and innovation by setting the organisation and employees behaviour at the center. It also takes external and market pressures into account and develops mechanisms that explain these pressures.
TOE (Tornatzky & Fleischer, 1990)	- External Task Environments - Organisations - Technologys => Technological Innovation Decision Making	Internal and external perspectives, the internal with regard to technology and organisational attributes, the external with regard to market characteristics and governmental issues. Main focus on internal facts.

Table 2: comprehensive comparison of firm-level IT adoption models and theories

2.6 POSITIONING & JUSTIFICATION

Following the use and prior literature of ECMS and an introduction into common adoption models, this section positions this exploratory research in the field of ECM research and presents observed gaps. Firstly, to position this exploratory research within the field of IS and ECM the framework for ECM research (Tyrväinen et al., 2006) is utilised as illustrated in Figure 4. Tyrväinen et al. (2006) propose the framework in order to categorise and organise ECM research to be able to maintain it as a structured field in IS research. The framework states the perspectives of ECM that have been exposed in prior studies.

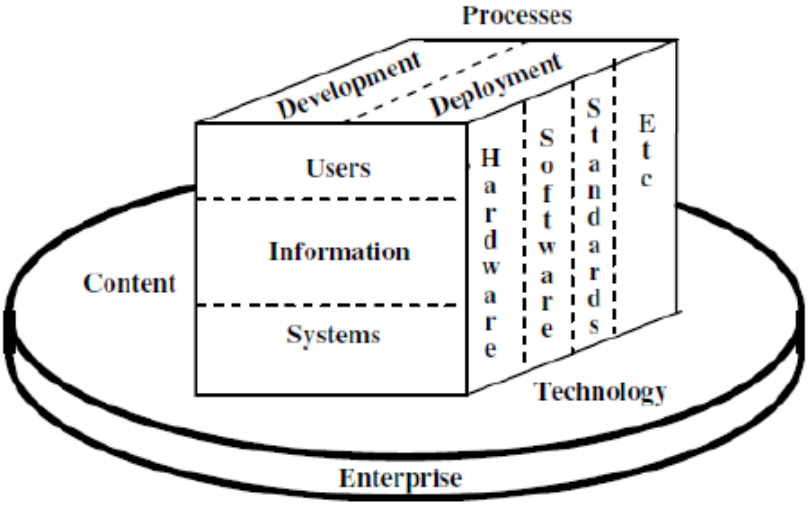

Figure 4: Framework for ECM research by Tyrväinen et al. (2006)

The perspectives are divided into 'Process', 'Content', 'Technology' and 'Enterprise'. The content perspective contains three basic views existent when dealing with ECMS. It covers the user perspective, identifying and relating the actual user to the content. The information view incorporates the semantics of the content and the general structure as well as retrieval preferences. The system view examines the interface between different systems used on content level within the ECMS domain. The technology perspective focuses on the basic and fundamental technologies used to run an ECMS, especially with regard to hardware, software and standards used. Tyrväinen et al. (2006) cite various studies on the basic technological specifics, such as algorithms for segmentation, indexing and framing, as this perspective is researched exhaustively. This exploratory research is positioned within the enterprise and process perspectives of ECM. According to Tyrväinen et al. (2006), the enterprise perspective is related to "organisational, social and business issues of content management". Meaning for example fundamental changes in how business is done due to new innovations and opportunities of ECM but also the communicational aspect among employees. As mentioned, this exploratory research borders the enterprise as well as the process perspective, as these are entangled based on the nature of their interconnectedness. Tyrväinen et al. (2006) state that "the enterprise perspective is often tightly intertwined with the process perspective" as it revolves around the main issues of development and deployment of ECMS, hence also covering justification aspects

of adopted systems where they refer to Hallikainen et al. (2002) which conducted a study on IT investment justifications for ECMS.

Scholars in the field commonly describe the amount of ECM research as relatively narrow overall and even scarce when addressing ECMS research on enterprise level. As stated, IT systems have a multitude of positive impact on an organisation, especially when put in context and aligned with the organization's strategic objectives (see section 2.2 on alignment and value). Nonetheless, IT implementations and deployments may fail for a variety of reasons. The presented models establish frameworks which can be utilised to understand the underlying reasons of adoption of technologies and innovations from the very beginning. The TOE is used in this study to draw basic interview questions from it, as it has been tested in many cases and been found robust.

The scarce literature on ECMS on firm level is commonly recognised among scholars. Tyrväinen et al. (2006) state that despite the high interest in general ECMS topics, ECMS research focussing on the enterprise perspective "remains rare" and "is very limited, consisting mostly of early conceptual and theoretical recommendations and a limited set of empirical studies". Studies by Tyrväinen et al. (2006) and Munkvold et al. (2006) expose the fact of scarce enterprise oriented literature as a gap in the field. Addressing the aim of this exploratory research, vom Brocke et al. (2011) specifically mention that "the understanding is still vague as to what organisations strive to gain through implementing ECMS and what results they can expect from the same" and that "the challenges that drive such endeavours still remain rather elusive".

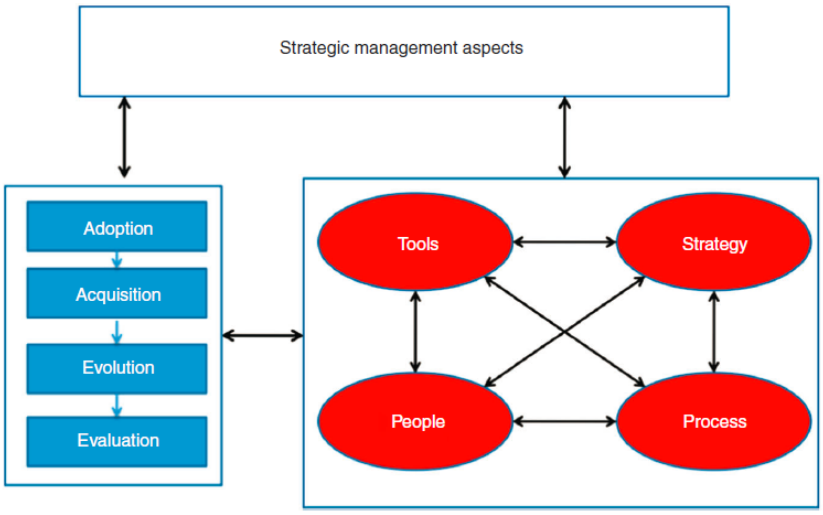

Figure 5: Framework for ECM research by Alalwan & Weistroffer (2012)

The most recent literature study and assessment of the ECMS research domain by Alalwan and Weistroffer (2012) exposes a need for research of the actual adoption process and drivers that led to it. Figure 5 depicts the ECMS research domain model overview created by Alalwan and Weistroffer (2012). Their model

is divided into three main categories of the ECMS domain. First they propose four ECMS dimensions, namely Tools, Strategy, Process and People. These are interconnected and influence each other. Following the dimensions, they propose four elements within the ECM lifecycle: adoption, acquisition, evolution and evaluation. The ECM lifecycle and dimensions are influenced by each other and by strategic management aspects which inherit change-management andmanagement commitment. Discussing their model to the full extent would exceed the scope of this study. However, this exploratory research is positioned within the adoption element of the ECM lifecycle. According to Alalwan and Weistroffer (2012), in the adoption phase "initial requirements for an ECM system are investigated, the impact of the system on the organisation is analysed, and the goals and benefits of the system are determined". Concluding that element, they note that in their comprehensive literature review "no papers were found that focus on ECM adoption" (Alalwan & Weistroffer, 2012). In their conclusions, Alalwan and Weistroffer (2012) call for further research by stating that "research focusing on the adoption phase is still very scarce" and stipulating that "research that leads to better understanding of [...] the factors that affect the adoption is needed". This exploratory study is aimed at filling this gap.

Despite receiving few attention, studies approaching the topic are insightful. Munkvold et al. (2006) provide an exhaustive, multi-year case study in an oil cooperation that analyses a enterprise-wide ECMS initiative over the full lifecycle. A study by Päivärinta and Munkvold (2005) aims to provide a framework for ECM issues that contains a checklist based on the identified problems an ECMS initiative may face in an organisation. Nonetheless, these are enterprise-centric studies that focus on issues and problems during lifetime or actual implementation. This exploratory research approaches a new view at the enterprise perspective as it is the aim to get deeper insight in why a decision to adopt ECMS is made, who is responsible for that and what approaches are being taken to get from the adoption to the actual implementation and deployment phases.

There is now an established historic and fundamental basis where the ECMS concept has been positioned in the context of the general IS research topic. Additionally the gaps that exist within ECMS in the enterprise perspective among prior literature to justify the need of this exploratory research have been exploited.

Conclusions of this exploratory research may provide deeper insights in adoption of ECMSs and decisions made during that process. Practitioners as well as researchers may profit from this exploratory research, which gives insight into a new research topic, closing a literature gap that has been mentioned before. Prior studies pointed out the importance of such a study and mentioned it as further research possibilities (Grahlmann et al., 2012; Croteau & Bergeron, 2001; Tyrväinen et al., 2006; vom Brocke et al., 2011; Alalwan & Weistroffer, 2012). This exploratory research addresses gaps in knowledge about the nature of adoption decisions made.

The following chapter provides a detailed explanation of the utilised framework for this exploratory research, the Technology, Environmental and Organisational (TOE) framework. It firstly presents the the prior use of the framework, which has been developed in 1990 and utilised in several large scale as well as small scale adoption related studies. Secondly, the chapter introduces the contexts of the framework and the inherited factors for adoption in detail. The contextual factors are used as a basis for the semi-structured interviews within this exploratory research. The model chapter is followed by the research method description, which provides the research process for this research.

3

UTILISED ADOPTION-ASSESSMENT MODEL

To establish a basis to support the interview questions, this section shortly presents studies based on the TOE framework and elaborates on the use of the framework. Based on the contexts of the TOE framework, interview questions for this exploratory research are derived to assess the casestudy companies with regard to their ECMS adoption decisions and motivations.

3.1 TOE FRAMEWORK CONTEXTS

The TOE framework has been described 22 years ago. It has since been used in a variety of studies as a guidance to expose adoption decisions, motivations and factors. The contexts of the TOE framework are revolving around the organisation as the centric viewpoint. They are based on prior research in organisational behaviour and research related to technological evolution and diffusion, such as Roger's ideas of diffusion by external economic factors as well as humans (1995). Fleischer and Tornatzky (1990) stipulate that 1) technological, 2) organisational and 3) environmental factors influence adoption on firm level. The framework has been utilised in numerous small- (Teo et al., 2006; Lee et al. 2009) and large-scale (Liu 2008; Martins & Oliveira, 2009; Oliveira & Martins, 2009; Zhu & Kraemer, 2005) research studies. In most of these cases, the framework has been extended or modified to fit the research need, however, the general structure and contexts are an established base and point to the core fields which are assessed.

The questions are elicited based on the three contexts provided by the TOE framework. Aspects on strategy and IT-alignment are included after the questions related to the three contexts. As described in section , this exploratory research consists of a semi-structured interview process. Hence, these questions are general guidelines to cover the aspects provided by the TOE. Being exploratory, questions that enable the interviewer to get deeper insight into a specific practice at an organisation are common. Transcripts of the interviews can be found in the appendix section.

1) Technological context

The technological context emphasises on technical resources both, internal and external of an organisation. On the one hand, this includes technology internally available to the company as well as practices that are established in the firm (-> 'Characteristics') (Starbuck, 1976). On the other hand, this also relates to the availability of technology external to the firm that could potentially be employed in the organisation (Thompson, 1967; Khandwalla, 1970; Hage, 1980, Oliveira & Martins, 2011).

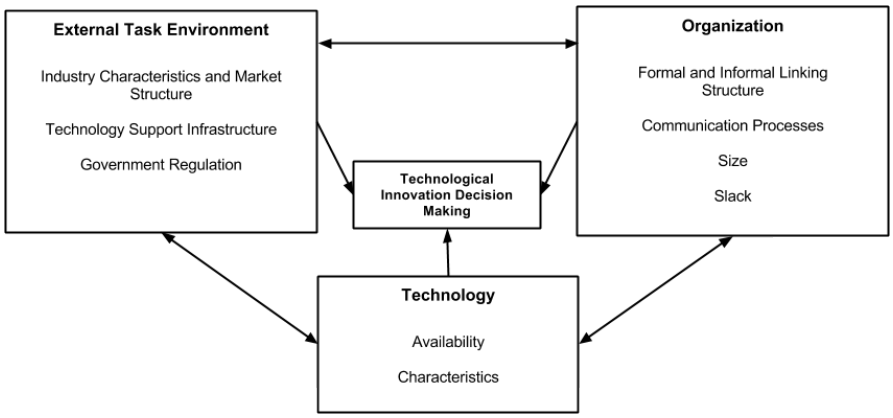

Figure 6: Schematic depiction of the TOE framework by Tornatzky and Fleischer (1990)

Beginning with internal characteristics and availability of technology, questions and answers are of personal nature contrary to business related questions, which may be answered in the same way by different people. As employees that are more on the user side of things may encounter problems with systems and functions, whereas the administrator or adoption manager actually views the function as an asset. Business related questions are of communicational or process nature and these have been agreed on in documents and strategies. The Concerning the internal aspects of IT characteristics and availability, the foremost and important question of relevance of IT for business processes is critical.

Regarding the characteristics, the factor of an disorganised overall application portfolio is a common problem. New technology adoptions are likely to be introduced when optimising an old and often scattered application portfolio.

The easy accessibility and availability of systems nowadays leads to easier options for adoption and shortens the time frame from adoption decision to actual implementation. This does not necessarily need to have an impact at the organisation at all. Adopting a system just for the sake of adoption is counterproductive and does not make sense. However, this could be induced by competitor pressure and be facilitated by the low entry barrier for adoption the system incorporates.

2) Organisational context

The organisational context involves descriptive measures of the firm like size and business scope, but also contains more abstract factors like slack and formal and informal structures (Oliveira & Martins, 2011).

According to Lee and Xia (2006), organisational size has a positive effect on IT innovation adoption. Meaning, the larger the organisation, the more likely it adopts new technologies. Lee and Xia (2006) also find, that larger firms have an advantage in the earlier stages of adoption, while they have disadvantages in the later stages of such a project. The advantages in earlier stages is possibly caused by "the greater availability of funds and the quicker capture of economies

of scale" (Olivier & Martins, 2011), but they also "have multiple levels of bureaucracy" (Olivier & Martins, 2011) which can results in negative effects in later stages adoption.

Formal and informal linking structures as well as the structure of communication processes are considered important, as Rogers (1995) and Clark and Staunton (1989) perceive "innovation adoption largely [as] an information processing activity" (Olivier & Martins, 2011). Furthermore, internal managerial structure and type of leadership define the organisational communication and could inhibit or foster innovation adoption, as managerial and top-management support is widely considered a critical factor (Sumner, 1999; Nah et al., 2001; Tallon & Pinsonneault, 2011). Chan (2002) found that informal linking structures are overlooked and actually more important as they accelerate and funnel formal organisation structures and strategies when being aligned, which is critical when viewing aligning IT and business.

Organisational slack are overhead resources of an organisation. Having slack in place means employees are not 100% focused on their tasks but also have free time allocated for themselves. No slack incorporates a stricter style of management and less work outside of the employees focus area. Slack does not necessarily has to be negative. Tan and Peng (2003) point out that this can be used to absorb different situations or unexpected turbulences which pose a threat to the organisation. Modern companies include organisational slack in their corporate culture by giving employees time for their own projects to work on, fostering an innovative and adoption friendly environment. This is famously being conducted at Google.

3) Environmental context

The environmental or external context is related to settings and surroundings the organisation is operating in. This includes legislative aspects like government regulation as well as general industry characteristics and market structure. Technology support infrastructure covers aspects of external IT infrastructure the organisation is related to, for instance infrastructure and systems with business partnerships and their interfaces.

The environmental context emphasises on market and competitor pressure but also on relations with partners and the corresponding IT infrastructure and interfaces. Additionally, legal aspects based on governmental laws are taken into account.

The first questions is related to partnerships. The use of common systems with clearly identified interfaces promotes efficiency (Majchrzak et al., 2000) and enables synergies (Bharadwaj, 2000). Partnerships greatly steer and impact the organisational system landscape, especially in partnership intensive industries like the automotive supplier domain. Collaboration with and pressure from partners can lead to better interfaces with your partners and to a change in an organisa-

tions systems landscape ().

Relating to external characteristics and market structure, external pressure by competitors is the most found reason to adopt or mimik technology in an organisation (Iacovou et al., 1995t; Mehrtens et al., 2001). This can be beneficial as well as harmful. A system that is working for a competitor could be less productive for another organisation. Just because it works within multiple players of an industry, it does not necessarily mean it is an advantage to use in general. Additionally, seeing fashion-waves in IS/IT due to marketing reasons and mimicking (Baskerville & Myers, 2009), adoption could go ahead unplanned. Markus and Tanis (2000) describe this as the "bandwagon-effect", which means adopting a system because competitors or similar organisations did as well, and not for fundamental business or technology requirements of the own organisation.

The last question related to the external context is the legislative aspect. Governments pass laws in order to establish a common archiving practice for financial matters or to resolve data privacy issues in organisations. Especially large organisations need to take care of this data as they have significant amounts of data to store. External pressure can also be seen as a holding company imposing established strategies on their lower level organisations in order to align the holding as a whole.

4) Strategic context

To assess the level of strategic involvement in the adoption decision a context is added. Questions in that context help to understand what role of an eventual IT strategy was and how this influenced the decision. This context also gives the possibility to give a back-looking view of the adoption and leaves the interviewee room to state things which could have been improved beforehand to make the adoption more successful.

All the interview questions including the ones being asked aside the model related questions can be found in the appendix.

The TOE framework provides a basic direction for assessing the adoption decisions and motivations behind ECMS initiatives in companies. However, being old and presumably outdated, prior research suggests that there are some aspects missing in the fundamental viewing of the framework. To gain the full level of insight of adoption decisions this exploratory studies adds questions on the general state of the system at hand and questions on strategic approaches and on thoughtful analysis before making an adoption decision.

The added questions provide a complementary level of analysis to assess adoption decisions and motivations, as interviews solely based on the TOE framework aspects may fall short of information. It is one of the aims of this exploratory research to determine whether the framework itself is (still) suitable for such an research approach or if it lags aspects that are of value to research related to

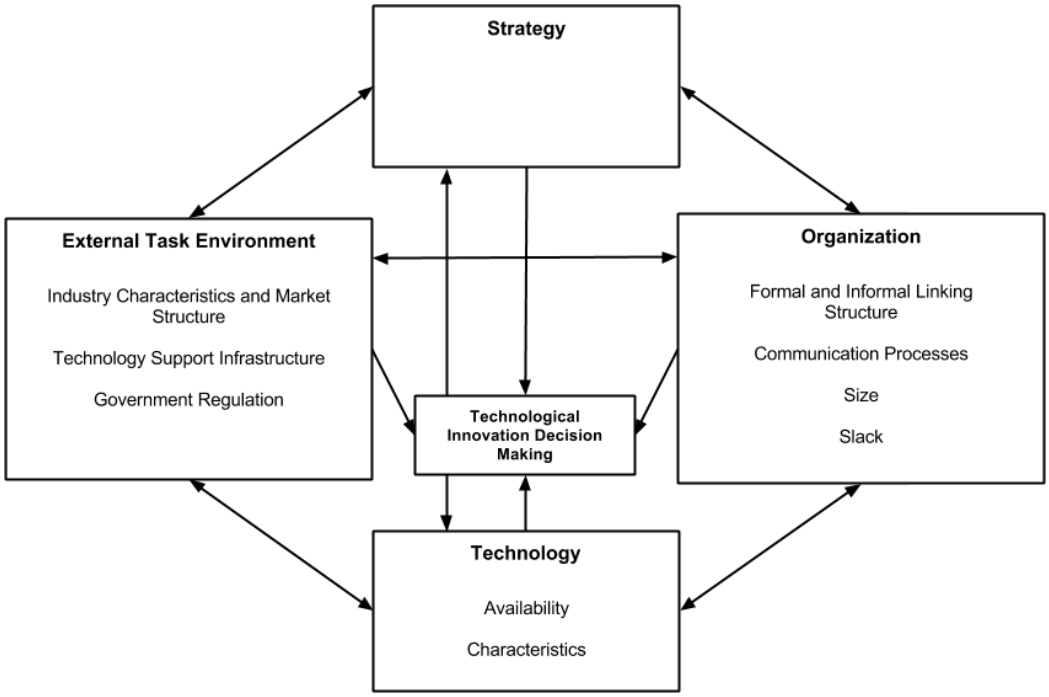

Figure 7: Schematic depiction of the TOE framework with added strategic point of view adoption of systems.

Figure 7 provides the new model which is used in this exploratory research. The strategic can have strong influence on the other factors, just as the others factors influence the strategic aspect. This is also stated by Alalwan and Weistroffer (2012), as they conclude that strategic aspects, especially change-management and management commitment, can dominantly influence the outcome of the adoption phase. However, the strategy context contains no aspects prior to the conducted interviews to give the interviewees space to mention what really mattered within that context and what drove the decision from a strategic point of view. Concluding this research, identified aspects are proposed to be added to the model. The model in figure 7 is also the fundament for the conducted semi-structured interviews.

The following chapter describes the research process and actions taken to assess adoption decisions and motivations of organisations related to their ECMSs. The research method describes the processes of this research step-by-step and connects the answering of the proposed research questions with actual actions.

4

RESEARCH METHOD

This chapter describes the research method and the research approach. Firstly, the method of this research is described in detail. The method is justified and solidified by research which supports the chosen methods. Additionally, literature which presents best-practices is introduced. Following, the research approach is presented and the deliverables and their objectives are discussed.

4.1 METHOD

In order to obtain first insight in the domain of ECMS adoption on enterprise-level, it is important to access valuable and knowledgeable data from organisations itself. This is best being achieved by utilising direct interviews with professional employees who are insiders and have been part of posses extensive knowledge about the adoption of ECMS in their respective organisations (Miles & Huberman, 1989). To be able to get holistic and comprehensive data, the chosen organisations are spread over a variety of sizes and regional orientation.

To elicit the tacit data, a qualitative research approach is chosen. Qualitative research, such as case study interviews and action research, enables researchers to study social and cultural phenomena. The decision to adopt an ECMS is made by people in organisations, mostly in larger teams and with consensus of all stakeholders involved. Qualitative research, in contrast to quantitative research, which assess natural phenomena, enables researchers to understand social behaviour, and give actual scientific meaning to words. "Qualitative research methods are designed to help researchers understand people and the social and cultural contexts within which they live" (Myers, 1997). Scholars mention that the understanding of a "phenomenon from the point of view of the participants and its particular social and institutional context is largely lost when textual data are quantified" (Myers, 1997; Kaplan & Maxwell, 1994). As this study aims to understand the adoption decisions made and to examine the process from an enterprise-level view, it is necessary to apply qualitative research methods in order to obtain the information needed to answer the research questions.

A case-study research approach with semi-structured interviews is chosen. Case-study research, according to Orlikowski and Baroudi (1991) is the most common form of qualitative research. Yin (2002) scopes a case study as an empirical inquiry that a) "investigates a contemporary phenomenon within its real-life context, especially when" b) "the boundaries between phenomenon and context are not clearly evident". This is especially true for IS-related research as pointed out by Benbasat et al. (1987).

This exploratory research utilises the semi-structured interview technique. In this technique, the researcher is part of the interviewing team and additionally to some prepared questions, is relatively free to ask further questions if needed. This allows for specific knowledge gathering in case there is more than the initial questions can elicit. The interview process was guided to a degree by the guidelines for the qualitative research interview by Myers and Newman (2007). Their work points out common pitfalls and problem in case study research, such as lack of trust, lack of entry and the ambiguity of language. They propose guidelines for leading an interview in a best-practice description. This involves setting the stage right, listenting intently, making a good impression, to lead the interview. Mirroring the questions helps to elicit more than just a simple yes or no. Minimise social dissonance, for instance by bringing cookies. Flexibility in the sense of off-the-script questions (Myers & Newman, 2007). Their research is the basis around the actual questions to conduct the interviews within this exploratory research. However, the authors themselves, as well as well as Seale (1999) point out, that overthinking and being too close to a specific guideline in in case studies, actually devalues the information and does not provide the researcher with the opportunity with open ended questions or the possibility to dig deeper in specific points. A balance between being open and flexible and being guided is a good practice (Seale, 1999; Myers & Newman, 2007).

By keeping an eye on the given best practices, choosing the semi-structured approach and still being flexible enough to have room for additional questions, the internal validity is ensured. The framework assisting the interview questions gives a clear frame in which results can be elicited later on, still there is enough room to explore the opinions of the interviewees. External validity is granted by the amount of research being done utilising the TOE framework, as mentioned in the model section.

As presented and mentioned in chapter 3, the TOE framework is used a as basic fundament aiding the interview. The framework matches the nature of ECMSs (as mentioned in section 2.4 and incorporates important aspects of IS/IT system adoption. The three basic contexts as well as their factors are explained in section 3.1. In order to address the adoption form a strategic perspective, questions regarding this aspect are added based on fundamental usage of an IT-strategy as well as research used in ERP adoption and other studies involving the TOE (Pan & Jang, 2008; Chan & Reich, 2007; Lee et al., 2009). The interview questions are to be found as appendix A.

The data is gathered over the course of a month and if geographically possible, conducted face-to-face. Other interviews are conducted using Skype. All the interviews are recorded and later transcribed according to the interview questions. After finishing the interviews, the data is transcribed and analysed. At first a basic overview in form of a table is created, which is based on the assessed factors. This establishes a general overview of the data and allows to go deeper in specific fields of interests or where patterns emerge. Additionally, the data is scanned for emerged topics such as financials and the cloud. In order to perform a cross-case

analysis, the data is compared across all organisations with regard to the answers for specific questions asked.

The following section presents a holistic view of the research approach, describing the steps from beginning to end.

4.2 RESEARCH APPROACH

This exploratory research is divided into different parts that constitute a masters thesis in the end. Figure 8 depicts the processes that are being finished within this study and presents the deliverables for each step. At the start, the problem is being identified and positioned within the overall discipline of IT-related research. The concluding deliverable is the introduction of this document and describes the general progress of businesses towards a state where the vast amounts of content and information an organisation inherits has to be managed and communicated to specific stakeholders. Secondly, in order to conduct interviews on Australian soil, the researcher requires an approved ethics application for his research which states that he is conducting this research within the ethical constraints of society and provides a basic outline of the project.

Thirdly, a general literature study on the fundamental meaning and contribution to the overall business of IT is done. This is necessary in order to justify the relevance of this research and render it as a possible contribution to the research domain. Additionally, ECMS related literature and the state of the research is described in-depth and the gap this exploratory research is filling is identified and justified based on prior academic literature on ECMS. Furthermore, the models used in similar adoption studies within the IT research domain are presented and backed by related literature utilising these models. Based on this, a framework is chosen to be used in this exploratory research.

The deeper analysis and the description of the chosen framework and the justification of this research forms the research method. It describes the basic steps for this research, renders it useful and describes the framework which builds the basis for the interview questions. It ensures validity and explains what measures are taken and why they are taken.

Next is the data collection process in which the interview questions are answered by the organisations employee. Additionally, existing artefacts (strategy reports, memos) are factored in if applicable or provided by the interviewee. Each interview has been recorded, these recordings are the deliverables in this process.

After the data collection process, the data is organised and transcribed. Following, the case data results are presented for each case according to the chosen contexts and factors in the case study results chapter. Furthermore, a cross-case analysis is conducted. Based on this and the research as a whole, the adjusted TOE is proposed, enabling future researches to study ECMS adoption in organisations more easily. This exploratory research is discussed and the master thesis

document finished with a conclusion of the research and an outlook for future research in this

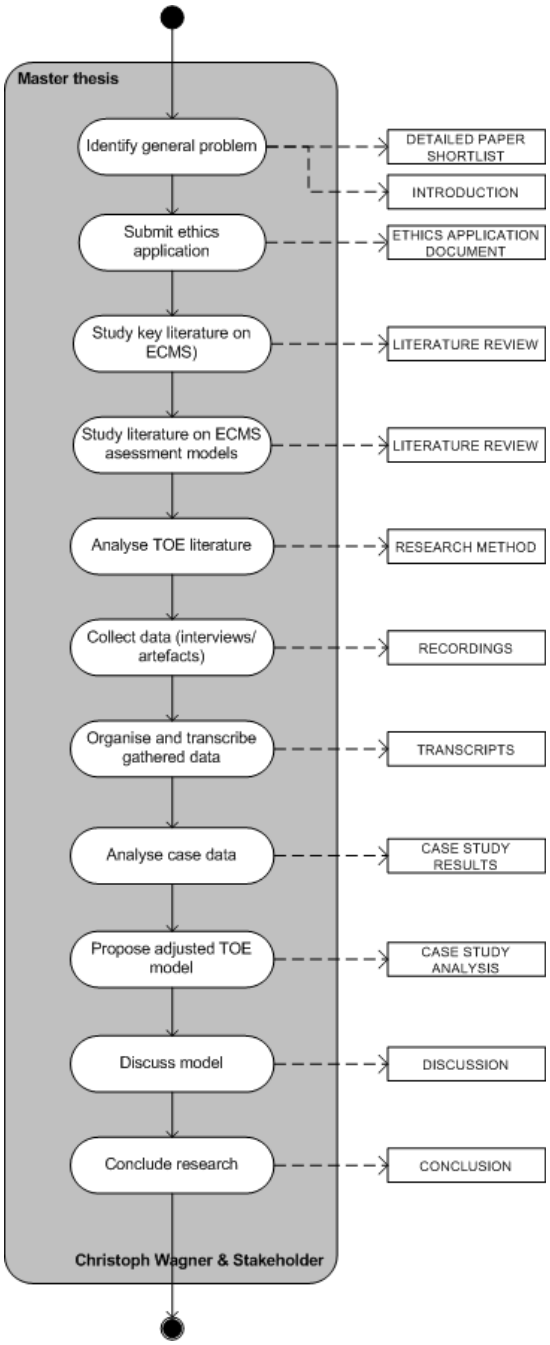

Figure 8: Process-Deliverable-Diagram (PDD) of this exploratory research

A simplified overview of this exploratory research is depicted in figure 9. As mentioned, the general ECMS literature is screened and the problem identified. ECMS adoption is a gap in ECMS related literature and there is nothing known exactly why and how organisations adopt an ECMS. Based on prior literature and IS/IT models, a research framework is chosen to access the organisation cases by semi-structured interviews and elicit information regarding their respective ECMS adoptions. The outcome of the interviews are firstly: an adjusted and

improved framework to access ECMS adoption in organisations as of today and secondly: first insights into ECMS adoption decisions and fundamentals for future research.

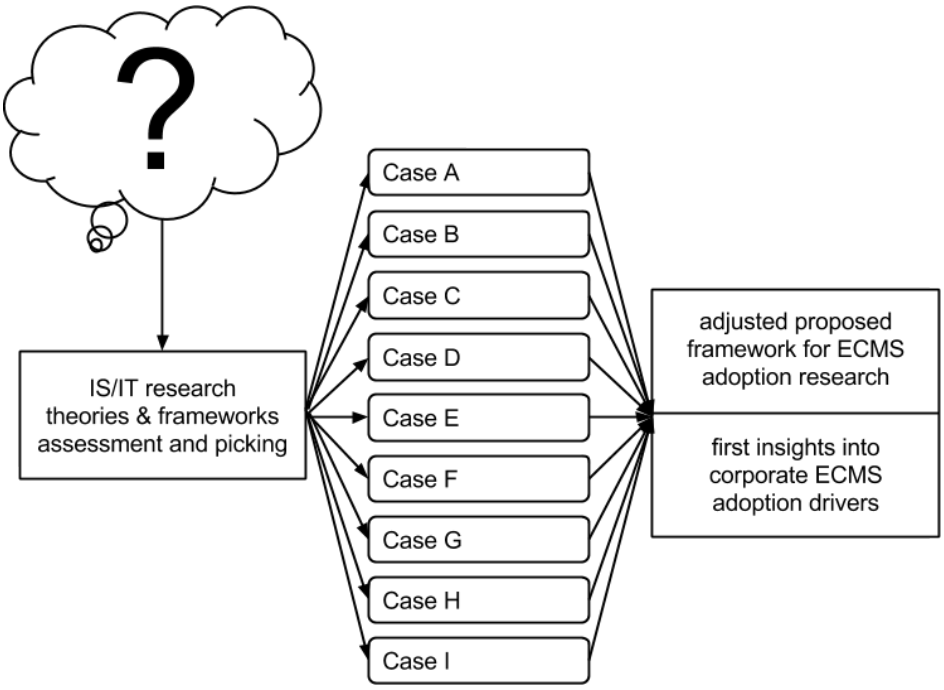

Figure 9: Simplified research overview

4.2.1 *Case summary*

The cases used in this exploratory research are summarized in table 3. The table gives an overview of the selected cases in terms of business domain, estimated size, role of the interviewee at the organisation as well as the system used. The cases are mixed in size and focus as well as IT-relation (IT as a core business or not), thus providing a solid basis for a holistic overview of the field. Additionally, these cases used several different approaches and systems which makes it an interesting case portfolio. The cases are in the same order as presented in the results chapter, which is following this chapter.

CASE	DOMAIN	SIZE	ROLE	SYSTEM
A	NGO	4.000	Intl. Project Manager	Cloud-based
B	Public	800-1.000	Information Project Manager	TRIM
C	Technology	16.000	EA Team Manager	Opensource / Sharepoint
D	Consulting	15	Partner	Cloud-based
E	IT Services	5.000	Corp. Communications & Int. Coord.	Sharepoint
F	Education	3.000	Project Manager	Oracle
G	Aviation	90.000	Enterprise Architect (CIO Office)	Opensource
H	Software	100	IT Systems Admin	Sharepoint
I	Logistics	500-2.000	CIO	(Sharepoint)

Table 3: Overview and details of selected cases

4.2.2 *Focus of this research*

With the background knowledge of higher value of IT and a higher percentage of success of a project when having top-management support and also being supported in a top-down way, organisations may obey these things. However, this exploratory research argues that this is the case most of the time, as there are also other highly influential factors and drivers to adoption processes, i.e. market and competitor pressure, that may lead to a less thoughtful and less professional way of adoption of ECMS. Smith and McKeen (2003) point out that "while the top-down vision for ECM includes improved decision-making, better utilisation of information and the collection of competitive intelligence, most ECM initiatives take a bottom-up approach that focuses on delivering immediate benefits". But

Smith and McKeen (2003) fail to provide scholarly evidence to that claim and conclude it being a gap in ECM research. The main justification for this exploratory research can be found in 2.6.

The following chapter presents the actual interview results from the case companies in detail. It is followed by a chapter containing the deep analysis and discussion of the results.

5 CASE-STUDY RESULTS

The fifth section presents the plain case-study results of the cases analysed. A background for each case organisation is given to lay out a basis for the reasonings in the discussion and conclusion part. The background presents information of the organisation itself, the interviewee as well as important information on the business environment it operates in.

The results are presented in a structured way that is based on the TOE framework and is divided in A) technological, B) organisational, C) external and D) strategical contexts. The technological context is divided into A.1 and A.2 which comply with the factors stated in the TOE framework. The organisational context is comprised of two themes. B.1 combines the TOE factors communicational processes and organisational linking structures together, as they play a highly intertwined role. B.2 consists of the two factors size and slack, which are merged because of lack of evidence that those play a significant role as drivers of ECMS adoption. The external and environmental context describes industry and market characteristics in C.1 and summarizes the two factors technology support infrastructure and government regulation under C.2. The strategic aspect is described as D.1, since the possible containing factors are to be explored in the interviews.

5.1 CASE RESULTS

The cases are explained and assessed based on the semi-structured interviews that have been conducted. Each case shows the results and findings of the interviews. Conclusions of each case and presentation of the key drivers as well as a cross analysis, which explains the results in a more holistic picture, can be found in section 6.1 and 6.2.

5.1.1 *Organisation A*

Organisation A is an internationally recognized non-for-profit organisation that employs more than 4000 people around the world. The organisation has offices in almost every country in the world and a high degree of self-organisation within these offices. In fact, there were no established mutual policies or guidelines in the past. Most of the time there was coordination between different countries, but the style of operation also did not specifically required any engagements across borders.

- *Adoption decision*

In order to foster international teamwork and establish an easier collaboration and innovation process for national as well as international campaigns, the organisation chose to adopt an ECMS in 2012. Before the that system, there were no

measures taken to enable collaboration or communications between offices in different countries. The new system will be used for coordination among employees and collaboration as well as sharing across all locations of the organisation. Sensitive data (HR, finance) is not handled in this system. The interview is about the most recent adoption decisions, which concluded in choosing Google services in combination with Box.net as storage provider.

A) TECHNOLOGICAL

A.1 - CHARACTERISTICS

The portfolio within the organisation and each country office was very scattered. In fact, there has not been any connection or interface for information flows between different countries. The IT used the system that were in place at the location or choose to use software systems, depending on what each office prefered. This resulted in a scattered and unconnected organisational software portfolio. However, the organisation made the decision to implement a new operating model just before, which triggered the need to adopt several systems, "there are number of larger projects on the way" (Interview A), among them an interconnected ECMS. This means that the adoption decision has been made because of a scattered nature of the organization's portfolio, as well as part of a major overhaul in the IT's operating structure. Because of that, it was driven by the quality of the processes in a sense as well, however, the problem was that there were no processes in place at all that could have been bad.

A.2 - AVAILABILITY

Regarding the availability and organisational fit of the chosen system, the decision was to have a clear consensus on a basic technology platform that is to be used. Based on that decision, shortlists were established and a decision for the final adoption structure was made. In the end, it was a decision that favored SaaS solutions over in-house technology. As Googles products were already used quite heavily ("70-80% of the offices" (Interview A)), the decision was made to make it the organisation wide standard and to bring in the storage service partner box.net as an storage interface for documents created with Googles services.

B) ORGANISATIONAL

B.1 - COMMUNICATION PROCESSES / LINKINGS

The communicational processes within the organisation did not really demand an ECMS, but with the change in the operational model and an approach that fosters collaboration and sharing for the first time, there will be processes set in place that demand the existence of an ECMS. As the initiative has to be put in the background of a general change in the operational model, both approaches, bottom-up and top-down are employed. The steering committee responsible for the decision consisted of top executives as well as a team from ordinary staff which pitched requirements and gave feedback on important decisions. The interviewee wanted to have both groups to interact actively, as the interviewee "think[s] you can get a better adoption that way" (Interview A). The links within

the organisation are pretty strong and a high communication is fostered, this way most people support the decisions made from top management, additionally top management also catches up on ideas from staff to solve problems. As of now, the implementation is not finished but the interviewee expects that the staff will demand changes in established processes or even contribute completely new ideas that could be supported by the system. As the strategy is being laid out at the same time the implementation takes place, however, actual business processes will be established after the implementation of the system. This seems to be an unhealthy and scattered approach, but decisions have been made and the organisation wants to implement these changes rather quickly. In this case, it might not have a negative aftermath, as the introduction of the system enables collaboration, storing and sharing for the first time in the organisation's history. There is little chance this will not be seen as an unsuccessful project from the organisation's point of view.

From the financial point of view, there was some concern because as an NGO that operates on donor money, there is always the question whether money should be spend that way. However, the interviewees goal was it to choose the right product according to the organisational needs, and not taking money into account. Money will be spend no matter what, it is about the projects structure if it is wasted or not. The "real need is global collaboration and ease of collaboration" (Interview A), and additionally "we want to go to the cloud and we want to be transparent" (Interview A). In the end, the whole package has to be a fit for the whole organisation and the values it stands for, financials do not play a key role in that matter.

B.2 SIZE / SLACK

Size and slack did not play a role a driver in the adoption process. The adoption process was throroughly structured and involved all the important stakeholders within the organisation, this cannot only be done during allocated free or creativity times.

C) EXTERNAL/ENVIRONMENTAL

C.1 INDUSTRY / MARKET CHARACTERISTICS

The decisions have not been based on any positive effects for external partnerships. External partners are not allowed to view the majority of the organisation's documents, if there are any partners at all. It heavily depends on the nature of the project and if there is a cooperation with other organisations in a project. However, it will strongly affect internal partnerships and cooperation among offices. Also, the system has solely been chosen because of internal requirements and operational changes in the organisation, no other comparable company was subject to an investigation and how they handle their enterprise content and collaborative processes.

C.2 REGULATION / TECH SUPPORT INFRASTRUCTURE

Being an NGO and selecting a SaaS platform as an ECMS, other environmen-

tal and legislative factors come into play as a strong factor. Archiving laws are not of huge concern to the organisation, "at this point of time [their] legal departments probably have that under control although they are excited to be able to utilise a document management system for archiving purposes" (Interview A). Privacy and security discussions however, are strong in the organisation. Being an NGO, the organisation is constantly being pressured to release documents, via legal as well as illegal actions by opposing parties. The organisation distinguishes strongly between privacy and security. The head of the IT council pushed for a decision towards SaaS as "SaaS tends to be more secure" (Interview A). The interviewee said that "concerns aren't necessarily security if you work with SaaS but privacy" (Interview A). If some entity requests documents, it does not matter they choose the long run via a court or the fast way via direct access on the internet. They will eventually get the documents. Privacy issues are concerned with external access of data and knowing, that another party had access to these information. Making sure that the organisations knows who access which information is critical for them. This especially comes into play when referring to donor information, which the organisation as an NGO has the highest responsibility for.

D) STRATEGICAL

D.1 STRATEGIC ASPECTS

The organisation had no specific IT or operational strategy in place. With the creation of these strategies, simultaneously, the IT overhaul was started. However, the system chosen, reflect and are aligned with the developed strategies at this point. The organisation did not follow specific strategies, as there were none in place before. The adopted ECMS serves as a fundamental first basic structure that is established together with the first real strategy that is being put into place. Nonetheless, the "goal was to not have a document management system driving the IT strategy, but to be driven by it" (Interview A). It evolved simultaneously, but the basic technology decisions have been made prior to the adoption decision of the ECMS, this way, the proper technology was selected. This required a lot of communication among staff and executives. Also, the storage vendor and the organisation are in close talks on their future roadmap, to establish a possible long lasting relationship that can be of strategic nature and not just in place for 1-2 years.

It becomes more evident that this is part of a major overhaul, as the interviewee states that looking back "it would have been better to have an IT strategy in place already" (Interview A). But the maturity of the organisation was not there at this point. This will change with the new implementations in business and IT. Pointing at the roadmap discussions with vendors, it becomes evident that the strategic alignment with values of the organisation and related vendor actions is a crucial point for the NGO. The NGO does want a product that stands for its external message and initiated talks about the topic with each vendor. So not internal, but external strategic choices also drove the decision towards a storage provider.

5.1.2 *Organisation B*

The second organisation is a state-related governmental department of Australia. The organisation, more specifically the department, consists of around 800-1.000 employees in total. It has are clearly defined structure and policies that demand a hierarchy and people being in charge of specific functions. The employees are distributed over 11 offices in Australia and four overseas. According to the disciplined nature of the organisation and due to the restrictive policies and governance processes the organisation tries to capture and store most of the internal communication and information.

- *Adoption decision*

The ECMS was rolled out in 2007 and is was chosen to be TRIM. TRIM was already in place at the organisation but was not utilised to its full potential and there were no guidelines in place that would have fostered the use of TRIM for records and content management purposes. The system is used as central repository and collaboration and sharing instance. Workflow support is in discussion at the time this study has been conducted.

A) TECHNOLOGICAL

A.1 - CHARACTERISTICS

The application portfolio was scattered, however, the system that has been appointed to be the ECMS later on, was already in place, but it was not used up to its potential and only provided very basic functionality. It was not integrated with other systems such as HR or CRM systems, which resulted in documents and information being stored in all sort of places, on shared drives and on local drives.

A.2 - AVAILABILITY

In terms of availability and ease of adoption, the system was already in place. It was just not used to its potential and the functionality was not properly implemented. The main issue was selling it to the people, this was solved after getting top-management support. After getting the support, the system was acknowledged as central repository and some changes in the system enabled proper functionality to support collaboration and sharing across the business. The organisation was headed by a person with IT background, which also made approval of appropriate funding and getting management support easier.

B) ORGANISATIONAL

B.1 - COMMUNICATION PROCESSES / LINKINGS

Communicational processes and identification of the right documents played a key role in the adoption as well. Important people rely on the organisation's documents and information and they needed to make sure that the proper version went public or would be signed off on. It is critical for the organisation that the right documents get to the right person. Sometimes important decisions

are made via email, this has to be captured too, as decisions need to be verified later on and other entities need to know which persons had a correspondence on which issues. This is also captured in the adopted system.

The adoption was top-down driven. The system was in place before and was not taken up properly, also because it lacked most of the functionality and the top-management support. With the gain of top-management support, that changed and additional trainings and changed processes emphasised on the new system.

It was a tough cultural change and staff did realise that processes can be improved only after it became clear, that the adoption is not going to be changed and that the system is there to stay.

B.2 SIZE / SLACK

Slack did not play a role in the adoption decision. As usually within public organisations, there is few time for creative experiments. However, size influenced the role the strategy played during the adoption decision making. As a large, departmentaly structured organisation there need to be guidelines in place that drive the IS/IT landscape and business development processes. Otherwise, the organisation would just have to do a vast amount of micro management in every department, which is time consuming. Size was not a driver, but it drove the need for an outlined strategy which influenced the adoption decision process in this case.

C) EXTERNAL/ENVIRONMENTAL

C.1 INDUSTRY / MARKET CHARACTERISTICS

External partners were not a big driver, there are only few and they do not have access to the majority of the information stored within the ECMS.

C.2 REGULATION / TECH SUPPORT INFRASTRUCTURE

However, external pressure was one of the key drivers for the adoption. Governmental departments are ranked according to their efficiency and systems in place. The interviewed organisation ranked last in terms of collaboration and sharing of information. So what the person in charge of the adoption did, was to see what other departments were doing and how that could be transferred to their entity.There was a bit of mimicking, but the product was already in place before, so the mimicking was only done on a functional base, it did not affect the choice of a specific system.

Privacy was of little concern for the adoption, there are guidelines and processes in place for that. Security was an issue, as documents got lost before, or could not be found easily, and nobody kept track of who is what with which documents. The issue was the compliance with archiving laws that had to be done and also played a role in the adoption decision. It makes easier to comply with the given guidelines.

D) STRATEGICAL

D.1 STRATEGIC ASPECTS

The adoption was part of a broader departmental business strategy, but not specifically mentioned. Additionally, there is no IT strategy in place that would prescribe on how to support business functionality and which tools should be utilised for specific purposes. The IT strategy started to evolve after the adoption and TRIM was occasionally changed to comply with the strategy. There is a more holistic approach to the ECMS topic within all the departmental bodies, but it is a public organisation which means there are tight approval processes, people and departments who want to defend their position rather than collaborate and spending time solving the problems. In the end, the system was part of that holistic approach, but it did not end up the way the holistic approach described it. This would call for a governmental interface to be able to be interconnected with other departmental bodies and entities to foster collaboration among all employees of related public entities.

5.1.3 *Organisation C*

Organisation C is a large, european and internationally operating company in the electronic components business. It consists of more than 20.000 people in total, with 16.000 of them being 'knowledge-workers', meaning people who can be targeted with ECMS initiatives and actually benefit from the use of these systems. More than 60 offices are distributed around the world.

- *Adoption decision*

The organisation adopted a first ECMS in the time of 2004-2006 and introduced a new initiative in 2008 which is on-going. The company has been established as a stand-alone organisation in 2006 and was a former division of another large international company. The interviewee was highly involved in adoption decisions regarding both ECMS initiatives. The first system being Alfresco, followed by the now on-going adoption of Sharepoint.

A) TECHNOLOGICAL

A.1 - CHARACTERISTICS

The application portfolio consisted of around 20 applications providing the same functionality, those were not connected to each other. All these applications were part of knowledge management initiatives, but only on departmental level, everyone fought for their own. However, the people involved into these initiatives also had meetings with the overall IT council to align them and elicit common requirements for an enterprise-wide initiative. Lotus Notes was mostly used within departments, as it was used before the spin-off.

The adoption decision was also made to improve and create new processes within the organisation. There was no reuse of knowledge because knowledge

could not be found most of the time, additionally there were no review processes in place.

A.2 - AVAILABILITY

The ease of adoption played a role was as well. After being spun-off the decision was made to adopt Alfresco as the ECMS. It was partly a financial decision, as the old Lotus Notes became very expensive to migrate, since there were a lot of customisation efforts around that system. This made it harder to upgrade to newer versions, as changes have to be renewed, which is expensive. Alfresco was also picked up because of it's low financial costs and relatively well known reputation. After sticking with Alfresco for around 5 years as the major ECMS, the decision was made to switch to Sharepoint, as Alfresco was not taken up properly and there were issues with the integration in the MS Office landscape in the organisation. It had some minor issues which accumulated to a bad user experience altogether.

B) ORGANISATIONAL

B.1 - COMMUNICATION PROCESSES / LINKINGS

The adoption decision was made top-down. The need for an ECMS was announced and meetings with departments were held to understand their business and what they have been doing in the past to solve sharing and collaboration issues. Departments also saw a need for that but did not open support the Alfresco solution. They still wanted their own workspaces within the structure, additionally, there was no real sharing functionality at the time within Alfresco. This also lead to the adoption of Sharepoint in the cloud after Alfresco. It was an environment that people know, because it is Microsoft, and it integrates easy with the office landscape. The decision to adopt Sharepoint in the cloud was also made top-down, as management did see that Alfresco was not picked up properly and that mistakes have been made during the adoption decision process of Alfresco.

New processes and ideas were brought forward by staff. However, the adoption of Alfresco was a big change for the majority of teams and departments, it offered functionality that has not been there before, it may have been too much for some of the employees. There were teams who helped improve the system and support more processes than just the basic one's management aimed at.

B.2 SIZE / SLACK

Size was not factor in the adoption decision process. However, as the organisation spun-off, there was a vacuum of allocation of responsibility which has been used by employees to work on a more coherent structure for IS/IT within the new organisation. This is accountable a slack. As mentioned the organisation adopted a second system after the first adoption failed. The first adoption was driven by slack.

C) EXTERNAL/ENVIRONMENTAL

C.1 INDUSTRY / MARKET CHARACTERISTICS

External pressure was one of the key drivers, mostly because of pivotal partnerships that have been established with other market sectors. is heavily audited as our automotive customers have very strict security and safety regulations in place that require the organisation to comply with. Auditors of business partners regularly check the processes in the organisation and the quality of the products to ensure a high quality standard in their products. It is not only based on quality but also on security, as the organisation produces very critical components that safe lifes when it comes down to critical situations.

C.2 REGULATION / TECH SUPPORT INFRASTRUCTURE

Regulation and technology support infrastructure were no drivers in the adoption decision process. There is a small part of regulation there, but it is put upon the business partners the organisation interacts with. They have to ensure their products are safe and operate the way they are supposed to operate based on a very low failure percentage. Because of this, these organisations force limitations and non federal regulation upon the case organisation, but this is considered as market and industry characteristic, as it is the case with all their partnerships.

D) STRATEGICAL

D.1 STRATEGIC ASPECTS

Strategic decisions that put the future in within the organisation into perspective and give guidance towards these scenarios did not drive the adoption decision. As mentioned in C.1, market characteristics drove the decision and the system was mainly put in place to comply with partnership relation demands. The benefits of such a system are internally seen as very good, although the adoption of an ECMS would have taken some time if it were not forced upon them somehow. There were no strategic efforts in place that would have supported the adoption of an ECMS.

5.1.4 *Organisation D*

The fourth organisation is a small consultancy firm based in Melbourne, Australia. The company consists of a core team of 15 employees and can grow to a size of up to 50 in case all related freelancers and contractors are involved in projects. The organisation has a very loose structure, as there is no specific headquarters or office building it operates from. The core team of employees generally works from home or some sort of office, for example University spaces. Furthermore, since it is a consultancy business, a team is usually situated at the spaces of its client. The clients involves organisations all over the Asia/Pacific territories. The core usually works at clients in portions of 1-4 people and demands communication via the internet to ensure project milestones are met and project outcomes can be communicated among the other employees.

- *Adoption decision*

The adoption decision subsection provides the information stated during the interview. This part gives insight into the business operations, its structure and the motivations and drivers for ECMS adoption. The organisation is heavily distributed and adopted Google Apps as an ECMS along with their own structured taxonomy as an ECMS to manage and collaborate on vital information and documents. The system was adopted in 2009 and is used for project and employee coordination. Sensitive information (HR, finance) is not handled in that system.

A) TECHNOLOGICAL

A.1 - CHARACTERISTICS

There was no system in place before the adoption of Google Apps. Information and documents were on a shared drive on a server, which was not easily accessible via a browser. It worked well, it was just uncomfortable to work with. The decision to adopt Google Apps was made because the shared drive system was inconvenient to use, it enabled an easier collaboration among employees. There was no major problem with the way processes were handled with shared drives, it was just not as easy as with a web based solution.

A.2 - AVAILABILITY

The financials played a key role as well in the decision. The system back then was free, and is available today for little money compared to licenses for Lotus Notes or Sharepoint. Additionally to the financial situation, it was easy to adopt, as it was web based and all the employees knew how to operate effectively on the internet.

B) ORGANISATIONAL

B.1 - COMMUNICATION PROCESSES / LINKINGS

The processes in place in the organisation and the basic business model require collaboration among employees and necessitate an ECMS. Also, new processes did not play a key role in the decision, as the organisation is small and most of the work is done directly at the customer, the only communication required among employees is the progress and the outcome of a project.

B.2 SIZE / SLACK

Although organisation is the smallest among the researched organisations, the size did not drive the decision to adopt an ECMS, it is seen as a necessity to exchange the required documents, it is just that the small group did find a consensus on the type of ECMS quickly. But the overall adoption was not influenced by the size or slack.

C) EXTERNAL/ENVIRONMENTAL

C.1 INDUSTRY / MARKET CHARACTERISTICS

External parties like contractors and partners get access to certain documents, and this can be managed easier with Google Apps than with shared drives. How-

ever, this was not a driver for the decision to move to Google Apps.

Concerning mimicking and external pressure, the organisation did not look at other companies and how they handle their processes and information. It just made sense for them.

C.2 REGULATION / TECH SUPPORT INFRASTRUCTURE

Legal issues were not a problem for the organisation, it complies with basic archiving laws and does not encounter any further problems with security and privacy.

D) STRATEGICAL

D.1 STRATEGIC ASPECTS

As a small and very distributed company, committed to their customers, there is no need for long IT strategies. Only basic processes like collaboration and information access have to be covered. However, "Google Apps is really just a bucket to things into" (Interview D). The taxonomy and basic compliance guidelines within the firm enable it's employees to utilise it in a ECMS-style way.

5.1.5 *Organisation E*

Organisation E (or E) is a software and infrastructure vendor for IT services. It operates European-based with more than 5,000 employees. Offices are based in 6 different countries. As a vendor for systems like an ECMS, the organisation has the knowledge to implement such a system and utilise it in a way that makes sense for them. The business concept also allows them to reuse the knowledge that is created within the organisation, an ECMS can strongly support that case.

- *Adoption decision*

The adoption decision was made three years ago. There was nothing similar to Sharepoint before and as a software and infrastructure vendor which is also selling Microsoft products to customers, the adoption was seen as a great benefit, as the knowledge was already residing within the organisation.

A) TECHNOLOGICAL

A.1 - CHARACTERISTICS

The application portfolio was scattered before. Employees mostly shared only within their teams and information and data was stored on shared drives with no specific searching, editing and collaboration functionality. So the decision was made to join the efforts so that everybody has the same base for their working environment, can access the required documents more easily and enable collaboration.

The processes played also a big role. Before the adoption, there was no specific enterprise-wide processes in place. Sharepoint enabled them to act more as one coherent organisation and this also would enable an output of higher quality, as new processes were put in place, supported by the system.

A.2 - AVAILABILITY

The system was easy to adopt, that is the major driver for Sharepoint as a system. The organisation is a Microsoft vendor itself and the knowledge that the system requires is already within the company. Staff knew how to handle the system and that was the key advantage Sharepoint had over any other system.

B) ORGANISATIONAL

B.1 - COMMUNICATION PROCESSES / LINKINGS

The organisational processes do not really demand a system in the form of an ECMS. The organisation utilises different systems for that purpose. The adoption of an ECMS is focused on introducing a much higher level of collaboration within the organisation, working on documents together, having a central repository that is structured and where information is easily accessible.

The decision to adopt an ECMS was made top-down. The management wanted processes and systems in place that raise the organisation's collaborative profile and enables them work together stronger. Actually, the staff consists of some people that find it hard to share their knowledge and managed to not share any knowledge before. It is also especially important to make these people adopt to such a system and the top management wanted these staff members to collaborate more. Some staff members also regularly contribute to new ideas that could be embedded in the system. These ideas are managed by a steering committee if an idea will be pursuit.

B.2 SIZE / SLACK

Size and slack did not drive or influence the adoption decision.

C) EXTERNAL/ENVIRONMENTAL

C.1 INDUSTRY / MARKET CHARACTERISTICS

The company did not necessarily had to adopt an ECMS because of existing partnerships. It is their business to sell systems like that to other companies and the knowledge of these systems played a role beforehand, but it was not chosen to improve partnership communication. It was also not chosen because of mimicking or competitor pressure. The decision to adopt it was solely for internal reasons, they "need to work better together and share knowledge and make sure [we] do things only once and not ten times in different places" (Interview E).

C.2 REGULATION / TECH SUPPORT INFRASTRUCTURE

Laws and regulations did not have any impact on the decision to adopt the

system, these kind of documents and information is handled by different systems.

D) STRATEGICAL

D.1 STRATEGIC ASPECTS

The decision to adopt the ECMS was part of a bigger growth strategy that was established within the business and IT strategy. It also emphasised on working better together as a company internally and to be more efficient, an ECMS was the system to go with for that kind of change. However, looking back, the interviewee would develop more guidelines and rules on how to use the system and what to use it for. The way it actually has been implemented was, "these are some ideas how you can use it and please go ahead" (Interview E). The ECMS was adopted 4 years ago and only one year ago, management started to create more strict guidelines and taxonomies on how to use it in the best possible way. Strategically speaking, the proper guidelines were not obeyed during the adoption and it was more of a reactive approach.

5.1.6 *Organisation F*

Organisation F (or F) is a public education entity which has its headquarters in Victoria, Australia. It consists of more than 3000 employees and offering educational services to more than 40000 people at more than 10 locations across Victoria. The core business is to deliver courses to people and to manage the personal and course related data of people in order for them to earn a certification. The whole organisation is quite distributed across Victoria.

- *Adoption decision*

Before the purchase of an Oracle ECMS in 2008, there was no system with similar functionality in place. The staff was not able to register or document information and data obtained in a centralized manner for all locations to collaborate. Information was stored on local and shared drives, mostly in teams. The organisational technology landscape consisted of "around than 200 shared network drives" (Interview F). This mainly posed a problem for collaborative and organisational matters, but it also raised questions when the organisation was confronted with legal matters. Despite buying an ECMS, the system has not been implemented yet. The system has been purchased in 2008, but is yet to be implemented.

A) TECHNOLOGICAL

A.1 - CHARACTERISTICS

From a characteristics point of view, there was no application in place that would have supported even basic document management functionality. Documents and information was stored on local and shared drives with no given taxonomy or basic structure, "people just created folders according to what makes

sense to them" (Interview F). Overall, the organisation operated around 200 shared drives.

A.2 - AVAILABILITY

In terms of ease-of-adoption, culturally speaking, the organisation knew that it would not be easy, as cultural change is always one of the major problems when changing old habits. Technological, the organisation operated on an Oracle basis, which simplified the choice for an ECMS that was also provided by Oracle. "3-4 vendors were identified potentially offering a solution" (Interview F), and from their assessment, Oracle came out to be the easiest one to integrate in the established system at the organisation. Additionally, the vendor provided them a discount.

B) ORGANISATIONAL

B.1 - COMMUNICATION PROCESSES / LINKINGS

Actually, the processes of the organisation demand some sort of structured information repository. At the time of adoption, this was not an area that had be thought of as a key driver. However, at the moment "there is a lot of talk in the organization's strategic planning around promoting collaboration between the several locations of the organisation and being more collaborative" (Interview F). To-date, collaboration relies on the people in place, not on process structure or provided software system.

The adoption was initiated by executives and management staff, top-down. "There was a consistent pattern of difficulties in producing records when things went wrong" (Interview F) and the management needed to change that situation by improving the system landscape.

As the system has not been implemented yet, staff had no opinion on improving the system or putting new processes in place that could be handled by the ECMS. "There are often different processes for the same thing at different locations of the organisation so there is a push at the moment to try and get the organisation's business processes mapped and standardized across the board. So there has been a project setup to do that and there is a project about how the ECMS could support putting new processes in place so when there is a process, that it can be and will be supported properly be the ECMS in a consistent way" (Interview F). Which means that the decision to adopt an ECMS has been made before the organisation was actually aware of all the problems and reasons that required them to adopt an ECMS.

B.2 SIZE / SLACK

Size and slack did not drive the adoption of the ECMS.

C) EXTERNAL/ENVIRONMENTAL

C.1 INDUSTRY / MARKET CHARACTERISTICS

The organisation deals with a frequent amount of external partners. The ECMS is supposed to support the internal structure to make accessible, who is exactly dealing with whom and to ensure that the organisation is represented with coherent voice to external partners. An ECMS helps to identify the relationships the many locations have with business partners. However, this was not seen as a major driver at the time and thought of as a perk.

To see what others were doing, the organisation took a close look at similar companies and benchmarked them across Australia. The outcome was, that "the overwhelming majority" (Interview F) of them had an ECMS in place. "That's one of the reasons why we think it's good to have one here" (Interview F). The organisation adopted an Oracle product. However, their benchmark revealed that all the other comparable organisations utilise TRIM as their ECMS, and "it's always a question that comes up, why don't we use TRIM" (Interview F). In the end, "the organisation has a huge number of systems and we really should be able to integrate with the finance system and the HR system and other various systems used" (Interview F), that is why Oracle is being seen as a better fit for the organisation's technology base.

C.2 REGULATION / TECH SUPPORT INFRASTRUCTURE

The main driver to adopt an ECMS was "legal action taken against the organisation" (Interview F). "The ability to locate documents and records for legal proceedings was one of the main drivers" (Interview F). This is seen as a key driver, as past incidents with governmental registration bodies did not approve on courses and the organisation could not provide proof for correspondence or agreement on these courses to be officially recognised, rendering the courses illegal and accountable for customers.

D) STRATEGICAL

D.1 STRATEGIC ASPECTS

Strategic alignment and guidelines posed a large problem for the organisation. There was no specific IT strategy in place, "in the past some senior IT people had some of that strategy up in their heads but there was nothing written down" (Interview F). The biggest problem in the organisation is, that there are other projects at the moment that relate to the absolute core business and there are no resources allocated to other not so important projects. However, this results in poor results for every project conducted, as there are no clear guidelines given and projects are not conducted coherently. This also leads to protection of specific projects that are actually not as important as for instance an ECMS.

Looking back, the interviewee would prefer are more strategic adoption that results in a more aligned solution that suits the organisation's needs. In the end, the project got funding approved for the past 3 years, but it has not been implemented yet, because of few guidance and no project prioritisation.

5.1.7 *Organisation G*

Organisation G (or G) is a major european-based airline. It occupies around 100,000 employees and with the majority being knowledge-workers, it relies on information and is obliged to comply with national as well as international flight and safety regulations. The main offices are distributed over two countries and the organisation is well structured.

- *Adoption decision*

The organisation develops ideas and innovations within the IT organisation of the company, specifically in the CIO office of the IT organisation.The interviewee is part of the architecture team of the CIO office and has a wide knowledge of the adoption motivations and decisions made during the adoption process. The organisation adopted Alfresco as an ECMS for its employees five years ago (2007). Before that, the organisation used a custom-made solution that has been developed in-house by the organisation itself. There is Alfresco in place now.

A) TECHNOLOGICAL

A.1 - CHARACTERISTICS

The organisation was not mainly focused on technological changes. The application portfolio back then was, and is still, very scattered. The adoption of an ECMS was more seen "as an opportunity than as a managed and structured approach of how to manage and exchange documents via multiple departments" (Interview G), hence the internal characteristics did not play a key role in the decision process, as there was no evaluation of the characteristics or needs. However, the availability of the chosen product (Alfresco) heavily influenced the decision. Two key factors drove the technological aspect of the decision towards a product which would be available immediately at low cost. The adoption had to "start at short notice" (Interview G) and "the funds for significant structural investments were not there" (Interview G). These factors pushed the decision towards a open-source solution that would lower costs and could be adopted anytime, as the product is directly available per download. Additionally, users were used to web platforms already, making the adoption of a web-based system easier. The general view of the project was "to see how it works, how it should work [...]. It was more a trial to get more experience with these types of environments" (Interview G).

A.2 - AVAILABILITY

B) ORGANISATIONAL

B.1 - COMMUNICATION PROCESSES / LINKINGS

Organisational aspects were a less significant factor of the adoption of ECMS at the organisation. The communicational processes demand such as system, as the result of inter-departmental work is typically a document that needs to be

shared within the organisation. However, there was no structure or taxonomy in place that needed to be supported by the future system. The driver to support that communicational needs was simply the need to share documents with others in a suitable and fast way. Some departments sent in remarks on how to improve the system, others just did not use it at all because "they have a number of shortcomings in that environment" (Interview G). Top management was not involved in major decisions regarding the adoption decision, this is mainly explained by the low-cost approach taken and the experimental nature of the adoption.

B.2 SIZE / SLACK

Size and slack did not influence the adoption decision in the organisation.

C) EXTERNAL/ENVIRONMENTAL

C.1 INDUSTRY / MARKET CHARACTERISTICS

Governmental regulations and industry / market characteristics did not play a role at all in the decision making process. As the portfolio was scattered before, documents that have to comply with different international air traffic regulations are handled in different systems, this has also been the case after the adoption of Alfresco. The technology support infrastructure played a small role, as the corresponding persons of Alfresco were invited for meetings to determine if the system is a fit for the organisation and if it can solve the issues the adoption addresses.

C.2 REGULATION / TECH SUPPORT INFRASTRUCTURE

Regulation and Tech Support Infrastructure did not play a role.

D) STRATEGICAL

D.1 STRATEGIC ASPECTS

The interviewee would generally favor a more structured and well thought-through adoption decision and implementation process. However, this was not done in the decision process when adoption Alfresco. The interviewee states that the lack of funds and the short timespan did not allow for a large analysis of the requirements and general situation in the organisation. The architecture team is planning to replace Alfresco with Sharepoint in the future. As collaboration one of the new key issues in the organisation, this will be properly addressed with Sharepoint. The approach will be a comprehensive and company-wide one, including top-management support and appropriate funding. The interviewee stated that this adoption decision has already been made and that the time and funding helped meeting the actual organisational requirements.

5.1.8 *Organisation H*

Organisation H is a software company headquartered in Australia. It employs around 100 employees internationally. Its market segment is focused on research and educational institutions. Being a IT-minded organisation, the topic of collab-

oration and support of processes through fitting enterprise systems is present. For a global software company, the organisation is relatively small.

- *Adoption decision*

The organisation struggled with creation and management of specific and sometimes important data records. To achieve a better collaboration and establish a central information repository, it was found that an ECMS can enable these needs. Sharepoint was adopted four years ago and is used for internally. Sensitive data is not handled in this system.

A) TECHNOLOGICAL

A.1 - CHARACTERISTICS

The application portfolio utilised for ECMS functionality was scattered. Documents could not be easily accessed as they were distributed over different shared and private drives within the organisation. Additionally, there was no versioning in place before. In terms of processes, it was not chosen to adopt an ECMS for lack of process quality, but for the higher process efficiency and manageability that is brought to the table by an ECMS.

A.2 - AVAILABILITY

Concerning availability, the interviewee stated that the ease-of-adoption is never low, as the organisation views cultural adoption to a change as the most challenging and difficult to overcome. So it was not a driver, but it is a factor that is has to be considered one of the most important. As a Microsoft gold partner, the technology related to Sharepoint was already in place and lowered the cost compared to any other possible technology at the time. The fewer costs when implementing it and the easy integration in the Microsoft landscape at the organisation "were part of the main reasons" (Interview H) to go with Sharepoint.

B) ORGANISATIONAL

B.1 - COMMUNICATION PROCESSES / LINKINGS

The communicational processes within the organisation do not necessarily require an ECMS in place. The business is run on a request-service basis which involves other systems. The ECMS is only to enable a structured information and knowledge platform across the organisation, like a pool.

The very initial recommendations and requests for an ECMS were brought forward by staff. So, in the very early stages it was bottom-up driven. However, management reacted to that and started and steered the initiative from the beginning. It was requested bottom-up, and has been chosen and implemented top-down including key staff members. The state the ECMS is in now, is that staff recommends additional functionality and proposes new processes that utilise the system. The take up is currently very high and the organisation is thinking about moving it a level higher, implementing and improving control and security modules and a more refined access management.

B.2 SIZE / SLACK

The adoption decision was not driven by size or slack.

C) EXTERNAL/ENVIRONMENTAL

C.1 INDUSTRY / MARKET CHARACTERISTICS

It did have an effect on external partnerships as far as it was planned to externalize more of our information and make it available to partners. The system is also connected to our website and we think of reselling that module to our customers. "It did have a role in the process, but not a key one" (Interview H).

However, the market strength and size of Sharepoint was a key driver for the organisation to adopt that system. The organisation did not look at other competitors or companies, but followed the advices by Gartner and other research firms that rate systems frequently.

C.2 REGULATION / TECH SUPPORT INFRASTRUCTURE

Complying with laws was not a driver for the adoption. The system made it easier to track records, but failure to comply with laws was not an issue before the adoption.

D) STRATEGICAL

D.1 STRATEGIC ASPECTS

Business and IT-strategies were in place before adopting the system. The business strategy set specific guidelines for streamlined processes and centralized, easily accessible and open processes and workflows that support the business. This strategy is supported by an IT-strategy which emphasises on "aligning services and consolidation of technology" (Interview H).

Additional to that, the future possibilities by the ECMS played a role in adopting such a system. The future strategy is to open up to partners and customers and tighten the connections with them. Having an ECMS, dramatically facilitates the process in the future.

Looking back, the interviewee stated that a review of the whole approval and decision processes should take place for future adoptions, as this takes up most of the time.

5.1.9 *Organisation I*

Organisation I is an australian based logistics organisation that delivers any kind of freight to any city across Australia and New Zealand. The organisation has more than 40 branches and offices in these two countries and employs more than 2000 staff members, the majority being involved in logistics operations. Around 500 employees are dependent on and working with computers on a daily basis.

They do administration tasks, for instance billing, putting orders in the system and basic fleet controlling.

- *Adoption decision*

The adoption itself has not taken place yet, but is scheduled to take place later this year. The business does not see the immediate necessity for an ECMS, so a team within IT, lead by the CIO, decided to run a pilot within their department to present the benefits of such a system to the whole business. The system used before the deciding that there is a need for a new system was an in-house developed transport management tool which utilises shared drives and a very basic file taxonomy. The adoption for a pilot is in planning, but the implementation has not taken place yet.

A) TECHNOLOGICAL

A.1 - CHARACTERISTICS

According to internal characteristics the portfolio cannot be described as scattered. The majority of digital content is distributed via the shared drives and it is created with Excel, there are no other systems used for sharing or collaborating. However, the business does not see that as a problem, as it does not result in problems of any kind. The business says "if it ain't broken, don't fix it" (Interview I). The IT department however, sees also little problems in general, but there is room for improvement, as it could be structured in a more efficient way.

A.2 - AVAILABILITY

Taking the availability perspective, the organisation is already licensed for Sharepoint, which is financially suitable, but resulted in lack of any assessment of other available systems. If during the piloting phase, the system has too much exposure to errors, this decision is likely to be re-assessed.

B) ORGANISATIONAL

B.1 - COMMUNICATION PROCESSES / LINKINGS

The organisational processes do not specifically demand an ECMS in place, Processes would be improved by the use of an ECMS, though.

The IT executive was the person to bring the possibility of an ECMS into play and will pilot it in IT first, thereby the decision was driven top-down. However, the interviewee stated that modules and processes that could be supported by the system should be brought in by the business and not the IT. The IT department prefers vanilla implementations, to reduce update risks.

B.2 SIZE / SLACK

Size and slack did not drive the adoption decision process.

C) EXTERNAL/ENVIRONMENTAL

C.1 INDUSTRY / MARKET CHARACTERISTICS

External partnerships played no role in the motivations to adopt an ECMS, as there is only basic transport-related information provided to external parties. Also, similar organisations were not pressuring the company to adopt an ECMS. Most of the competitors also have a weaker IT in general.

C.2 REGULATION / TECH SUPPORT INFRASTRUCTURE

The organisation has to be strongly compliant with federal archiving and safety regulations. Transports require specific safety trainings and driving instructions which have to be provided by the organisation. The right versions of the documents have to be stored and accessible, this is currently managed by internal naming conventions, the adoption of an ECMS will automate these processes, which saves time, enhances the general storage structure and makes it easier to access documents.

D) STRATEGICAL

D.1 STRATEGIC ASPECTS

The organisation went through a strong change in management recently and new business strategies are evaluated and put in place. The interviewee stated that the prior business strategy was not properly communicated and a draft of an IT strategy is being created and aligned with the recently proposed business strategy. The ECMS is likely to improve processes and cut down the application portfolio, which would be in line with business and IT strategies, but it was not chosen because it was stated in these strategies or seen as a long term goal. The initiative is not driven by the business, it is done by the CIO and his committee in the background, and an early version will be piloted in the IT department to show business the benefits of the solution.

This chapter provided the basic results of the conducted interviews. The next chapter contains the analysis of the presented results and discusses the most important points to answer the initial research question of this exploratory research.

6 ANALYSIS & DISCUSSION

This chapter analyses and discusses the most important points of the interview results and puts them into the general research context. The first part concludes each case interview and shows the actual implications of the results. A cross-case analysis is performed after the concluding first part of this chapter, which is finished by a general discussion on the value and essence of this exploratory research.

6.1 CASE CONCLUSIONS

This section concludes the results of each case individually and depicts the major drivers which led to ECMS adoption utilising the underlying TOE framework. It is followed by a cross-case analysis in the succeeding section.

6.1.1 *Organisation A*

The key driver of the adoption is the acknowledgement that the organisation is more than just it is decentralised offices and that it should work together as a strong global force. This resulted in the need for more collaborative processes and a system that support this paradigm shift. "The need for better collaboration across projects, across communications, financing, distributed campaigning [...]" (Interview A) has been seen as key to take the organisation to a more global level. Before that acknowledgement, the organisation consisted of many satellite organisations that would rather do their own job, only related to their country, partnering up with local entities and with no significant global support or collaboration. It also triggered the creation of a global IT strategy for the company. The responsible committee also tried to make the best out of the situation and communicated very frequently among the stakeholders, to ensure alignment between the drafted IT strategy, the actual needs of the organisation as a whole, and the system itself.

With the premise that there was no strategy in place whatsoever and the organisation actually operated not coherent, the adoption decision went very well. When asked if there would be anything that they would rethink during their decision process in retrospective, the interviewee stated "it went really well actually" (Interview A) and that they "had really good participation from within the organisation and across the organisation and the way the decisions were made [...] was the right way to do it" (Interview A). This shows confidence in the decision process and that the complete organisational overhaul is on a good path to be successful.

The interviewee stated that the key driver was "the recognition that the organisation needs more than just the offices, it needs to be a real, true global or-

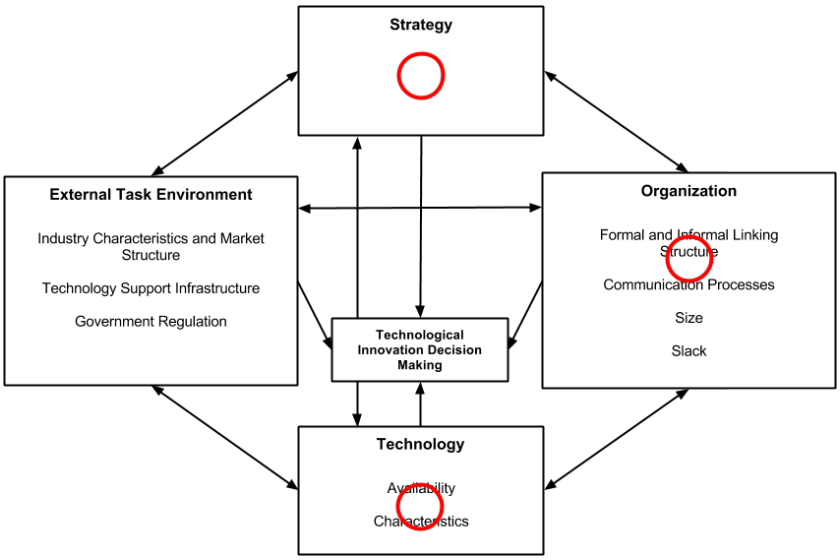

Figure 10: Key factors within the TOE framework - Organisation A

ganisation" (Interview A). "And it was determined that a centralized document management system would give everybody sort of that centralized collaborative space to work from" (Interview A). As stated before, this reflects well that the approach taken, was whole. Most aspects were taken into account and there was a strong need to adopt an ECMS, because of the nature of changes in the organisation.

6.1.2 *Organisation B*

The key drivers for the adoption were the need for collaboration, which became clear as the rankings were conducted. The application portfolio was scattered before and documents could not be easily identified. Additionally, the requirement to be able to track which person signed off on which documents and who was involved in discussions related to sensitive topics played a key role. As documents and information got lost occasionally, it was also because of security and compliance issues. All aspects of the model played a key role, except for the strategic one, which was seen as a minor influence to the overall decision to adopt a system.

The department is now placed second in the rankings. However, it is a public entity and decisions are questioned frequently, also since the department has been operating without a specific IT strategy. The interviewee mentioned that he would not necessarily change the way things went down, but would favor the holistic approach after all if he would be the one to start the adoption again. It would raise interconnectedness and collaboration among employees. Another problem is the rate of satisfaction. As TRIM is "a bit flaky" (Interview B) since the department still runs an older version of MS Office together with it, which also reflects the lack of guidance through an IT strategy. There are voices in the community that push for a Sharepoint adoption, however TRIM offers workflow implementation as well and this is a thing that the departments are looking for

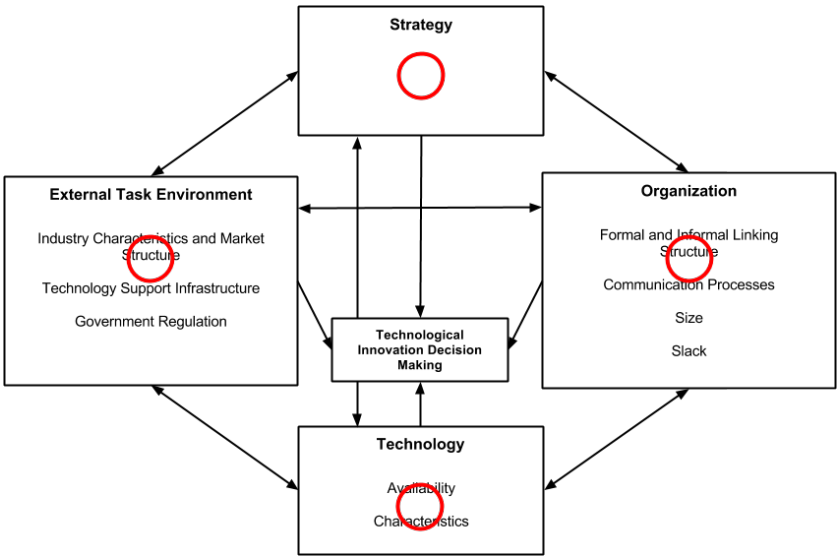

Figure 11: Key factors within the TOE framework - Organisation B

the future. A necessary implementation of a clear-cut IT strategy that would support a more coherent approach is lacking.

Regarding the question what the major drivers were to adopt an ECMS, the interviewee stated multiple topics which were ultimately responsible and that are mapped to the TOE model. Business communication and sharing was one of the key factors. Customers "were getting different versions of things, there was no consistency" (Interview B), which lead to misunderstandings in a business environment where documents and words have to be as precise as possible. Additionally, external pressure in form of audits and departmental ratings influenced the decision to adopt an ECMS. "We were audited and from all the departments we came in last, and you know the managers thought that is not good enough" (Interview B). Lastly, a governmental strategy called VERS (Victoria Electronic Record Strategy) required the department to "capture all the information that is produced electronically and get away from a paper-based environment, so it was sort of a compliance issue as well" (Interview B). This is considered a strategic issue in the research model, as clear guidelines are given on how to proceed with that matter.

6.1.3 *Organisation C*

Alfresco failed because it was introduced too fast without proper and deep assessments of what the situation of the organisation was. But there was a need to compensate for the loss of Lotus Notes after the organisation was spun off it's original parent company. The interviewee stated that "every initiative would have failed, it was just not properly picked up and got not the attention it should have had" (Interview C). It was adopted to fill a gap and did not receive the proper assessment and support. However, with the adoption of Sharepoint, a system that suited the organisation better and integrated on a much better level than Al-

fresco, things went better. The organisation saw Alfresco more as a test of what can actually be done with these sort of systems, and because it was free, it would not be a huge setback if adoption failed.

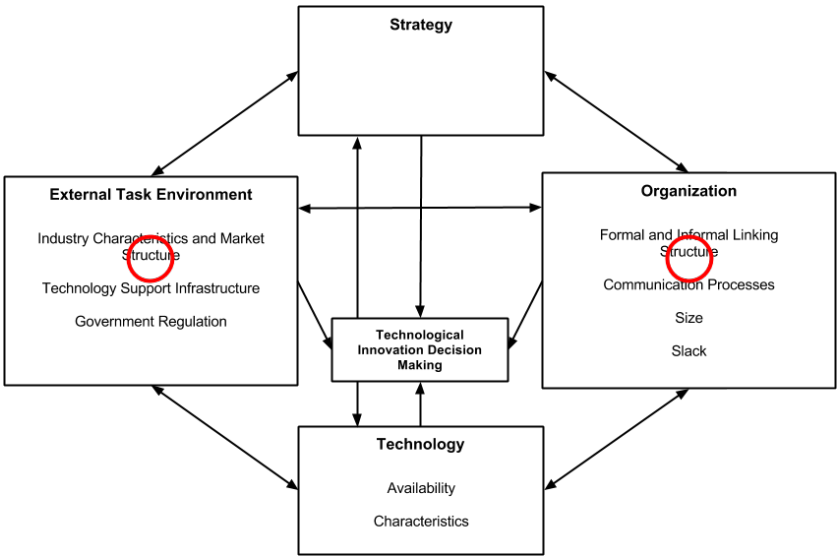

Figure 12: Key factors within the TOE framework - Organisation C

The interviewee gave a clear-cut answer to the key driver question. "The main drivers were: easier audits, preventing reinventing the wheel, reuse of knowledge and collaboration. Additionally, as a spinoff, our systems within the old company were pretty scattered, for the new spinoff company we wanted to have a clear structure and do a better job" (Interview C). Easier audits relate to external pressure and improvement of external partnerships, as customers create pressure to comply with their safety requirements and regulations. Reuse of knowledge and reinventing the wheel are factors of the business side and process efficiency and integration in the application portfolio. This was especially a driver for the choice of Sharepoint.

6.1.4 *Organisation D*

The adoption of a new system that would be utilised as an ECMS was mainly driven by the ease-of-use, the easy availability as well as financial reasons. As it is a very small firm, there are no large processes in place that would complicate the business operations. It is a very distributed and partner-operated organisation, which results in less organisational responsibility for employees, thus making it possible to only have a very basic structure in place. Google Apps is utilized as an ECMS by implementing the organisational taxonomy and compliance guidelines, most of actual ECMS functionality is done manually. The company is confident with the use of their system. However, the evolution of Alfresco[1] is being watched closely, as it starts to provide automation for basics like versioning file structure. This point also emphasises on the matter of financials at the company, as Alfresco

1 Alfresco is an open-source and free ECMS - www.alfresco.com

is an open-source solution that is available for little monetary effort, but the financials are not seen as the most important key driver for a future adoption of Alfresco.

The interviewee, when asked directly about the key drivers, stated that "it is just what we do" (Interview D). However, the interviewee also stated that this was a "matter of convenience" (Interview D) and that it also was definitely adopted because it was easy to adopt that. Both, because it was easy to get and because of low financial risks ("... when we first entered it was free. Why wouldn't we do that?" (Interview D)).

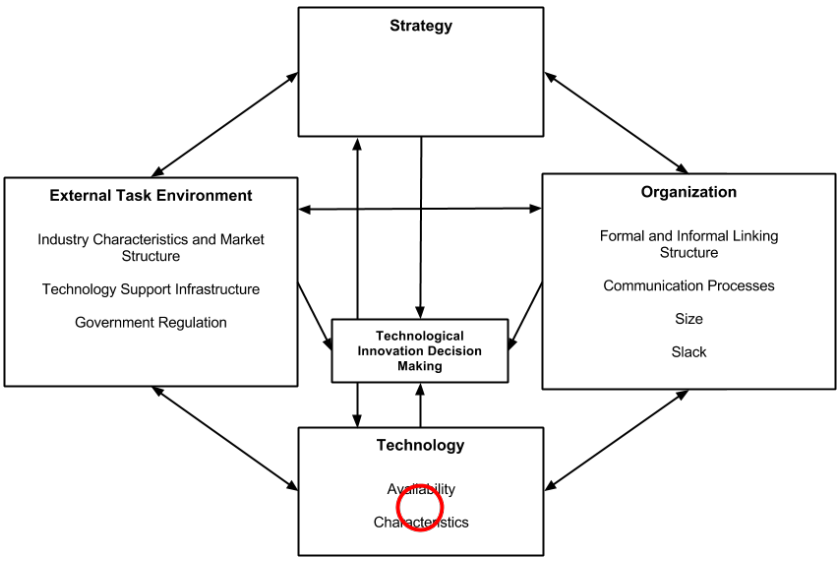

Figure 13: Key factors within the TOE framework - Organisation D

6.1.5 *Organisation E*

Strategically speaking, the processes were not matched the way it should have been done. Lack of guidelines and actual change of processes limited the impact the ECMS had on business. The problem has been acknowledged recently and is being dealt with in educational ways, giving trainings and putting rules in place that structure the working products. However, this did not take place from the beginning, despite the decision being made top-down.

Figure 14: Key factors within the TOE framework - Organisation E

The major reasons for the adoption were related to internal business and the communication structure. It was the main goal to be able to collaborate and share on a higher level and to have a better overview of the knowledge in the organisation and enable easier access to required documents.

6.1.6 *Organisation F*

In the past, the organisation encountered critical problems when faced with legal cases by students and governmental institutions. Records of agreements and contracts that have been signed were nowhere to be found when asked for by legal representatives. The organisation lost cases because the documents could not be identified in their computer network. Not only lost the organisation in court, the incidents also raised questions regarding the quality of the organisation as an educational entity. The interviewee also supported this to be the key driver by saying "I guess the main driver we had was legal action taken against the organisation" (Interview F). Benefits like a centralised repository and collaboration across the mostly independent offices were seen as perks, not as main drivers. Although the organisation lacked collaboration across offices and had very little standardised processes in place. In the light of legal cases that have been brought up against the organisation, it is critical to see that the system has not yet been

implemented. This shows a clear lack of strategy and guidelines of any kind.

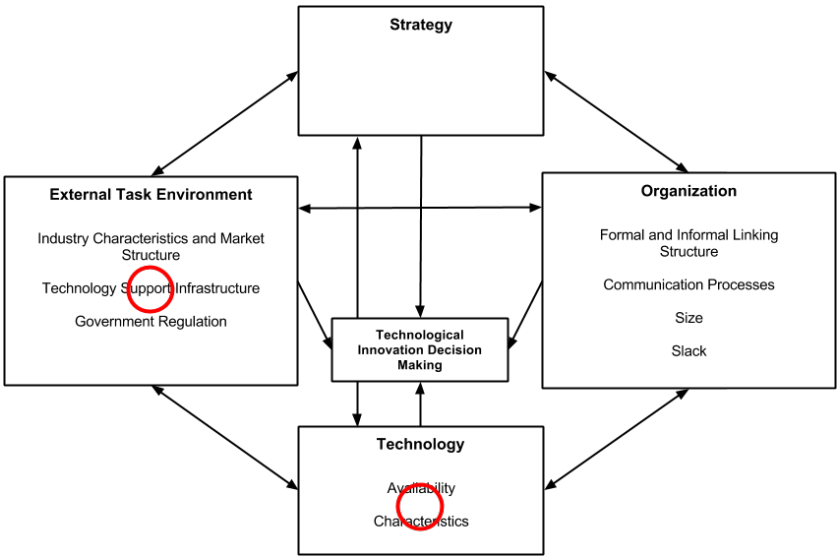

Figure 15: Key factors within the TOE framework - Organisation F

The key driver to adopt an ECMS was the loss of highly important records and correspondences. This proved to be difficult when the organisation got suit over several incidents, as they were unable to provide the necessary information. A "committee of the council decided to put records management down as a high risk at the organisation and that was because of a number of incidents before, where things had gone wrong at the organisation and we were unable to find key records in relation to these incidents" (Interview F). External pressure and compliance with laws played the key role in the adoption process. The actual system, provided by Oracle, was chosen because of the technology characteristics of the organisation and the availability. The Oracle system integrated better into the company's portfolio and an additional discount with options for the most recent versions lead the responsible persons to choose it.

6.1.7 *Organisation G*

The organisation choose to adopt Alfresco, an open-source software, under time pressure and with low funding options. This resulted in a relatively low acceptance rate at employees and an additional system in the portfolio. The system was supposed to fix small issues but offered a broad sharing functionality. The management thought of it as "a try, if it turns out to be very successful the use will continue and will grow and if it is not successful we have to rethink" (Interview G). Fundamentally, it was a try to solve issues at a cheap price and if it fails, book it as lesson-learned and reevaluate the options with the experiences made in mind. This was also fostered by a non-existent future strategy of the systems or the portfolio at the time. There are efforts to establish a strategy and according to the interviewee some progress has been made on this.

Summarizing it, the key drivers in the decision to adopt Alfresco were availability (due to finances) and communicational processes that demanded a system to share documents appropriately. It is notable that most of the other factors did not influence the decision at all. Whereas external and competitor related factors might not be key for adoption decisions, depending on the situation and nature of business operations, organisational factors include due diligence and evaluation of requirements and none of these played part a large role in the adoption decision of organisation G. Furthermore, due to lack of an established future IT strategy, there was no need to follow a specific plan when making decisions or complying with infrastructure characteristics, which increased the number of applications in an already scattered portfolio.

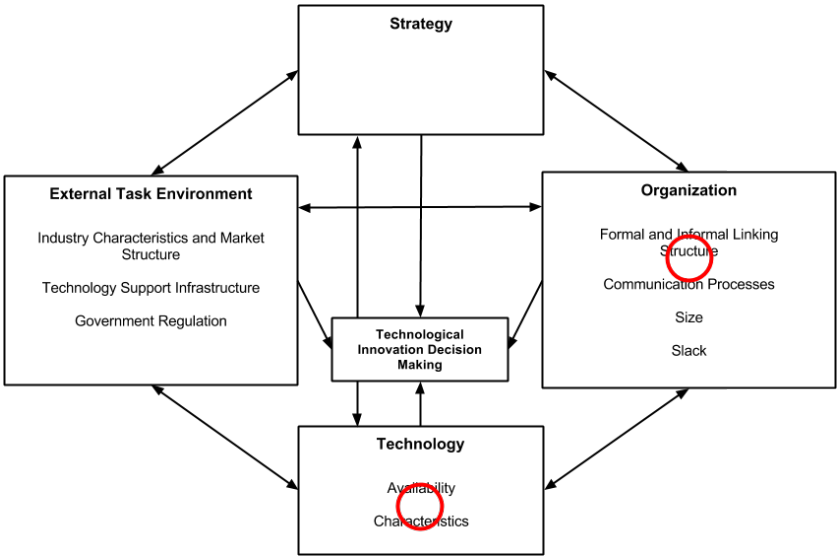

Figure 16: Key factors within the TOE framework - Organisation G

The direct answer to the question of key drivers, was that the "efforts required to keep it up and running [were financially too high] and the functionality offered" (Interview G) was too low for a relatively high price. Additionally "it was not easy to use, it was not well integrated with our office environment. It was quite laboursome to publish something or to change something within that environment. That is still also the problem with Alfresco. That is also why we feel that we have to a much more integrated system with our office environment" (Interview G).

6.1.8 *Organisation H*

Overall, the adoption decision and process went straight forward in this case. The staff recommended to have an ECMS in place to be able to work more efficiently. Top-management picked the idea up and the decision was made to adopt a system, requirements were established and the project was set up within the boundaries of the IT strategy.

"The key drivers in choosing Sharepoint, versioning control, management insight around that, and we had an issue of data centralization in our organisation.

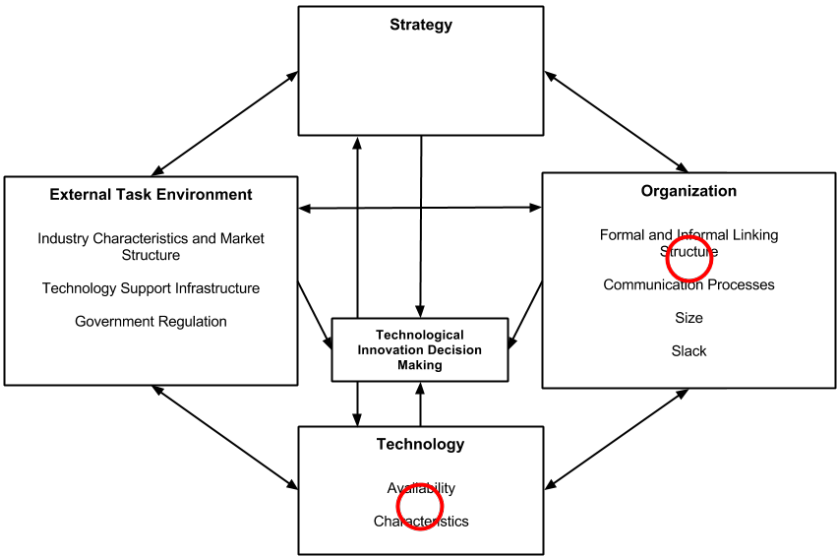

Figure 17: Key factors within the TOE framework - Organisation H

We could not really update data sets or edit them. On top of that, one of the advantages of the ECMS was that it would be in line with our collaboration and sharing strategy in the business segment. So that would be in-line with our business and IT-strategy" (Interview H). It was process and business driven for the most part. It was in-line with the strategy, but it was not directly driven by it. The strategy states that efficient and slim processes should be in place, but there was no real requirement mentioned for clear-cut collaboration and sharing within the organisation.

6.1.9 *Organisation I*

The CIO does see a need to improve the processes and collaborative efforts within the organisation. The business does not see it as a problem and does not see a need to change things. Strategies were not formulated before, but are in development right now. The decision to adopt an ECMS was made on the basis of a few people who think that such a system can improve operations with relatively small efforts and costs, as the licenses are included in their company license. The business is not driving it at this point, as the IT department will pilot the ECMS within their department first. This serves to show the business the benefits of such a system and make them change their minds on the topic. The organisation lacks proper enterprise-wide search functionality and automatic versioning. The initiatives is being initiated behind the scenes, but it allocates time to people that might be better spent on more important issues, if there are any. However, technology-wise the organisation is already ahead of the majority of their competitors and too small to tackle the largest contenders in the industry. So organisational slack, time that can be used to think about specific topics or develop some ideas on your own, plays are significant role in this case of adoption.

"If it ain't broken, don't fix it" (Interview I) was stated by the interviewee as a reasons as to why business management does not see a need for an ECMS.

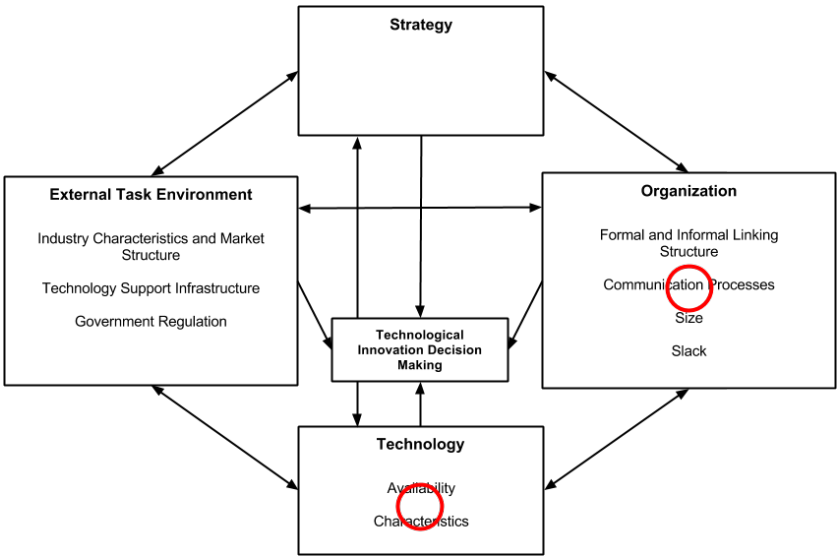

Figure 18: Key factors within the TOE framework - Organisation I

The interviewee mentioned that for instance "search will be better, the network connection will be better" (Interview I). But there is no real need or driver as to why an ECMS is considered to be very important right now. Management does not see the benefits, but there are possibly more important topics to cover first. The situation right now is not a good one, but concerned processes are also not considered core business. The key driver for choosing Sharepoint however, is ease of integration into the established application portfolio and the low costs, as they organisation is already fully licensed for that system.

6.2 CROSS-CASE ANALYSIS

In order to be able to judge the initiatives undergone by the organisations, the cases need to compared with one another to show differences and comparisons and to reveal possible weak spots in the initiatives and decisions made. It also examines the drivers and motivations to adopt an ECMS and concludes some fundamental observations.

6.2.1 *Technology*

The internal technology characteristics analysis shows that in 7 of 9 cases, the portfolio was scattered and also mentioned as a key driver. It is evident that a specific degree of chaos in the portfolio leads to a less productive and less effective work environment and makes it harder to find the appropriate information and documents within the organisation. Internal characteristics is not only a huge factor based on the scatteredness of the portfolio, but also because a system similar to an ECMS was not there. It was cited that less reuse of knowledge, loss of information and documents and a lower quality of work was the result of a scattered portfolio.

When choosing an ECMS, availability with regard to licenses and financials played a key role in 3 cases. Financials are the basis of an organisation and the large majority of the researched organisations have specific budgets that they have to operate in. However, there were three cases (C, F, G) where actual and significant (F) misspending took place. Organisation F purchased the system in 2008 but has not yet implemented it. The organisations C and G adopted low-cost open-source solutions in the beginning and changed their mind after adoption again (C switched to a different system) or are changing it right now (G is about to adopt a different system). The management prioritised the requirements falsely and allocated to much of a meaning to low costs of a system instead of actual functionality and integration. Also, when looking ease of adoption, most cases noted that the ease of use of a system plays a role in the success rate of an adoption. Case D and C specifically mentioned that as a key influence in their decision, despite being two completely different organisations from a business as well as size related point of view. The most important point on availability mentioned by the interviewees is the integration aspect of an ECMS. For organisations which had a heterogeneous landscape in place, saw it as easier to adopt a specific ECMS as others.

TYPE	SIZE	CASE
Small	<100	D,H
Medium	100><1000	B, I
Large	>1000	A, C, E, F, G

Table 4: Cases by size

6.2.2 *Organisation*

7 out of 9 cases had key drivers within the business context of the TOE framework. This is evident as problems in the business are obvious and affect the quality of work and thereby the output of the organisational processes. It also became evident, that except for one case, the top-management was actively involved into the adoption decision. Though one case (F) showed significant mismanagement, even with top-management support. Case I was the only case without top-management support, as the responsible IT person started a pilot on his own and then tried to convince business executives of the benefit of such a system. This has not happened in any other case, ECMS adoption decision are made in councils or steering committees in 8 out of 9 cases. This ensures quality and reduces the risk of mistakes that can be made during the requirements elicitation and the choice of the system.

6.2.3 *External/Environment*

An interesting pattern is observed when talking about external pressure as a key driver for ECMS adoption. Only two (C, F) organisations cited this as a major influence, but these two are large organisations. These two cases were also specific due to external pressure. Half of the cases had to deal with security or privacy when making the adoption decision, but it was not considered a key driver to adopt it.

6.2.4 *Strategic*

Only two organisations (A, B) showed clear guidance to an IT strategy when taking the decision to adopt an ECMS in relation. The majority of the cases did not have an IT strategy in place when the decision to adopt an ECMS was made. These interviewees also stated that looking back, they would have prefered to have an IT strategy as guidance for the decision and the implementation. However, the two small organisations (D, H) did also state that a strategy would not have helped them in a particular way. Medium and large organisations cited that a strategy would have made things more easier and clearer.

6.2.5 *General*

Generally, the small organisations did have an easier adoption and implementation phase, also the acceptance rate seems to be higher, as this was not mentioned as a problem. Contrary to that, large organisations stated that they had to invest most of their resources and budget into trainings and workshops on how to use the new systems efficiently. Two interviewers stated this was due to the age of the employees at the firms.

Also, organisations that have a lower budget, came out to be the organisations that make decision and implementation in the most structured way of all organisations. Organisation D and A showed a clear determination in reaching their adoption goals. Although, organisation D is the smallest and has the size advantage when it comes to adoption and acceptance rate among employees.

Table 5 presents a holistic overview of the interview cases and the factors that influenced the adoption decision the most. The overview reveals that in most of the organisations (7 out of 9) the decision to adopt ECMS was driven by the technological characteristics and availability as well as communicational processes and linking structure of the organisational context. From the data point, these seem to be the most common drivers over the variety of organisations to adopt ECMS. The characteristics factor played a key role in these organisations, as the scatteredness of the IT systems portfolio was mentioned as a major problem within the organisations. Additionally the availability, the ease of adoption was also a major trigger for the adoption. In most of the organisations the process was that a scattered portfolio was exposed due to slow or erroneous processes. The scatteredness called for a change in policy and the ease of adoption enabled

FACTOR	A	B	C	D	E	F	G	H	I
Technology									
A.1 Characteristics	X	X		X		X	X	X	X
A.2 Availability	X	X		X		X	X	X	X
Business									
B.1 Communica. Processes / Linkings	X	X	X		X		X	X	X
B.2 Size / Slack			X						
External / Environmental									
C.1 Industry / Market Characteristics		X	X						
C.2 Regulation / Tech Support Infrastr.		(X)				X			
Strategic									
D.1 Strategic aspects	X	X							

Table 5: Factors-Cases results matrix of conducted interviews

the organisation to quickly find a consensus of an ECMS. So the availability plays a key role within the actual adoption decision process as well as the ECMS selection process. It bridges and interfaces the two processes. The communicational processes and organisational linking structures also interfere in the technology domain as they are the intangibles that affect the negotiations and discussions. That is why this was also a critical factor for adoption in these organisations.

The size and slack of an organisation actually played an insignificant role in the adoption process. The decision to adopt an ECMS was driven by slack in only one case. It is mentionable that this was also a spin-off in early stages and allowed for a high amount of slack and creative time in the early stages of the business. Adoption of ECMS was mostly discussed in an informal way. It is also mentionable that case I has the potential to qualify for the slack factor. In fact, there is no real, solid adoption process yet. It is on its way and it is clearly understandable what is happening and how it will play out, but at the time of the interview, it cannot be counted as slack as there is no clear path of a discussion that is driven by slack, since it is pressed by one person only.

Industry and market characteristics were important in 2 of 9 cases. These two organisations are strongly intertwined within their industry and have a strong relationship with their partners. These characteristics require them to have ECMS style systems in place in order to perform well with their partners, and also for the partners to perform well. Organisation C manufactures products that are used by other large industries which have to comply with regulations so their relationship requires accessibility of information and collaboration.

Regulation and technology support infrastructure were majorly important for 2 of 9 cases when deciding to adopt an ECMS. Organisation B posts the second

factor that is characterised by external pressure. As a governmental body organisation B typically is heavily influenced by external factors and faces regulations from all different kinds of stakeholders. Information needs to be accessible for the public and any kind of information and records needs to be stored and able to be archived. This strongly requires a system of ECMS nature. In the free industry, organisations only have to be able to comply with very basic regulations in the studied countries. Public bodies have to serve the public, which requires a more strict approach when complying with regulations. Organisation F faced strong external legal drivers that made the organisation consider to adopt an ECMS. This played the key role in that case.

Strategic aspects majorly influenced and drove the adoption in 2 of 9 cases. These cases also experienced the best outcomes when adopting and operated on clearly defined guidelines that enabled everyone to participate in the adoption accordingly. For organisation A, the driver to adopt an ECMS was mainly strategic. They strongly needed to start collaborating among the offices and the new proposed business strategy required an ECMS style platform. The more detailed guidelines on choice and implementation were stated in a clearly defined and agreed IT strategy. Organisation A's adoption process was the best among all the accessed organisations, as they had strong drivers, no difficulties in choice and clearly defined milestones. Organisation B is structured within a large public organisation which has to comply to strict rules and regulations. The upper instance postulated clear guidelines on which IS/IT systems have to be introduced and what records have to be stored and available, this hugely drove the decision to adopt an ECMS. The strategy was given and included a clear vision and guidelines. However, the interviewee did mention that this strategy was not enough for the long haul, since there is no interface for records within other departments across the public bodies. But having a strategy guideline for an ECMS adoption within the organisation is something the other cases completely lacked. The two cases also showed superior outcome of adoption and a more successful implementation of their ECMSs compared to the 7 other cases that did not entail a clearly defined strategy and were merely driven by technological aspects and consolidation of randomly grown IT landscapes. However, the main question within this context was answered by everyone in the same way. Asking the interviewees if they would have favored are more strategically guided and aligned approach, all of them confirm that a more mature and aligned IT-strategy would have achieved better results and supported the decision process.

Generally, business and technology are seen as the major factors for ECMS adoption, however, an organisation's landscape is not scattered from one second to another, it builds evolutionary over time and grows. The actual driver triggering an adoption and tackling the problem of scatteredness is either a fundamental change in business (case A, C) or an external evaluation/assessment of the organisational landscape and performance with regard to their systems (case B, F). These 4 (A, B, C, F) out of 9 cases are a large portion (44% of all cases), considering most organisations think of an ECMS as supportive for collaboration and delivering well structured and easily accessible content. Which is a com-

mon sense goal, still these 4 cases show that change happens through broader influences than just management recognising an unfavourable IT landscape. Additionally, 2 (E, H) of the 5 cases with no major event influencing adoption, are IS/IT related organisations which are more focused on their service delivery being digital than the other 3 (D, G, I). Organisation D switched systems for convenience reasons, case G adopted a new system due to financial and communicational reasons, firm I because of anticipation of ECMS functionality which might be needed in the future. To point out another difference in the 4 organisations which adopted due to fundamental business changes, these are also some of the biggest ones among the cases. Holistic overhauls in business structure or deep assessment landscape characteristics drove 60% of the organisations with more than 1.000 employees (3 out of 5) to adopt an ECMS.

6.3 RESEARCH QUESTION ANSWERS

In order to answer, what the motivations and decisions are, that drive the initiation of an organisation's ECMS project are and how those relate to the organisational IT strategy, the established sub questions are answered.

a) What are the key problems and challenges organizations face with their ECMS?

The key problems and challenges identified at the organisation are related to the lack of guidelines and guidance for the users. If an organisation cited that it had problems with the acceptance rate or issues with users handling the system in the right way, it also reported that trainings and guidelines have not been conducted from the beginning. Except for once case (B), where that was thought of before, but inner-departmental social problems prevent a full acceptance rate. The second key problem is concerned with the integration of the ECMS within the application portfolio. Companies that heavily utilise Microsoft Office majorly decided to adopt Sharepoint. Case C even switched from their original ECMS to Sharepoint because of acceptance and integration issues, which were also related in that case. However, these organisation mostly adopted 'out of the blue' and without clearly defined borders and guidelines. The major problems organisations face within the adoption process were related to lack of guidance and an immature or non-existent IT strategy that could have potentially mediated between business and IT. Another point which could be utilised in further research is the involvement and actual knowledge of top-management about ECMS and their view on it. As seen in cases and G, management purely pressed for low-cost functionality which did not play out and leads to more expenses than necessary in the first place.

b) What drivers and decisions led to the adoption of an ECMS?

Looking at the overall picture, the most often cited driver was a scattered application that resulted in poor document handling, as there was no search function-

ality or central repository. Furthermore, with a new generation of systems that enable real-time collaboration, sharing and collaboration in order to improve processes and to provide a central repository have also been cited. For most of the cases, the key drivers are related to business process and communication and sharing, or to the application portfolio and internal characteristics such as systems integration. Only two cases showed key influences from external parties and two others showed that their drivers were driven by their strategy, although one case did not have an IT strategy in place on their own, it was a higher entity that required them to comply with their regulations, which demanded an ECMS. As mentioned in the discussion section, it is necessary to put the strategic aspects into perspective as well. Organisations that did not choose to adopt based on a strategic driver and did not have a well enough IT strategy also encountered major issues after the adoption phase. The two organisations that adopted an ECMS based on and supported by clearly defined strategies also turned out to be the cases where, at the moment, there are no substantial issues related to the adoption. At organisation A, the adoption was also greatly aligned with the global business strategy, which put the adoption efforts at the center of decision making and realising its advantages as a system that can be of high potential for the organisation. However, plain technological aspects were the most mentioned drivers, this includes lack of functionality within the organisations systems and a randomly grown IT portfolio.

c) Would a higher alignment of the ECMS implementation approach with regard to the IT strategy have helped to prevent problems?

An interesting point that was made by the majority of interviewees is, that there is no actual IT strategy at the time and that this is being worked on. That is also why only two cases clearly showed a relation between an IT strategy and the need to have an ECMS in place. Most of the organisations did not have an IT strategy in place at the time. Answering the question directly, all of the organisations mentioned that looking back, a more strategically aligned approach and proper guidelines for the project would have helped to increase the overall adoption experience and success rate.

The identified key drivers of ECMS adoption have been shown and set into organisational and strategic perspective. Positioning this research in the big picture, it is necessary to look at these factors beforehand to establish the right setting and be prepared for possible setbacks. However, it is important to solve as many issues as possible beforehand. For instance, if the requirements are elicited in an improper way, the system is more likely to fail, the same is valid for guidelines/manuals and trainings. Top-management support avoids the creation of team-islands and prevents scattering and low acceptance rates. The seemingly most successful and case was also the one with the most confident and holistic preparation beforehand. This is in large due to the immaturity of the established IT strategies within the organisations.

6.4 DISCUSSION

The utilised framework has been used in different studies related to this one before. Previous sections outlined the decision process to use the framework and add specific questions to it to be able to access the organisations properly and give the interviewees enough time and topics for them to express the issues that the organisations dealt with during the adoption decision process. During the interview process and the aftermath, it became evident, that the chosen topics and questions have been selected well. There was no case where the problems encountered or the the major decision drivers were not addressed by one of the interview questions. However, this is somewhat skewed by the fact that only one staff member per organisation was interviewed, which prohibits a greater generalisation and a deeper insight from different points of view. Additionally, the questions might lead to suggest the interviewee that only the topics addressed by the semi-structured interview could be related to questions of adoption decision drivers. The framework was also used before, even in studies that incorporated more than 2000 organisations, overall it is considered valid. During the interview process it also became evident, that the framework could possibly be extended with rating functionality for a better depiction of the actual results of the interviews. A possible solution this could be the introduction of a Lickert-scale assessment for the interviewee for the specific topics addressed. This way, a depiction of each organisations drivers and issues could be achieved as a layer on top of the framework, which would raise the comparability among the organisations and make it easier to identify key drivers and issues that organisations tend to encounter.

Related to the framework and emerged themes, it becomes evident that financials emerged as an important point. According to the used framework it is seen as a factor in technology availability. Furthermore, as it emerged as a point almost every case made in a certain way it might also be elevated as a stand-alone factor in the business context. However, this exploratory research mainly examines the factors that ultimately lead to the decision to adopt an ECMS and if problems occurred afterwards. The financial factor plays a key role when it comes to the choice of the system, but not when the decision to adopt an ECMS as a whole, no matter which specific system it might be, is made. The financial aspect was mentioned by the majority of the interviewees in a way that was related to choice of the system. Organisation A, D, G, H and I specifically stated this in relation to the choice of the system. Others had either appropriate funding or a different major influence why a specific system was chosen, for instance the easy integration into application portfolio or compliance with external parties to enable more suitable interfaces. Taking this into account, when researching ECMS adoption drivers and decisions in that process, it has to be ensured that the scope is clearly defined and differentiate distinctly between adoption and implementation of ECMS. This can be done by a plausible positioning of the research within the ECMS domain. As for this exploratory study, financials played a role in 3 cases but mostly concerned with the selection of a system and not as a driver for adoption itself. Only organisation G can be seen as a case where financials

also majorly influenced the adoption itself, since the management aimed for a low-cost, "let's just try this"-approach.

The model contexts and factors matched the interviewees position and concerns. The fundamental TOE framework was a good holistic tool to access the general drivers and decisions for ECMS adoption. This study also takes a closer look at strategic influences in these decisions and thereby extends the basic TOE framework. The additional questions asked during the interviews were mostly located within the strategic area as well and focused on why there was no mature strategy in place and how the organisations plans for the future are laid out. Every case interviewee took the position that it would have been significantly more helpful if there would have been strategic guidance during the process. This is especially true with regard to internal coherency of file systems and data types (eg. Sharepoint matches Office) as well as the type of ECMS, as interviewees have seen the cloud as an option as well. Moving to the cloud however, would require a stronger strategic approach to IT and a more mature alignment between business and IT as it entails more than just a sole system, but affects the IT architecture as a whole. As the strategic perspective was left open for discussion, figure 19 depicts the new proposed TOE framework with added strategic factors to assess the drivers and decisions that led to adoption of ECMS.

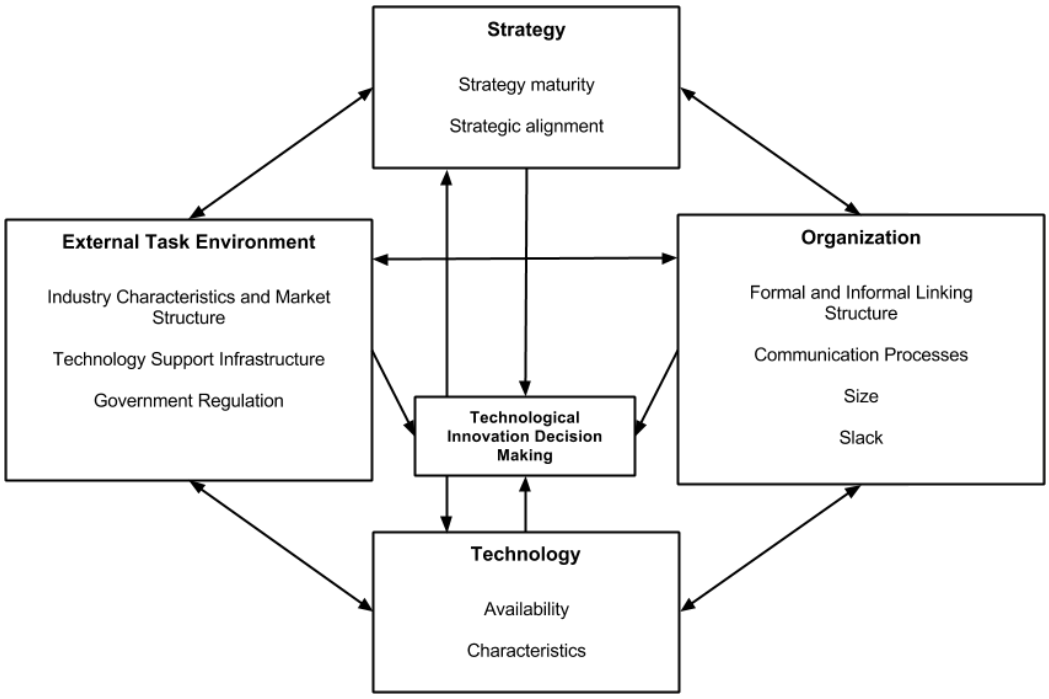

Figure 19: Schematic depiction of the proposed TOE framework with added strategic factors for ECM adoption research

The factors have been chosen based on the mentions by interviewees and how severe these factors influenced the decision. Most interviewees pointed out that their general IT strategy is either not mature and does not include clear guidelines or has not been developed at all. So maturity in IT strategy has been a major issue for organisations when adopting an ECMS. In some of the cases the

lack of a clear IT description also resulted in adoptions that turned out to be harmful and not helpful. 3 of the cases even adopted a different system after a first adoption failed, and took strategic aspects into larger account than before to ensure there is a clear alignment between IT and business and that the system actually ensures to help business and provide an advantage for it. Taking these observations into account, the factor of strategy maturity becomes evident. Additionally, the level of strategy alignment between IS/IT and business is a factor. As observed in case A, a strategy does not necessarily has to be very mature to align business and IT. The general strategy and IT strategy was still in development but it already specifically laid out alignment guidelines to pave the way for fast and directly steered adoptions, making it easier for the decision makers to operate.

Another discussion point in the framework is the use of technological characteristics, such as degree of scatteredness, and the organisational characteristics such as linking structure and communicational processes. It seems that these too are dependent on each other and cannot be entangled. If there are scattered systems in an organisation, the case also cited bad document handling and no search functionality als drivers to adopt an ECMS. Future studies have to observe this behaviour and have to distinguish more strictly in the definition of these two factors in the light of their dependence.

The next chapter concludes this research and proposes basic factors and drivers which have to be taken into account when making adoption decisions. Additionally, the interview experience and the contribution to the ECM domain are outlined.

7 CONCLUSION

This exploratory research examines the drivers and factors that influence the decision to adopt an ECMS. The assessment is based on an established framework and specific questions with relation to the organisation's strategy are added in order to assess the whole picture of factors that might lead to ECMS adoption.

Considering the interview data, it was extremely insightful to see how large organisations which are international operating manage their IT decisions and how most of the decisions, from a long term-planning perspective, are actually made by random chance not usually driven by strategic guidelines. Especially cases where the implementation largely failed due to not taking foreseeable issues into account were interesting. Beforehand, it would not have been imaginable that large organisations (>1000 employees) partly fail disastrously (i.e. case F) at managing their decisions and adoptions.

This research contributes to the overall ECMS research area, as there has been only few cases on adoption decisions, Munkvold et al. (2006) and Alalwan and Weistroffer (2012) also called it a significant gap in this research area. This exploratory study gives insight into the drivers and decisions that led to the adoption of an ECMS system and therefore aids to understand why organisations actually choose to do so. It is also valuable to see if the relation between strategic or informal adoption process influences the failure or success of an ECMS. This substantially helps to understand new perspectives in the area and provides a bigger picture of influential factors for ECMS success or failure. Especially in the age, at which organisations think about a cloud strategy, an alignment between IT and business and the strategic factors of the proposed TOE have to be taken into account, as those changes require a high level of thorough communication and clear guidance.

But it also contributes to the non-academic field. Lessons are to be learnt from these cases, as problems and issues are revealed and some organisations are not clearly thinking about the reasons and drivers before the adoption process is initiated. This is especially true for the strategic aspect. The interview suggest that organisations have to think more about the future and what systems should or should not be used to actually support the business processes in place. This seemed to be a major issue at the majority of the companies which have participated in this exploratory research. To tackle the vast increase of data and information in the future, it is essential to utilise and establish guidelines and strategies and align these, in order to avoid the mistakes the majority of organisations in this exploratory research did.

To provide some fundamental guidance for the non-academic field, the following section outlines the major factors to take into account when the idea of adopting an ECMS is starting to become real in an organisation, which are based on the results of this exploratory study.

7.1 FACTORS TO CONSIDER

This section emphasises on the observed factors which have been explored in the case studies. Some major factors are highlighted and mentioned which should be taken into account in order to prevent ECMS adoption failure and costly mistakes.

- *1. Planning / Strategy*

Having a solid IT-strategy or at least a fundamental alignment between IT and business greatly supports a successful adoption. Case A is a prime example of how adoption can be driven fundamentally by a clearly defined strategy and how this influences the adoption planning, process and outcome. All of the interviewees stated they would have prefered are more clear IT-strategy when adopting their respective ECMSs and said that guidance would have significantly helped. Cases F and G depict what happens when an organisation lacks strategy and planning related to their IT. Organisation G adopted an ECMS system as 'trial and error', which is not an effective way of tackling problems, given it is a large organisation with more than 80.000 employees. Case F completely failed taking a strategic perspective into account. They did not plan for resources, IT did not have the time to do an additional project on the side, despite the lack of ECMS functionality causing a major breakdown in the organisation. Management adopted an ECMS but did not implement it to date. Case F is also the organisation which is the only one completely lacking any guidance or strategy related to their IT or business-alignment. These cases and the fact that all interviewees stated a more mature IT strategy would have increased the adoption experience, lead to this point being the most important to consider at the start of an ECMS adoption process.

- *2. Integration*

The integration of an ECMS and how it fits in the technology utilised at an organisation is an important aspect. This exploratory study shows that organisations which did not take this into account, thought about switching to a system which is much more integrated in the established technology of the organisation and also supports the end-users needs. An adoption of a system which does not cohere with end-users experiences or interactions is likely to cause trouble and be refused by staff. A system which does not fit the technological business environment and lacks clearly structured and easily accessible / modular interfaces has a negative effect on business processes. Additionally, self-made interfaces consume resources and money, which should be used for the system itself and a proper adoption and integration planning. Two cases adopted a system which only provided basic interfaces with their office software, which posed large problems once the ECMS was in place. It was not taken up as frustration rose staff.

Both organisations decided to switch to a system which is manufactured by the same company as their office environment is, this raises the degree of integration and provides the best possible interaction between the ECMS and office environments. However, Case A shows that an environment which is put together by different services can succeed as well, it is a matter of organisational and technological fit which each organisation has to decide upon their own, and it is an important decision to avoid costly mistakes.

- *3. Financials / Support*

Financials do not pose a major factor in adoption decisions itself, only in the stage following adoption, the selection phase (Alalwan & Weistroffer, 2012). However, financials influenced the adoption process as well at organisations C and G. Management put financial pressure on the adoption decision without any further involvement and did also not fully support the adoption. The result was a poor choice of ECMS and eventually led to both organisations switching systems some years after their first ECMS adoption, due to poor integration, lack of functionality and unsatisfactory end-users. In those cases, financials played a negative key role in adoption, as it forced the organisation to adopt a system which did not fit the organisational needs. Additionally, management only supported the initial idea and lowered involvement as the project went further. Summarising this, financial constraints and poor management support led to a wrong investment decision and ultimately might have cost more than adopting the right but more expensive system from the very beginning. Taking this into account, putting financial aspects below the importance of organisational and business fit, prevents investment failures and leads to a higher chance of adopting a system which solidly contributes to business operations.

Seeing financials as an adoption driver, an organisation has to weigh between the costs of continue to run on current systems or adopting an alternative which is suited better for business performance. This view view bridges the adoption and selection domains as mentioned by Alalwan and Weistroffer (2012).

- *4. Scatteredness*

44% of organisations in this study adopted an ECMS while also overhauling the general business or receiving warning signs from external evaluators. There is no need for an organisation to wait till the signals cannot be ignored anymore. Forward thinking is necessary when looking at technological aspects of a business. A scattered IT portfolio needs to be managed, and single island-style evolution of systems needs to be controlled if existent. An organisation should aim to avoid a high degree of scatteredness as negates all the benefits technology provides to an organisation. It prevents standardization and leads to less control over your content and processes. Considering this study shows that only 66% of organisations think about this on their own without any major events occurring to rethink the situation, it is an important factor to point out.

- *5. Employees*

A successful adoption of an ECMS is not only done by considering the 4 factors mentioned above, it also includes preparation of employees and supporting them during the initial period when implementing an ECMS. Making employees feel comfortable and providing them with workshops on how sharing and assessing content works within the given business process is fundamental for an ECMS to succeed. This is not necessarily true for very small enterprises (as case D) shows, but mid-sized to large organisations generally gain strong benefits from supporting employees actively. Case B demonstrated this, as the interviewee is sound about the rate at which the system has been taken up, utilising active workshops and trainings.

The major points to consider when adopting an ECMS are summarised in table 6 in order of importance. These are to be considered to significantly support the ECMS adoption process, really deeply understand what drives the adoption in its core and to know which common problems to avoid.

FACTOR	IMPORTANCE
Planning / Strategy	very important
Integration	very important
Financials / Support	very important
Scatteredness	important
Employees	important

Table 6: Overview of major points to consider in the early ECMS adoption decision phase

The last chapter offers a discussion of the limitations of this exploratory research as well as the outlook for future work on the subject matter. Possible limitations are taken into account and discussed and lead to suggestions for future research which should be done in the domain to establish deeper insight into the topic at hand.

8

LIMITATIONS AND FUTURE WORK

This exploratory study resembles the efforts and initiatives of ECMSs in organisations across the globe. The organisations involved established headquarters in Australia and the Netherlands, but are mostly active across other countries too. The majority of them even across continents. The findings account for organisations which largely operate in developed countries and not for companies in countries with less strong economical circumstances. Similar results might might be seen from a organisational perspective, but the external and environmental perspective is contrasting in underdeveloped countries as they operate on distinctive regulations, which, as this study shows also influence decision making in ECMS adoptions. Additionally, as Rajapakse and Seddon (2005) point out, the cultural convergences and management styles which differ from the ones implemented in developed countries, make it hard to adopt such a holistic system. Furthermore, they state these are the reasons organisations in non-developed countries favor a smaller modular approach and are not adopting systems which would change the landscape of an organisation and would change their management abilities (Rajapakse & Seddon, 2005). In total, 9 subject matter experts people involved into the initiatives at their organisations contributed. This might be to few to give general advice which coheres with the majority of organisations worldwide. Patterns are recognised among the examined organisations and a set of topics that need to be taken more into account is derived from the studies conducted.

Another point is the number of individuals interviewed. One person involved into these projects might not properly reflect the thinking and decision making at that time in a proper way. The world consists of different 'realities', opinions from different angles might help to shape a bigger picture and a more consistent description of the undertaken approach. The time of the thesis and the amount of time available by the organisations typically did not enable it to take opinions of more than 3-4 people into account, which would be a sufficient amount to consider a proper, truthful and more coherent description of the actions. The interviewees were in appropriate positions assess the adoption of ECMS at their organisations, still interviews based on one person might be skewed.

Future research in this area could reveal stronger dependencies between the elaborated factors and give further insight into the process of ECMS adoption. As this study proposes a framework to assess the decisions and drivers, more focused research could establish process-based guidelines and more consistent and fundamental guidance for the industry on which points have to be considered for ECMS adoption and lay out a practical plan on how to approach such a project.

An additional point of interest is the financial aspect, despite most business de-

cisions being made based on financials, the interviews did not reflect financial factors as heavily influential when deciding to adopt an ECMS. It has to be mentioned that this was not the focus of this study, as financial aspects belong to the process of which ECMS to choose when adopting one. These too domains have to be treated separately as described in the framework for ECM research model by Alalwan and Weistroffer (2012, fig. 5). Financials do not play a key role when making the decision to adopt an ECMS, but might be a key factor in the choice of ECMS, which is addressed in this study but not the focus, since this study is positioned within the adoption domain of Alalwans and Weistroffers (2012) framework.

Interesting future research topics should go into the direction of assessment between IT and non-IT organisation, as this seems to be a factor as well. Additionally, more research in the financial and cloud direction could give significant insights. Research which is more connected between ECMS adoption and ECMS selection is also necessary as seen in the high interconnectedness of the instruments used.

In general this exploratory research is successful as it explores the field of ECMS adoption for a first time and pinpoints ideas and problems within the area. It proposes as basis on which further research can be conducted and examines typical issues in scope and limitation of ECMS adoption research. This study serves as a basic overview of the ECMS adoption field and as a fundament for future researches which can gain valuable insights provided by this study.

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A

INTERVIEW QUESTIONS

General questions:

- Please describe your organisation. [size, structure, general strategy]
- Do you have clear statements for an IT- or knowledge management strategy?
- Are you satisfied with the alignment of IT and business strategy overall?
- How old is the ECMS / When did you introduce the ECMS?
- What were triggers / events that resulted in the decision to adopt the ECMS?

Model questions:

- Q1.1: Was your application portfolio scattered and the adoption was part of a general overhaul initiative in the organisation?

- Q1.2: Did your processes not have the quality they could have had?

- Q1.3: Did you adopt an ECMS because it was easy to adopt, meaning information/support was easily available and the ECMS was fit for the technology in-place in your organisation?

- Q2.1: Do your communicational processes demand an ECMS?

- Q2.2: What was the adoption approach taken? Was it top-down with managerial support, or bottom-up and pushed by employees or teams?

- Q2.3: Did employees innovate new processes that demanded an ECMS to support the improve processes?

- Q3.1: Did you choose to adopt an ECMS because of the positive effect on existing partnerships?

- Q3.2: Did you choose to adopt an ECMS because of external and competitor pressure or imitation/mimicking?

- Q3.3: Did legal issues make you adopt an ECMS? If so, has it been due to data security or privacy issues or due to archiving laws?

- Q4.1: Was there a clear (functional etc.) relation between the organisation's strategy and the ECMS intended functions before the adoption? Was the ECMS maybe even part of an IT-strategy ?

- Q4.2: Looking back, would you favor a more strategically aligned adoption or a more mid-level, problem-solving adoption?

Additional questions:

- What was your role in the decision process?

- Was there a clear (functional etc.) relation between the organisation's strategy and the ECMS intended functions before the adoption?

- Are you currently satisfied with the overall ECMS performance?

- How many and what changes of the ECMS have been made to increase functionality and achieve a higher integration and therefore strategic alignment?

- Looking back, would you rethink the major decisions made during the adoption process?

- Do you have any more ideas on the overall topic?

- Do you have any other comments?

B

INTERVIEW TRANSCRIPTS

- please find the transcripts in the digital version -

C

INTERVIEW TRANSCRIPTS

C.1 INTERVIEW A

Position: International Project Manager
Location: University of Melbourne - Skype interview

General questions:
- Please describe your organisation. [size, structure, general strategy]

Interviewee: We are a global organisation of approximately 4400 users. Our structure, we are spread across, I guess 28 national regional offices, which are independently run at each office level. So it's like a federated group of offices. The offices report in, not for the purpose of reporting up, but reporting across, because the offices generally share knowledge and lines of work. And some funding across the offices. And the general strategy, well it's [organisation name].. so yeah.. the general strategy is to bring awareness to the public.

- Do you have clear statements for an IT- or knowledge management strategy?

Interviewee: There is a global IT council that is currently in process with an IT strategy that they are working on, they didn't had one before. All the offices worked independently on an IT level, now they are beginning to recognise the need to coordinate the efforts a little bit better because our operating model is in the model of being changed, and so.. if you want details I can find it..

'***Interviewer:*** Ah yeah you can send them to me later on, no problem.

- Are you satisfied with the alignment of IT and business strategy overall?

Interviewee: Well we've never been aligned in the past. The way the organisation is run is sort of campaign to campaign, there hasn't been a whole lot looking out for the past 3 years probably for any office..

Interviewee: So it's an interesting period, I started in the beginning of June and that's sort of when all these discussions started or where under way and they haven't been implemented yet. The new operating model is not going to be implemented until next April. There is no real alignment.

- How old is the ECMS / When did you introduce the ECMS?

Interviewee: Actually there is no traditional ECMS here. Every office sort of has their own file servers, and then maybe 1-2 years ago, an intranet was imple-

mented and people began using that as sort of ECMS or DMS, because it's online, it's on the internet, everyone can access it globally. It was the first access point that could be accessed for storing globally from our office employees.

'***Interviewer:*** Is that used heavily right now or just some usage from time to time?

Interviewee: It's used incorrectly. It's only internal first of all. It's purpose is really to be a social space for people to talk about what's happening within their unit, within their NRO, things that are going on with projects, it is not really supposed to be used as a document management system.

Interviewer: Ah ok so it's not about project's specifically but more about coordination and collaboration.

Interviewee: Yeah, more about news and events and coordination kind of a thing. If you're looking for something it will point you to the right place. You know like a directory kind.. that's all it's meant to be. So I was brought in at the beginning and was told that my first project was going to be the implementation of a document management system, so I started investigating document management systems, put together a working group. And have chosen one actually just this week, and we're gonna talk to the vendor later today and begin a pilot in january. So this is the first real document management system that the organisation will have.

- (What were triggers / events that resulted in the decision to adopt the ECMS?)

Interviewee: It was the recognition that the organisation needs more than just the offices, it needs to be a real, true global organisation. And that means providing all of the staff a way to work better collaboratively. So the need for better collaboration across projects, across communications, just for so many reasons.. fund raising, financing, distributed campaigning, HR, everything. We need a better way to work. And it was determined that a centralized document management system would give everybody sort of that centralized collaborative space to work from. If we provide them a better repository, then hopefully we can teach them and train them and manage the change over to it, so that it is used effectively.

Interviewer: What kind of system was there in place before? You said the offices had different means to store information, did they all have the same software or did they use different software?

Interviewee: Every office used whatever was best for the office. Our german office is really big and it's run in a completely different way than other offices, they are very Lotus Notes based. So they've got a full on Lotus Notes document management system in place and we gotta be working on that for two years, be-

cause they are so big and so established. Whereas we've got a number of smaller offices, I work at the international office which is different than the dutch office, but because we are so close together, we'll probably adopt it simultaneously. The US office I think is already using Google quite a bit, so they use it differently. Some use Google, some use local file servers, a number of offices are actually using Lotus Notes, there is all kind of flavor out there.

Interviewer: But you're going to switch to Google Apps?

Interviewee: Also, but not as document management system, we're gonna move to box.com. We're gonna do that slowly over the course of hopefully just a year, but I have the feeling some of the offices are maybe slower to adopt that.

Model questions:

- Q1.1: Was your application portfolio scattered and the adoption was part of a general overhaul initiative in the organisation?

Interviewer: Yeah it was probably scattered right!?

Interviewee: Yeah..

Interviewer: But was it part of a general overhaul? Did you rethink the structure of the complete company or was it really just focusing on this thing?

Interviewee: It was really just focusing on this thing, but there was a lot of discussion around it in the IT community. As a result I asked the question to the IT council 'if we choose a document management system that goes in specific direction with technology, are we choosing a tech direction for the organisation or should we choose a tech direction and then base the choice of the document management system on that direction', and that what the IT council is discussing, an overall IT strategy. It wasn't just this project, there are a number of larger projects on the way and I think just the sort of the.. the amount of projects running simultaneously drove the IT council to sit down and write down a strategy.

Interviewer: That's what they are doing right now?

Interviewee: Yeah. So it was sort of a chicken and egg scenario. I didn't want to choose Sharepoint for instance, if we weren't gonna go with Microsoft technology base in the whole organisation. The discussion was that we should probably stay with the Google base. So actually I took Sharepoint out of the choices available for our document management systems as a result.

- Q1.2: Did your processes not have the quality they could have had?

Interviewee: I would have to say the new operating model that is being implemented, part of the reason it is being implemented is that we have better

oversight globally across offices to see what's happening. Because currently it's a 'please may I have your information' request, there is no real process, because it's.. because we are not structured like traditional corporations. There is no current executive structure in place that can say I want this and that information to see what happened third quarter last year, it's not like that. So the new operating model that is getting put in place will hopefully solve some of that. So that there is more transparency across the entire organisation for everyone in the entire organisation. Also, processes are going to be put in place.

- Q1.3: Did you adopt an ECMS because it was easy to adopt, meaning information/support was easily available and the ECMS was fit for the technology in-place in your organisation?

Interviewer: Did you adopt box.net and Google beacuse it was 'easy' ?

Interviewee: 2-3 years ago the head of IT he began a project to implement Google Apps, he got everybody first on GMail and then on Google Apps. That was already there. After the IT council made the decision that we're gonna go with Google based or SaaS based technology, it was easier to make the decision about who we're gonna go with, we had done a vendor analysis and so yeah, I believe that technology is gonna fit the organisation rather well, in the way that we will work a lot with it, 70-80% of theo rganisation already work very well in the cloud but there are adoption problems for all sorts of reasons for the remaining 20-30% of offices, whether it be bandwith problems or training issues, people who just have gotten up to speed with working in that method (cloud). But I think it's a good technology fit for the organisation. And yes, support will be much easier when we utilise box, I think. I still have work through the support structure with them and get that all aligned with our own internal support, because box themselves are gonna be third line support, not first line.

- Q2.1: Do your communicational processes demand an ECMS?

Interviewee: I would say that they will. The changes that we know are coming will demand a document management system for document storage and collaboration, definitely.

- Q2.2: What was the adoption approach taken? Was it top-down with managerial support, or bottom-up and pushed by employees or teams?

Interviewee: And I am moving into the next question, it's gonna be both, it's going to be top-down and bottom-up.. and the reason it's gonna be both is, our working group consisted of both. I had a steering committee that is making the management decisions for the project and a working group made up of about 25 staff across all the NROs, who also said something about the requirements and what would people would like to see, they viewed demos and gave feedback so they know what's coming. So my goal was to have it top-down and bottom-up,

cause I think you get a better adoption that way.

Interviewer: It was supported by, well the IT council probably approved of that and they are in charge?

Interviewee: Yes they are in charge of the IT, but not about the business itself.

Interviewer: But they also supported that initiative?

Interviewee: Yes, absolutely.

- Q2.3: Did employees innovate new processes that demanded an ECMS to support the improve processes?

Interviewee: They will innovate new process. Or what will actually happen is that we will review the processes that are actually in place as we roll out the implementation across the offices and the groups. We'll be reviewing processes that exist and possibly adjusting them to be more streamlined. But I think what will happen is that we implement the existing processes first and then these processes will be reviewed and hopefully improved with the use of the document management system. Because box has workflow implementation built-in, it allows that.

- Q3.1: Did you choose to adopt an ECMS because of the positive effect on existing partnerships?

Interviewee: I wouldn't say existing partnerships externally, but internally yes.

Interviewer: So among the offices?

Interviewee: Yes.

Interviewer: Do you have a lot of external partners?

Interviewee: No, not that I am aware of, I could be too new to be aware of.. I know that we do partner with other organisations in certain kinds of campaigns, regional campaigns we partner with other NGOs and other groups.

Interviewer: But they do not necessarily have access to your document management systems?

Interviewee: No, not at all! Just across the offices. It's not an external thing. We may share a thing or two occasionally with the press or with other legal departments somewhere, or you know..

- Q3.2: Did you choose to adopt an ECMS because of external and competitor pressure or imitation/mimicking?

Interviewee: No. It was completely based on our own work. Requirements and operational changes in the organisation.

Interviewer: There were probably some organisations that have a similar structure to yours, for instance [name..] did you have a look at them or was it internal only?

Interviewee: No, this was strictly internal. It's not to say that we don't look at the other companies for our projects, but for this project no.

- Q3.3: Did legal issues make you adopt an ECMS? If so, has it been due to data security or privacy issues or due to archiving laws?

Interviewee: No. And actually data security and privacy issues are HUGE, HUGE discussion right now. Archiving laws aren't even an concern, at this point of time our legal departments probably have that under control although they are excited to be able to utilise a document management system for archiving purposes. But data security and privacy, especially as it relates to the US, the Patriot Act, and other government requests, has been a HUGE discussion, because so many countries have their own internal laws, that require data to be stored in a certain way that we've had to made sure that the document management system we use can align with all legal requirements globally, which is really tough. And then, being the organisation that we are, we have our own privacy issues.

Interviewer: Yeah I can imagine.

Interviewee: So we just wanna make sure nobody has access to certain kinds of data, because that would jeopardize what we do. I mean, in advance, like if we're running a campaign, and we're targeting a company that is not doing good or something like that, you know we wouldn't want them to find out in advance, that would derail something that took two years to put in place. So we've got some major privacy issues.

Interviewer: It probably a problem if you adopt a SaaS product then, is there a discussion on that?

Interviewee: Huge discussion. We have a CIO, who's worked very closely with legal for a long time now, and put risk analyses and a huge write-up about the security of the SaaS solutions which tends to be better than in-house managed servers, believe it or not. SaaS tends to be more secure. The concerns aren't necessarily security if you work with SaaS but privacy.

Interviewer: Governmental requests and such.

Interviewee: Yeah which becomes moot at some point. Governments can request it, and whether it is done long-run or digitally, request is request. At some point you have to provide the information. We just hope it doesn't happen with-

out us knowing it. We should know. That's the biggest privacy issue. Also because we do fund-raising. For anybody who houses information about donors, it's a problem.

- Q4.1: Was there a clear (functional etc.) relation between the organisation's strategy and the ECMS intended functions before the adoption? Was the ECMS maybe even part of an IT-strategy ?

Interviewee: No, like I said they sort of evolved simultaneously, the strategy and the document management system project, so there was a relation between it, it sort of evolved during the lifecycle of the project. We're not really done with the project, it evolved in the lifecycle of the vendor analyses portion in fact.

Interviewer: But you're trying to align both together?

Interviewee: Yes absolutely. And the document management system is definitely part of an IT strategy. Whether it was intended or not, it is part of an IT strategy. And my goal was to not have a document management system driving the IT strategy, but to be driven by it.

Interviewer: Will you go on like that, like if something new pops up, will it be in the strategy then very quickly or is it more 'well in 3 years we're gonna do that and add that functionality'?

Interviewee: Well, we're actually beginning talks with, we have a lot of questions coming out of the data security and privacy issues for instance, archiving laws things like that. We had a lot of questions that Box couldn't answer upfront, and as a result we're gonna have product roadmap discussions with them about where they are going to make sure that years down the road, they are still going to be the right solution for us. We're trying to make sure everything stays aligned, you know we don't wanna say in 5 years we made a huge mistake and have to switch again. This should be a solution that fits us for a minimum of 5 years, hopefully longer.

- Q4.2: Looking back, would you favor a more strategically aligned adoption or a more mid-level, problem-solving adoption?

Interviewee: I guess looking back it would have been better if there would have been an IT strategy.. a really solid one put in place, but the maturity of the organisation itself wasn't there.. I mean it would have been nice, I would really have appreciated it, would have given me more guidance, but at the same time, I think the way that things happened, turned out to be just fine. It would have been nicer if we would have been moving along the vendor analyses a bit more quickly but as a result we ended up.. we're moving into a really good product, I think it's gonna be the right choice for us. Especially, given that Box is willing to have product roadmap discussions with us, because they are a big enough cloud based vendor, because they're willing to look at their own energy usage

and make adjustments to fit our own climate and energy strategy, because they are willing to look out whether they work good enough with Google in a certain way and possibly make adjustments for us. That will rollout to the rest of their client base as well, you know I feel like it's gonna be a good partnership, because they are so flexible and supportive. And they also implement data centers in the EU. So that also works to our advantage.

Additional questions:

- What was your role in the decision process?

Interviewee: I was the project manager, so I basically facilitated all of it. I didn't make the decision myself, I made it possible for everybody else to make the decision.

- Was there a clear (functional etc.) relation between the organisation's strategy and the ECMS intended functions before the adoption?
- Are you currently satisfied with the overall ECMS performance?

Interviewee: Yeah because we haven't implemented it.

- How many and what changes of the ECMS have been made to increase functionality and achieve a higher integration and therefore strategic alignment?

Interviewee: Actually we're gonna have that discussion today and we'll see what they are willing to do within the next 2-3 years.

- Looking back, would you rethink the major decisions made during the adoption process?

Interviewee: No not at all, I think it went really well actually. I think we had really good participation from within the organisation and across the organisation and the way the decisions were made, I think it was the right way to do it. We involved the top people and the people who will be the highest users so I wouldn't change that at all.

- Do you have any more ideas on the overall topic?
- Do you have any other comments?

Interviewee: It will be really interesting because now I am also in another project where we are talking about the possibility to also have content management against management information reporting, so I am really curious to see how that's gonna put out over the next years and whether our document management system can be utilised well in combination with a business intelligence system to manage content for reporting purposes. I am really curious how well it's gonna be adopted and fit within the organisation and how well we can man-

age the change within the organisation.

Interviewer: Do you think it will be very difficult to integrate bigger countries like germany or the US?

Interviewee: I would say the US, no, not at all. Their office runs differently and because box is a US based company, implementation is easy for very specific reasons, they already completely adopted Google and already run their data in the cloud over the entire country. Germany is very different, because it has very different data laws than the US does. So germany is probably gonna be one of the last adopters, but for security and privacy reasons. Not because they are opposed to cloud based necessarily. And then we have China which is completely different, we have a lot of bandwith issues in asia, so cloud based services have to be managed from a different perspective there. And I think box provides a very good client based system for offices that have bandwith issues. We have the same issues on our ships, so we're trying to address all the main concerns at the same time, but rollout an adoption is going to be done very carefully and managed really tightly.

Interviewer: Was it a financial issue as well, choosing Box.. let's say if you had more money, would you choose a different company?

Interviewee: Ahm no, there was definitely some financial concern, but you know because we operate with donor money, of course there is always some concern. We want to make sure we're not just throwing money away.. I think we wouldn't have chosen a different solution just because of the money. I think the solution has to be driven by the real need of the organisation, and our real need is global collaboration, ease of global collaboraiton. And because we want to go to the cloud, and we want to be transparent, there are all these criteria.. you know.. so I don't think.. we never really thought about a hosted solution.. we really do think SaaS is the best.. so box just really fit. There was one other solution that we were seriously looking at but they weren't even close to box on their integration with Google. They would have also been another good solution, but Box just happened to get to the top.

Interviewer: Before, every office was on it's own and people just used the IT in place locally?

Interviewee: Yes. More or less yeah.

[Closure.]

C.2 INTERVIEW B

Position: TRIM Project Manager (Head of TRIM)
Location: Face-to-Face Interview

General questions:
- Please describe your organisation. [size, structure, general strategy]

Interviewee: It's called [descriptive name] we are a governmental body.. We have about 690 full-time staff, I think with contract it's up to 1100 staff. We're based in Melbourne but we also have 4 metropolitan offices in the north south east and west of Melbourne, we have got 5 regions in Australia, we also have 11 offices overseas, we got one in Frankfurt, one in London, one in Dubai, two in India, three in China..

Interviewer: And they are in the embassies?

Interviewee: No no they are separate, like a shop branch. Our job here as a department is [...], thats why we got the presentation overseas..

Interviewee: That's the department. The structure is, not only are we spread in 8 divisions, [...].

- Do you have clear statements for an IT- or knowledge management strategy?
- Are you satisfied with the alignment of IT and business strategy overall?

Interviewee: Ahm we have a clear statement for IT now, but when we rolled that out back in 2007 we didn't.. well I think it wasn't clear enough, it was a very rudimentary sort of basic IT statement.. there was no KM strategy as far as I was concerned back then. Just for my background, I started 2005 as the records manager and then I moved into the role of TRIM administrator in 2006, and there was nothing really clear back then. And I brought this, you might wanna have a copy of it so you know what we do now. We're sort of went ahead with the project and it is now aligned with the strategy within the department. I suppose the alignment of our team and the overall business strategy is very in sync now and it wasn't back then. I am not exactly sure why that is, I think there is a couple of reasons maybe. One, we went through a lot of machinery government change, we had parts of our departments move elsewhere and parts come in from elsewhere. We're one of those departments, under the previous government we had seven ministers and all these different portfolios, now we're down to four ministers and less portfolio so it's not like there is a core to the department that turns over with them, so it was very hard to have a strategy in place for one thing and then it got a little out of control.

Interviewer: During the last years the strategy evolved. Now is it in place?

Interviewee: Yes it is in place now.

Interviewer: But you're still developing it?

Interviewee: We're going through an audit next year to make sure there are no gaps. There is about 107 principles is it.. it's something that the state archives are pushing.. I've forgotten what it's called but you have all these major principles.. and we're gonna have a major audit in the next year to make sure that we're meeting all this, you know, it's from a strategic point of view is one area, but another one is also the department area.

- How old is the ECMS / When did you introduce the ECMS?
- (What were triggers / events that resulted in the decision to adopt the ECMS?)

Interviewee: We rolled it out 2007, it is actually an ERDMS used as ECMS..

Interviewer: TRIM?

Interviewee: Yeah. I arrived here in 2005, they had TRIM here but it was a rather rudimentary version, it was something very basic. They just moved over from RegFile, which is another product. Before So when I arrived, we decided 'yes it is time to move forward, with it..'.. the other side was that such much was hidden in drives, their own personal drives, group drives, putting it in all sorts of other business systems. There wasn't any core, so the ministers were confused because we were getting different versions of things, there was no consistency.. that was sort of one of the factors behind. The other thing that was a major decision in adopting an ECMS, it was a Electronic Record Strategy initiative. It is sort of like a process that was created by the states archive to capture all the information that is produced electronically and get away from a paper-based environment, so it was sort of a compliance issue as well. We were audited and from all the departments we came in last, and you know the managers thought that is not good enough. At the time we had a secretary who had come from an information management background, and she just delegated the work and said 'let's do it'. There was that sort of commitment from the top. But there was couple of things driving it. One was strategy, archival approach to how we do things, and there was also a business issue, people getting the wrong versions.. so that were sort of the triggers of the event.

Interviewer: You said you came in last, that was just for compliance and legal issues!?

Interviewee: I had to fill it in when it arrived, it was like an audit, with like 80 questions, and it was like where you had records keeping policies, where you have emails policies and all that stuff and we were ranked pretty well, we were last.. because we had a scattered kind approach, there was no consistent top policy, something like strategy behind it. So we were ranked last, and of course the secretary said they don't like it..

Interviewer: Did they do the ranking again?

Interviewee: Yes. We are one of the top now.

Interviewer: Very good :-)

[Explain intro to model questions, reasoning behind it, etc.]

Model questions:

- Q1.1: Was your application portfolio scattered and the adoption was part of a general overhaul initiative in the organisation?

Interviewee: Yes it was, because I work with TRIM mainly, when I arrived it was being used in a very simple way. But I realized there were a lot of business systems within the department that weren't integrated with TRIM, so there was no record keeping or processes involved with our systems. So that was a major factor. We got financial systems, HR systems, CRM systems, we're dealing with companies and have a central knowledge repository. We were scattered over different areas, so people having IT issues were using their personal or shared drives rather than the central repository of their area, so that was part of the general initative.

Interviewer: Are they using a central repository now?

Interviewee: Yeah, TRIM.

Interviewer: They are all in there?

Interviewee: I would say it's got about a 85% take up. Some people aren't happy, they will never be happy. Whereas others have moved their stuff out of their personal drives even put their emails in. Linked their email inbox to TRIM. So anything that's business related goes straight into TRIM. The uptake was a bit hit-and-miss. 10% took it up and ran with it, they're like champions. Then another 10 hated it and bloked it. Like any other change probably.

- Q1.2: Did your processes not have the quality they could have had?

- Q1.3: Did you adopt an ECMS because it was easy to adopt, meaning information/support was easily available and the ECMS was fit for the technology in-place in your organisation?

Interviewee: It was already in place, TRIM, so what we had to do was actually roll it out as an ERDMS and to replace the paper-based registry. So the product was there. But selling it was another factor. But we did get top-management support and then it was on all the managers to comply with it.. we did alot of communication with every division, alot of talking to them, put out written and verbals of it, so they know this is happening, why it's happening.. it was a really big push, cause we had quite a lot of money, 4 million bucks, so adequate

amount of money to do it. But there was still some push back, which surprised me, it really did. I think it's because people just don't like change. I think we did everything possible to make them ready, to explain what it is about, we did massive training and follow-up, like floor-walking, all that sort of stuff. I just don't know whether it's the problem itself and they find it a bit clunky or they think records management is not important.. I just never got the hand on why it hasn't been taken up it should be. We run stats all the time from the backend and there's certain divisions that have 95% usage all the time and then there are some divisions that are a little bit less compliant.

Interviewer: Okay, so the system was already in place basically. So it was just cheaper to just sort of link that to your infrastructure instead of introducing Sharepoint for instance!?

Interviewee: Yes. The other reason is, because it we're spread across the victorian state and we got international offices, it was hoped that then we have this core repository where all the business processes etc would be. So if anyone in Frankfurt wants to know something he could go there and help the client. I think environmentally too. It made more sense to have one software that could do a lot more things. I'm sure that was factor, but compliance was a major issue and that's what senior management still realises. Our secretary, she was the head of the department and she had that background and she knew how important that was and she just said 'well spent this amount of money' and so.. yeah..

- Q2.1: Do your communicational processes demand an ECMS?

Interviewer: Do your communicational processes demand this kind of systems? I'd say for compliance probably, you have to store your information somewhere, but did you adopt it because people wanted to know what other people are doing or just because.. you have to store something.

Interviewee: Yeah we adopted it for several reasons probably in that area. One is version control, so if you're communication to a minister or some member of the public, you had to make sure that this was the latest version of whatever.. we do with the ministers quite a bit so.. and they sign off on documents etc, so they need to be accurate and the latest versions need to be identified. I suppose cause a lot of decisions are made in emails now, it's amazing how many ministers, middle management make decisions through an email, so they needed to be captured, so that was another reason. There is a lot of staff using iPad and Mac so they are on the road a lot and deal with companies. They need to be able to go to TRIM and get what they are looking for. So there is a few reasons why communication is quite important. We use social-media, we got quite a lot of websites, so we capture that too. It depends on the website, some we capture every day, some we capture once a month maybe.. just depends on the transaction from the user outside, we use that as communication tool.

- Q2.2: What was the adoption approach taken? Was it top-down with managerial support, or bottom-up and pushed by employees or teams?

Interviewee: It was definitely top-down. We had a working group here that then sold it to top-management and got them to support and then put out the message this is happening. So it went down through the management and then top-down to the staff. It definitely was not pushed by the employees at that time. But in saying that I notice the next question, since we've rolled out TRIM the employees actually came back to us as a group and had ideas that can be added to processes, added to the system that would make their life easier. Our legal team wanted a special legal process. Our [...] team.. different teams have now come to us once they've used that tool.. they've come back with 'this is a process I'd like to incorporate here can you help us?' so we done several of them where we developed add-ins we call them. It helps. At the moment we're looking at an app that you can use, so TRIM as an app would be very interesting. I don't have a backend background so I rely on other people so it would be handy, because a lot of people are on the road..

Interviewer: yeah so you can just click it.

Interviewee: Yeah. So actually there was a launch yesterday of an app for TRIM, I couldn't go but would like to see how they show what you could do.. so I think we will adopt it pretty quick, we'll be early adopters at that.

- Q2.3: Did employees innovate new processes that demanded an ECMS to support the improve processes?

Interviewer: When the top-management said 'this is it, we're gonna do it', did the legal department and stuff come directly to them and demanded process improvements or did they came later on?

Interviewee: Definitely later. Once the product was in place, let's say 6-12 months, they realized it was here. Then they thought well this is how we would like it to have, more of value added I suppose, because we don't understand their business completely. You know we got all different types of groups here and doing all different things so once they explained to us was their core business was and what they wanted out of the product that's when we went to these off-site providers and they helped us with enabling what they wanted to do. And they're happy, but it wasn't straight away, it was 6-12 months until things settled down and they started to think 'well you know, this is not going away, we gotta work with it I suppose', sounded a bit negative but you know what I mean.. when they got used to it then they came.

- Q3.1: Did you choose to adopt an ECMS because of the positive effect on existing partnerships?

Interviewer: Well, do you have real external partners, not in the sense of other departments or business units but external companies?

Interviewee: Ahm, we have what you call.. we have all these different government bodies, well they are not bodies they are state authorities and they don't report to us and none of them use TRIM. I am trying to think of a partnership where it may be relevant.. but I don't think so, because we're so streamlined into government. It's not like we have a lot of relationships, we do use a company that's, well we had to buy TRIM of course and the support, so the partnership with HP developed, that's more of a commercial sort I guess.

- Q3.2: Did you choose to adopt an ECMS because of external and competitor pressure or imitation/mimicking?

Interviewee: Definitely because of external pressure! The first strategy was one you know.. that we were seen as a little bit back compared to other government departments, and state archive saying, rank this. The other thing is we knew what other departments were doing, so we went in there and looked what over people doing.. they all use it differently of course but yeah.. there was a bit of mimicking yes. But we already had the product on-site, we just haven't targeted against our needs.

Interviewer: Are these TRIM versions integrated with other departments, can they communicate?

Interviewee: That's the problem, when I started here there was this whole government approach 'we'll do this', but personality got in the way and egos.. so different departments said 'no no no we're not doing that!', there was a lot of territory, sort of they wouldn't give an inch. This should be a one approach.. but too many people didn't want it so every departments did it a bit differently. But it's interesting, they are now going back to that whole-approach.. and try to access right now what everyone is doing and how much the cost is etc.. so I think they are coming back around because this is the way to go with it. Let's have one help desk, one licensing approach with commercial providers. So it's interesting that is has them taken 5 years to come back and so.. who knows what will happen next..

Interviewer: That's often the case..

Interviewee: It is. I've worked for the federal government before and things go in circles. And worked with these problems in the past too so..

- Q3.3: Did legal issues make you adopt an ECMS? If so, has it been due to data security or privacy issues or due to archiving laws?

Interviewee: Legal issues. I don't think privacy was ever a concern for this department we had a code of conduct so when you saw something you would report it. Data security was an issue, cause I think they thought things were get-

ting lost in all the different systems, it was not a central system with some sort of access to it for special people to see it. But the archive in laws from state archives were bringing in all the guidelines and that really did affect how we were gonna go. And they gave as a sort of list of what we need for this etc.. I don't think there is any other reason. The archiving laws are there but I don't think that there are legal reasons.

Interviewer: So it was mainly for compliance reasons?

Interviewee: Possibly. Data security a bit, there was push. And there is another push coming around.. we would like to see if there is any information that get's to the media which shouldn't. But people will always do that if they wanna..

- Q4.1: Was there a clear (functional etc.) relation between the organisation's strategy and the ECMS intended functions before the adoption? Was the ECMS maybe even part of an IT-strategy ?

[answered earlier]

- Q4.2: Looking back, would you favor a more strategically aligned adoption or a more mid-level, problem-solving adoption ?

[answered later]

Additional questions:
- What was your role in the decision process?

Interviewee: TRIM was in place but I was involved in.. I don't have any financial delegation and this was financial.. I was heavily involved in the work group that rolled it out. So there was like a team decision process it wouldn't be an individual decision process. I worked with 5 of us so it was a sort of collaborative decision.. 'yes this is how we do it'.. so we had a lot of workshops, and work out well this is how we could go. And this is how we included our service providers from outside who were the experts from the service side, one or two business representatives from the different divisions, my boss who is an information manager, myself as an archivist, and we had one other person.. 5 or 6 of us? Well we had a communications expert, so we had an expert on getting that message out.. so we also had someone on board doing that. So I wouldn't say it was an individual decision. It was a team. We were called the [...]-team, and that's what it was. And every department would have gone through similar I think.

- Was there a clear (functional etc.) relation between the organisation's strategy and the ECMS intended functions before the adoption?

Interviewee: No I don't think there was. It wasn't clear. Whereas it is quite clear right now. It was something we thought we could put this in place and then a strategy, sort of it will come together later. So it seems like we put the

horse before cart, is that the right expression?

Interviewer: Did you change parts of the strategy according to this implementation because it was already in place?

Interviewee: No, no.

Interviewer: And you didn't take it up a level too much and said 'oh we have to change TRIM abit according to the strategy' ?

Interviewee: TRIM is pretty adaptable so we tend to, there is still room for it to grow as in do other things, still integration.. so no, not really. I think the way we were thinking is we would use TRIM to drive the strategy a bit. Not the strategy to drive TRIM, but the TRIM to change the strategy. So I don't know.. that's probably not the proper way but that's how it happened.

Interviewer: Yeah I think also that this is often the case

Interviewee: It is the case yea..

[...]

- Are you currently satisfied with the overall ECMS performance?

Interviewee: No.. we've just upgraded weeks ago to the latest version and we have a lot of issues. Look I personally think it's great. And anyone that we call a champion, likes it. But it is doing some really unusual things, it's a bit flaky. But we're still on an old version of MS Office, we think that this is one of the reasons. We don't have a consistent sort of IT approach in this department.

Interviewer: So nothing standardized?

Interviewee: It should be and it's not. You're going to someone's PC and you realize that they're using software that isn't part of the standard operating environment.. I don't have that background so sometimes cannot work out why.. cause TRIM has it's fingers in everything, it throws up the error message so people think it's a TRIM problem but it's usually something is telling you that there is an issue with some other software. I think it does what it's meant to do, but it needs to be modified a bit. My personal opinion is there are too many ways of doing the same thing like to search. There are four ways to search when you look at the screen, and some people search by dropdown menu, some by outcome, some by right-click and search via mouse, some.. I think that just confuses staff. I think it depends on the age of staff, older staff tend to dropdown menu, younger staff by something else.. so yeah it's I think we're just having a bad run at the moment. And we meant to update MS Office in the new year so maybe things will settle down. But the other problem is, our IT is contracted out to a central body, so we don't have any control over that group who do the backend support

or the server side. So there is a lack of rigour expertise there, and they are just not very accommodated.

Interviewer: But TRIM generally serves the purpose.

Interviewee: It does. And really sounds a bit negative, but stats prove that people use it. The email content is going up, about 10% of the total database now. That's very good. And different divisions are definitely using, we can also run statistics in the background. If a department or division is dropping off saying what the issue is, we try to solve it of course. I probably painted a bit dark picture, it's probably doing a good job but yeah..

- How many and what changes of the ECMS have been made to increase functionality and achieve a higher integration and therefore strategic alignment

Interviewee: I think there are things we could do to increase functionality, we definitely need to integrate some of the other business systems, our finance system is not integrated at the moment. We have a customer service system called 'Gems', the government wants Salesforce as an international name of the product, it's integrated but not all the metadata so i think it could be further enhanced if we added more integration in the metadata area. I think it would make it more functional, people would see all this different data coming in so it would be really useful from a strategic point of view.. so then they got all the data in front of them instead of hunting in different system to get their data..

- Looking back, would you rethink the major decisions made during the adoption process?

Interviewee: I would have liked a whole [...] approach.

Interviewer: Where everybody takes part?

Interviewee: Yeah!

Interviewer: Is it necessary to have these connections within all the departments?

Interviewee: Probably not. But I would have thought it is more cloud then, a more collaborative approach.. look honestly I think everything that we did was good. We did a lot of communications,in front of groups, in writing guidelines, we did a lot of tips and tricks I think, we did a lot of testing beforehand, we did a lot of floor-walking. Absolutely everything we did was good, we just recently upgraded, we did a lot of testing, a lot of communication, a lot of floor walking.. I don't think it changed the product. And I don't have any regrets for going for an ERDMS system, it was just, it was overdue, and we were only using part of its functionality and owned all the rest but didn't use it. This was the starting stage,

we're not further and its about bringing all the businesses in.

- Do you have any more ideas on the overall topic?

Interviewee: The story at the moment, like we don't have workflow processes in TRIM. we don't use them. There is a bit of a push in the community to bring in Sharepoint, which has a very easy workflow process. I think that could be helpful, because at the moment we got a briefing system that runs through other workflow software, so if we had a sort of workflow in TRIM that could help us with approval and deadline conformity in TRIM. So I think workflow is something that will be on the agenda in the next 12 months. The other thing that's on the agenda is definitely information security, the government right now is very tight about information security. [...]. The other thing is government auditing, they want to go back the last 12 years and make sure the community gets the money and that money that's being spent here is well spend. The process actually works but we're gonna need new standards for auditing and so on. Something we are sure about that we do not use TRIM at its full potential, so we might ramp it up here and there.

Interviewer: Do other departments give you insight on their systems?

Interviewee: No that's very.. if you ask them, depends who you know, some of them are quite friendly, but most of them are very territory, it's incredible.. it's like all the IT people they have the knowledge but they don't want to share it with you, I find it bizarre, if I know I am telling you.. it's like we're in competition, but we're not.. it's weird.

Interviewer: So basically the only chance how and what the other departments are doing are these ratings from audits?

Interviewee: Yeah, but we also have what we call a TRIM.. it's a group gets together 4 times are and usually the group will push some story out about what they've done with TRIM just to get some response on what they've done for the community. Usually some vendors are there as well, trying to sell new add ons or plugins. It's called TRIM Music Group.

- Do you have any other comments?

Interviewee: [...] (personal questions, study related etc..)

C.3 INTERVIEW C

Position: CIO Office Enterprise Architecture Team Manager
Location: University of Melbourne - Skype Interview

General questions:

- Please describe your organisation. [size, structure, general strategy]

Interviewee: We are in the electronics sector and our business demands a high communication, especially with developing partners. We need large knowledge management base to capture our knowledge. In total we have 30.000 employees, of which around 16.000 are knowledge workers. It is our goal to be #1 or #2 worldwide in our business in some years from now. The general strategy is mainly based on a generic IT, online services and collaboration. We have around 5.000 employees in the Netherlands, Germany and France are also big, actually whole Europe is part of our main market. We have about 5-6000 employees in the Americas and 64 locations worldwide.

- Do you have clear statements for an IT- or knowledge management strategy?

Interviewee: We have no clear statement on knowledge management. We have a bit going on in that regard, but there is no general overall approach to that.. no coordination and there is no chief executive in charge of knowledge management. The single efforts are now more visible though and still need to be formalized, this isn't mainly driven by IT, more by other departments.

- Are you satisfied with the alignment of IT and business strategy overall?

Interviewee: It's not so good. It is a very big company and there are a lot of things going on and interests to be aligned. For an alignment you would need everybody in touch with that. Right now, it has no key attention. We are using Lotus Notes right now, which is good when it comes to sharing in teams and a small group of people, but sharing across the whole organisation is not happening right now.

- How old is the ECMS / When did you introduce the ECMS?

Interviewee: Yeah so we used Lotus Notes before. The application portfolio was very scattered, sharing in teams was good, but teams used different software to do that so it was not very homogenous. We wanted an enterprise-wide search on top of that, but all the systems made it hard to realise that. There is no golden solution for all puzzles. After some time we stopped Alfresco and since 2 years we are running Office360 in the cloud.

Interviewee: Alfresco started as ECMS, but is now for secret internal documents, intellectual property documents, research etc. It allows tagging and knowledge can easily be codified. Sharepoint started in 2010 and is used for sharing and collaboration across the whole organisation. We need better alignment. if IT simplifies things, it is cheaper for the whole organisation. The problem with our alignment is, that business holds on to custom solutions, whereas we want

to pursue more standardization, because it simplifies things.

Interviewer: What was the exact timeline of your initiatives?

- (What were triggers / events that resulted in the decision to adopt the ECMS?)

Interviewee: 2002 we had a web content management system. 2004 we introduced a enterprise document and content management system for the Netherlands. We merged 20 solutions to one. This is especially good for audits and we are a company that is heavily audited as our automotive customers have very strict security and safety regulations in place. These companies need to know how we operate and how the production processes work. A system allows us to keep the procedure descriptions and related documents up to date easily.

Interviewee: The main drivers were: easier audits, preventing reinventing the wheel, reuse of knowledge and collaboration. Additionally, as a spinoff, our systems within the old company were pretty scattered, for the new spinoff company we wanted to have a clear structure and do a better job.

Model questions:

- Q1.1: Was your application portfolio scattered and the adoption was part of a general overhaul initiative in the organisation?

Interviewee: It was scattered yes, around 20 applications only for storing information and knowledge. There were all kind of initiatives, all trying the best, and the arguments were all the same - sharing, central repository, search and webbased. Still, that scale was only on departmental or team level. Many departments had their own systems that were not connected with others. So we brought people together to discuss the situation and improve it. We had talks for about 1-2 years and aligned people, their requirements and the general terminology. Tooks us 1 year to only get all the attributes for the information structure. We had biweekly meetings prior to the implementation.

- Q1.2: Did your processes not have the quality they could have had?

Interviewee: Well we had documents and knowledge but we just couldn't find them when we needed them, things were missing. There was no review process in place for documents. No reuse of any kind of knowledge. The adoption of Alfresco and then Sharepoint brought massive improvements and allowed for reuse and better auditing documents.

- Q1.3: Did you adopt an ECMS because it was easy to adopt, meaning information/support was easily available and the ECMS was fit for the technology in-place in your organisation?

Interviewee: We already had a solution at our former enterprise. They had an enterprise drive within Lotus Notes which was connected to different kinds of documents of the company. To compensate for the loss of that system when we spun-off, we introduced Alfresco. The former parent organisation had too much customisation in place in Lotus Notes, which made it extremely expensive to migrate to newer versions and upgrade. Some updates were even skipped. We also looked at Lotus Notes but chose an open source alternative, which was partly due to investments. There was not enough budget allocated for expensive licenses of big vendors, it just was the cheaper way. So we started it off with Alfresco and it was very powerful. It was actually not really easy because too few people knew the platform. It was a bottleneck.

Interviewee: We were having some issues putting the technology into place. So we decided to switch to SaaS, as there is no inhouse tech needed. A combination of Office and Alfresco was difficult so we didn't do it. When we chose Alfresco, Microsoft did not have a good strategy. Google, IBM, open source companies had better ones so that was the perfect time for these choices. But in the end we switched to MS Office some years later.

Interviewer: Why now SaaS?

Interviewee: Because we had acceptance issues. Alfresco was supposed to work seamlessly with powerpoint, excel and word. But there were a lot of issues. No preview for docs, lost connections, authentication lost.. it was a bit too much of child diseases for a new technology. It had too few end user services. So we decided to move towards a single Office360 platform. Everything is in the cloud and the technology fits us because we use Microsoft products within the organisation. Users don't need to learn new stuff, that helps a lot regarding adoption rate. It is a conservative choice though, Alfresco was very progressive. Maybe too progressive. We probably gave Alfresco not the attention it should have had, not many user trainings etc.. looking back, I think every initiative would have failed, it was just not properly picked up and got not the attention it should have had. And for people who are a bit older, it is harder to pick up new technologies.

- Q2.1: Do your communicational processes demand an ECMS?

Interviewee: Yes they did, generally sharing of knowledge is a factor and when the organisation was spun-off, we saw an opportunity for something new.

- Q2.2: What was the adoption approach taken? Was it top-down with managerial support, or bottom-up and pushed by employees or teams?

Interviewee: It was top-down pretty much. We announced the big picture and tried to get a complete view of the company. We picked up small projects and tried to understand how we could improve all of this, teach new ways of working in small groups possibly. The plan was to introduce the new technology, teach people how to use it and then present it to the whole community. We did no big

bang, this is very hard with the amount of people we have here. We had team environment that had to be transferred into a document and sharing environment, across teams and the whole organisation. It was hard, it was a different environment. People didn't want that, they wanted different workspaces for their teams etc.. additionally, there was no real sharing functionality within Alfresco at that time, that would probably have helped to raise the overall adoption rate by employees.

- Q2.3: Did employees innovate new processes that demanded an ECMS to support the improve processes?

Interviewee: The versioning was completely new and was wanted by employees. An ECMS initiative offers completely new functionality to the organisation. It was hard for some teams to adopt to the Alfresco environment because it offered much more functionality. We developed a big system for assigning tasks, used it to publish documents and datasheets. This was pushed by tech writers because they saw an opportunity there. New innovation was brought in by the staff. It could be used in the generic approach of the Alfresco initiative, but it needed to be simple.

[Recording broke, content elicited from note samples and immediate down writing]

- Q3.1: Did you choose to adopt an ECMS because of the positive effect on existing partnerships?

- Q3.2: Did you choose to adopt an ECMS because of external and competitor pressure or imitation/mimicking?

- Q3.3: Did legal issues make you adopt an ECMS? If so, has it been due to data security or privacy issues or due to archiving laws?

- Q4.1: Was there a clear (functional etc.) relation between the organisation's strategy and the ECMS intended functions before the adoption? Was the ECMS maybe even part of an IT-strategy ?

- Q4.2: Looking back, would you favor a more strategically aligned adoption or a more mid-level, problem-solving adoption ?

Additional questions:
- What was your role in the decision process?
- Was there a clear (functional etc.) relation between the organisation's strategy and the ECMS intended functions before the adoption?

- Are you currently satisfied with the overall ECMS performance?
- How many and what changes of the ECMS have been made to increase functionality and achieve a higher integration and therefore strategic alignment

- Looking back, would you rethink the major decisions made during the adoption process?

  - Do you have any more ideas on the overall topic?
- Do you have any other comments?

C.4 INTERVIEW D

Position: Partner
Location: University of Melbourne - Skype interview

General questions:
- Please describe your organisation. [size, structure, general strategy]

Interviewee: It is a consulting company. We specialize in knowledge- and change-management. Because of that we do a lot of business process improvement, architecture and education. So we do a lot of that sort of thing. It depends how you count us on any day which is different because the core people who also use alot of extended network people. People who got specific skills to do certain skills we're contracting on a certain basis, we're very flexible. The largest we have been is over 50, and the smallest we've ever been was 4 I think which was when we started. So we're a little bit unusual I think. There are now 18 core people. We started in 2002 and the reason that we started was that I used to be the partner in charge of knowledge management at Ernst & Young for Asia Pacific. I don't know if you know the history of the consulting things but everbody had to get rid of management consulting. So Ernst&Young sold us off in 2000 to Capgemini which you're probably be familiar with, it's a big player thing in Europe. That was a global thing. That was a total bloody desaster. It didn't work at all, going into beaurocratic organisation from a very sort of flexible partnership. We as a service line across Asia Pacific, we said it doesn't work for us, we'll go and do it ourselves which is what we've done. So we've got people in Melbourne, Sydney, Brisbane, Auckland, Kuala Lumpur, so a road to a lot of work in Southeast Asia. And our focus is really around the knowledge management proposition. We do alot of work in the deployment and implementation of ECM, a lot of its driven particular at the moment through compliance, so its very much the records management end of it. In terms of how do we manage such obligations, what are our corporate obligations, how do we build the governance and all those sort of things, which leads us into designing process, designing roles and responsibilities to change management from human behaviour side of things, taxonomy development, all of that stuff that goes into a proper ECM and I would say that probably 50% of the companies they don't do it properly which is good cause that's our business.

- Do you have clear statements for an IT- or knowledge management strategy?

Interviewee: So do we have a clear statement of our IT and knowledge management stategy. No, not really.

Interviewer: You said you have a governance statement.

Interviewee: Well we have a document naming standard, we have a standard for projects where people require to submit deliverables and work papers into our corporate repository which is on Google Apps. And that works great for us

because we're all over the place, we don't have an office, so we're very much a virtual organisation. So Google Apps, the telephone, and that's the office.

Interviewer: What are you using for conferences? Skype or something similiar?

Interviewee: Skype yes. This is as close to an office as it gets. But because we're spread and our model is to use a partners' strategy which is a consulting model, is that we work with our clients, so if we're on a project with BHP or Siemens or whoever we're gonna work there so that's what we do.

- How old is the ECMS / When did you introduce the ECMS?

Interviewee: So the ECMS we brought it in, which is Google Apps which is, that's what you wanna talk about.. we deployed it in 2009 and we built up some very simplistic taxonomy structures and governance naming structures around how we actually use and fulfill it, and we try and reflect that as much as we can in our shared drives and our structures that we use but, I have no control over invidiuals' habits in terms of storing information and I don't really care too much as long as the project deliverables on the compliance base is put into Google Apps and they're named appropriately that's fine and it's all discoverable for us. And obviously the corporate side of us, which sounds a bit grand cause it's really only one person. The HR and the finance and all that stuff is just managed through a server that doesn't get replicated to Google Apps actually, because we keep that, that's separate cause that's the commercial side of business.

- Are you satisfied with the alignment of IT and business strategy overall?

['It's just what we do' - there is no real need for a strategy, it perfectly fits the purpose, and the 15 people know what to do and how to handle it]

- (What were triggers / events that resulted in the decision to adopt the ECMS?)

Interviewee: Well it's not really an event but we think it's a fundamental business practice. It's what we do.

Interviewer: You have no shared office or something, you're scattered so it's required like that.

Interviewee: Yes, we're all over the place.

Interviewer: You we're founded in 2002, adopted it in 2009, what did you use before?

Interviewee: Basically shared drives.

Interviewer: And that got too bloated or too uncomfortable to use or what was the reason to change?

Interviewee: Well it wasn't integrated that was the problem, so the fragmentation etc didn't cause any problems because the volumes that we deal with aren't great. Having it on individuals network drives in a smallish type of company it's not actually an issue, because I said before we had 50 people, 15 of us we're on a project in Kuala Lumpur in an insurance company so they we're actually using the corporate drives of the company... so the project coordination knowledge base was creating that stuff and all we needed to do was to know where it was and when the project was completed we just put it back into our repositories, cause we use client facilities and infrastructure as far as we can as long as we've got what we need for our knowledge. And when you're a firm of that size, we all know each other very well if I want something I know who to ring and we speak to each other at least once a week and we see each other fairly frequently cause we all travel quite a lot so.. in the early days without an ECM it wasn't really an issue cause the transfer was quite easy because you had email and stuff to make it happen. Fortunately we didn't suffer from political barriers like other organisations do when they share things with others.

Interviewer: You said you're also operating in Southeast Asia and you do not have any law issues at all? For instance you have to store project information for different lenghts of time in different countries.

Interviewee: It's not an issue because Australian standards are the worlds best practice and because we're here we're adopting Australian standards.. I don't care if it will be different in Malaysia or somewhere else so what, they are probably less stringent than ours anyway and the core of what we need is there so..

Model questions:

- Q1.1: Was your application portfolio scattered and the adoption was part of a general overhaul initiative in the organisation?

- Q1.2: Did your processes not have the quality they could have had? Maybe it was not integrated?

Interviewee: Well it wasn't integrated. But it was not the scale that was the problem.

Interviewer: So just a matter of convenience basically?

Interviewee: Yeah.

- Q1.3: Did you adopt an ECMS because it was easy to adopt, meaning information/support was easily available and the ECMS was fit for the technology

in-place in your organisation?

Interviewee: But the next question 'Did you adopt an ECMS because it was easy to adopt' the answer is yes!

Interviewer: That's why you did it so late or..

Interviewee: Well it wasn't really available before that time so.. we're not gonna spend 30.000$ a year on getting Lotus Notes or Sharepoint licenses. When Google Apps comes up and is really inexpensive, in fact when we first entered it was free. So why wouldn't you do that? Bad to spend 30.000$ on something that's actually not what you do.. better spend that on the account

- Q2.1: Do your communicational processes demand an ECMS?

Interviewer: Probably yes!?

Interviewee: Ah yes. It was all of those things.. because that's what we do. Our discipline requires to bring things together, so there wasn't really.. I didn't have to say we all gotta do this.. this is just what we're doing so it was generally accepted.

Interviewer: You're a small company, so I guess it was with the consent of all to adopt that system?

Interviewee: It's not an argument because that's what we do.

- Q2.2: What was the adoption approach taken? Was it top-down with managerial support, or bottom-up and pushed by employees or teams?

Interviewee: Really just put forward informally by all of us.

- Q2.3: Did employees innovate new processes that demanded an ECMS to support the improve processes?

Interviewer: Well I guess you didn't have really new processes as part of that? They were probably just automated?

Interviewee: They were automated yeah. They weren't really new.

Interviewer: So it's just really used for basic communication, projects, sharing..

Interviewee: Yeah, usual storage, access, discovery.

- Q3.1: Did you choose to adopt an ECMS because of the positive effect on existing partnerships?

Interviewee: External partnerships?

Interviewer: Contractors, do they also use the Google Apps and didn't they use the shared drive structure?

Interviewee: Anybody who works for us gets a login and becomes part of the infrastructure.

Interviewer: And it's really easy accessible because everybody knows Google and such..

Interviewee: There's not much training. The processes aren't hard. Just make sure to get the stuff in there and if you want access sign in and find it there's no mystery about it, it's really intuitive.

Interviewer: Did they have access to the hard drives / shared drives before?

Interviewee: There was probably no need for a lot of that transferred.. cause a lot of that stuff on our hard drives, what you might call our corporate server is financial, commercial information and stuff, so there's no need for people on projects. For example if we employ somebody, as we have done, with a skillset who come to us and work with us for three months on this client, they become part of the project, so the project manager's collecting all the information and make sure he's got access, getting him an email address so they can get information if needed. So it's simple security thing to shut off the commercial side of things.

Interviewer: So it definitely has a positive effect on the partnerships but you didn't necessarily choose Google Apps because it was easy to use for your partners.

Interviewee: No, no. I am not actually sure if I see them as partners either I guess, more of a contractor. They are almost part of the company it's just that the employment relationship is by contract rather than by salary.

- Q3.2: Did you choose to adopt an ECMS because of external and competitor pressure or imitation/mimicking?

Interviewer: Did you choose to adopt it because of imitation or mimicking of competitors or did you know any other small company, in consulting for instance, that used Google Apps before you did?

Interviewee: It's pretty hard to define our competitors, there are a few other companies around who are small like us.. most of them have specific focuses like Records Management, they tend to get into the real technicalities of it all, but then we also compete with people like Anderson and IBM on certain things. So obviously they got a lot of infrastructure plus, but we didn't do it because we

care too much about what others are doing, it's just that it makes sense for us.

- Q3.3: Did legal issues make you adopt an ECMS? If so, has it been due to data security or privacy issues or due to archiving laws?

Interviewer: Did you have legal issues? Needs to be accessible for instance..

Interviewee: Yes it needs to be accessible and reportable, but yeah..

Interviewer: But do you have legal issues for instance because your information is stored somewhere in the US or in the 'cloud'?

Interviewee: No that's not an issue.

Interviewer: So there is no law that says you have to store it like this and that..

Interviewee: No..

Interviewer: In germany there actually is a law like that that prohibits storing information at Google right now for organisations that want to comply with specific certificates and laws.

Interviewee: Yeah that's probably a military throwback I don't know. It's always an issue that comes up but I'm sure we certainly don't have this issue, we don't care.

Interviewer: Ok, well and you have all the sensitive information on seperated hard drives so..

- Q4.1: Was there a clear (functional etc.) relation between the organisation's strategy and the ECMS intended functions before the adoption? Was the ECMS maybe even part of an IT-strategy ?

Interviewer: Well the organization's strategy, we had that before.. you need to put it all in one place, information on projects needs to be accessible for the future in case we have a similar project.. was there something like that, like a governance strategy in place before and you immediately thought of that system, that's how it has to be or did you just take Google Apps and said, that's the structure and we see how it goes from here?

Interviewee: Well we already had the governance structures in place, the practices were there but the procedures needed to be tidied up when we saw Google Apps, because it only became available in about 2008 and 2009 when we saw well that works for us we'll take it, so it wasn't really a big decision about it, does it work..

Interviewer: So it was basically the structure you needed for all your processes..

Interviewee: All those processes in terms of compliance were there as well yeah.. cause that's what we do.. well..

- Q4.2: Looking back, would you favor a more strategically aligned adoption or a more mid-level, problem-solving adoption ?

Interviewee: The last question I think it fits with our business.. and that's it..

Interviewer: So you would do the same thing again?

Interviewee: Yeah. If something comes up that's more appropriate, like if Alfresco releases a sort of version of it's content management with version control and all that stuff in it, which apparently it is on the verge of doing, that's something we might pick up on. But at the moment we do all of that manually, because Google Apps is really just a bucket to put things in it.. as is Sharepoint, but people do believe it does a lot more..

Additional questions:
- What was your role in the decision process?

Interviewer: What was your role in the decision process for adopting it.. somebody probably had some ideas on Alfresco, Google Apps etc..

Interviewee: Oh just one of the guys suggested it, said hey this looks like it's pretty good for us.. and we've had a look at it and yeah.. let's do it.. it was quite a no-brainer. You see something that works and is inexpensive you get it.

- Was there a clear (functional etc.) relation between the organisation's strategy and the ECMS intended functions before the adoption?

Interviewee: Yes there is.

- Are you currently satisfied with the overall ECMS performance?

Interviewer: Are you satisfied with it or would you change if something better comes up, like you said with Alfresco and versioning control for instance.

Interviewee: Yes we are satisfied.

Interviewer: And you wouldn't change?

Interviewee: The only thing that would stop us doing that because we've been offered free hosting on things like ObjectIF and TRIM, because we're in that business you have the integration required etc.. but we do the change-management piece.. the definition of process, the building of the infrastructure, so we need to

be independend. We could quite happily go to TRIM and say we wanna use TRIM and the would give it to us for nothing. But we don't wanna do that because that creates conflict of interest for us, because we quite often work with organisations to help them select the product that they need, so that doesn't work for us strategically but if something pop's up that we can have an independence of then that's alright.

Interviewer: If you choose to switch to Alfresco, would you have problems with your structure, governance structure or could you just implement it like that?

Interviewee: Yes we could just move it over, it's more of a configuration issue than a governance issue so..

Interviewer: Alright, thanks for your time, appreciated it!

Interviewee: Yes thank you and good luck!

C.5 INTERVIEW E

Position: Corporate Communications / Internal Project Communications
Location: University of Melbourne - Skype interview

General questions:
- Please describe your organisation. [size, structure, general strategy]

Interviewee: We're a dutch company, probably around 5500 people work for us worldwide. We develop software solutions, infrastructure solutions, and generally anything revolving around IT problems.

- Do you have clear statements for an IT- or knowledge management strategy?

Interviewee: Our general strategy from 1992 on was growth oriented and we acquired a lot of other organisations up to this day. Knowledge Management was an important backbone for us, as it makes it easier to integrate external organisations when you have systems for collaboration in place already.

- Are you satisfied with the alignment of IT and business strategy overall?

Interviewee: Alignment yes, but that is mainly due to our business model and our focussed approach of business and IT.

- How old is the ECMS / When did you introduce the ECMS?
- (What were triggers / events that resulted in the decision to adopt the ECMS?)

Interviewee: We implemented Sharepoint in 2007. The reasons were pretty simple in our case, we had a lot of growth going on and many acquisitions and of course, everyone of those acquired used their own system and we introduced for the first time a system that everybody should use.

Interviewer: Why Sharepoint ?

Interviewee: We're an important MS partner and we provide their services and platforms to customers, so the knowledge of the system and how to handle them was already there, that made it easier for us.

Model questions:

- Q1.1: Was your application portfolio scattered and the adoption was part of a general overhaul initiative in the organisation?

Interviewee: And we wanted to bring everyone together to make sure everybody has the same information for doing their work, and have access to the same documents, and other types of collaboration tools.

- Q1.2: Did your processes not have the quality they could have had?

Interviewee: So if you go to question 2. I think this was really an important step for us to introduce Sharepoint because we needed to develop company-wide processes.. I think the processes in the individual offices or individual sub companies were okay, but if you wanna be one company you need to share the same processes and the same systems, so that's very important to get better quality.

- Q1.3: Did you adopt an ECMS because it was easy to adopt, meaning information/support was easily available and the ECMS was fit for the technology in-place in your organisation?

Interviewer: I had this one case were they only used Google before and just adopted Google Apps because it was easy to adopt. I guess with Microsoft it might be the case you were already using Office pretty heavily and had some storage spaces for all your office documents or something like that.

Interviewee: Yeah! Like you said! It was easy to adopt and integrate. It was easy to use it because many people already have knowledge of the system.

Interviewer: Did you have some initial contact before that or did you really approach them completely new or did they already know what's going on in the company.

Interviewee: They did know what was going on in the company. But we did the implementation ourselves of the system. We're an important partner of Microsoft as well. We sell other products for Microsoft so they know who we are

and what our structure is.

- Q2.1: Do your communicational processes demand an ECMS?

Interviewee: Ahm no, because we have another system for that, another product of ourselves and we're really focusing on the benefit of collaboration, really working on documents etc, and we also use the system to help following certain processes. But if you look at the future, we're not currently migrating our intranet to Sharepoint, so that will have an important role with employees.

Interviewer: So it will all be in one place?

Interviewee: Yes, exactly.

- Q2.2: What was the adoption approach taken? Was it top-down with managerial support, or bottom-up and pushed by employees or teams?

Interviewee: Well the decision to use Sharepoint?

Interviewer: Generally, from the shared drives to getting a system that enables managing all this content. Was is a problem for the people in the company, like the teams did not know what other teams are doing and initiated a change or the top management said we have so many acquisitions we need to do something here?

Interviewee: Yeah it was the top management that wanted it. Not everyone in the company felt the urge to share their knowledge and documents etc.. he management had the vision of people had to work better together and share their knowledge, because it's of course too bad if you do not use the knowledge you have in the company. So it was really a management decision, they told us to use it. And you still see that this doesn't make it easy all the time. In every company you sometimes have small 'islands' of people that have to switch their button to think 'Oh yeah we are one company and it is important to share', so that is a process the top management wanted to see encouraged.

- Q2.3: Did employees innovate new processes that demanded an ECMS to support the improve processes?

Interviewee: And if you look at the next question. I think you have after we have introduced the system, you have seen some employees that try to get the most out of it. It is not that they asked for something, but since the system is there now (Sharepoint), they kept coming with new ideas to help to improve their processes.

Interviewer: Do you actually catch-up on some of these ideas and realize them in the system?

Interviewee: Yes we do.

Interviewer: This is also being done in-house?

Interviewee: Yes. We have some sort of steering committee, so if someone has an idea to improve the system or to use extra functionality in the system or something, the steering committee will say we will or we will not implement it and develop it, and if we decide to do it, then it will be done inhouse. This way we are sure everybody knows the tools that are available for anyone.

- Q3.1: Did you choose to adopt an ECMS because of the positive effect on existing partnerships?

Interviewer: Did you choose to adopt an ECMS because other companies did or probably some of your acquisitions did, or was it just 'well we need something'.

Interviewee: Ahm no, it is one of our services to our customers..

Interviewer: So you did know there is this software and why not use it for our own purposes!?

Interviewee: Yeah. If you advise other companies to use it for their internal processes then why not use it yourself?

- Q3.2: Did you choose to adopt an ECMS because of external and competitor pressure or imitation/mimicking?

Interviewee: It is not of external or competitor pressure, but it's just, because we need to work better together and share knowledge and make sure you do things only once and not ten times in different places.

- Q3.3: Did legal issues make you adopt an ECMS? If so, has it been due to data security or privacy issues or due to archiving laws?

Interviewee: No, not because of legal issues.

Interviewer: But you have probably some archiving going on from the law department or auditing structures?

Interviewee: Yes but I am afraid that is not in the Sharepoint environment, that is somewhere else.

- Q4.1: Was there a clear (functional etc.) relation between the organisation's strategy and the ECMS intended functions before the adoption? Was the ECMS maybe even part of an IT-strategy ?

Interviewee: Yeah I already answered this. It was part of our growth strategy and our strategy to become one company internally and work strongly together to be more efficient and to be of better help for our customers.

- Q4.2: Looking back, would you favor a more strategically aligned adoption or a more mid-level, problem-solving adoption ?

Interviewee: What we learnt in the beggining well, this is the system we can use, these are some ideas how you can use it and please go ahead. So we let it kind of free for people how to use it exactly. So if I could start over, I would establish guidelines from the beginning so everybody is using it the same way and knows how to behave exactly. We started this only last year, so it is 4 years after the actual introduction.

Interviewer: How is the general adoption rate? Did people catch up on it at a large scale?

Interviewee: Yes they did. We've created some 'ambassadors' in every team of the company and they are always in contact with each other and they talk about what does work and what does not work. This way we get everybody to work in the same way. These ambassadors speak with their own teams and departments. We need them to keep increasing the number of users, but I think most people use it now.

Additional questions:

- What was your role in the decision process?

Interviewee: My role in the decision process. The decision was made by the management team but I was part of the implementation project because I am responsible for corporate communications and together with Sharepoint we also introduced an internet project and I was responsible for communications around the implementation and thinking with the team about structures etc..

- Was there a clear (functional etc.) relation between the organisation's strategy and the ECMS intended functions before the adoption?

Interviewee: Yeah I think we already discussed that.

- Are you currently satisfied with the overall ECMS performance?

Interviewee: Ahm no, as I said before I think it would have been better if we would have another start with better guidelines, but I think we are catching up right now and it keeps getting better and better so we are on it. And I think it is more due to trainings and education and not the system itself, because it offers the things we need.

- How many and what changes of the ECMS have been made to increase functionality and achieve a higher integration and therefore strategic alignment

Interviewee: Employees can provide and share ideas and if it is interesting enough for the company then we develop it ourselves and implement it ourselves.

Interviewer: When you introduced it, were there immediately some issues with processes or did it go pretty smooth?

Interviewee: It was smooth yeah.

- Looking back, would you rethink the major decisions made during the adoption process?

Interviewee: Yeah the major decision, like said before, the freedom of the users, the rules.

Interviewer: What did people do wrong on the system? Didn't they use it effectively?

Interviewee: There are many different Sharepoint sites for many different reasons, some are just for documentations for certain departments, some for the competence center, there are sites for certain projects or product development, so for every type of site we have our own way of using it but I think we should have developed more templates they have to use. So if you go to a site, there is already a guideline and it is not completely up to the people to structure the content or menus on the page. It could have been more effectively. But we're working on it as well.

- Do you have any more ideas on the overall topic?

Interviewer: Yeah do you have any other ideas on the overall topic? It would probably interesting for you to take a look at the cloud services of Microsoft, did you have a look at that or did you straight go to the inhouse version?

Interviewee: Yeah latter, because we are an IT company. So we do not need the MS cloud etc.. and we offer clouds to our customers.

- Do you have any other comments?

Interviewee: So no I don't have anything else to add I think.

Interviewer: Okay well thank you for your time, appreciated.

Interviewee: No problem I wish you good luck with your research and look forward to the results. Bye bye!

Interviewer: Bye

C.6 INTERVIEW F

Position: IT Project Manager
Location: Case organisation offices - Face-to-Face Interview

General questions:
- Please describe your organisation. [size, structure, general strategy]

Interviewee: We actually do not have a ECMS up and running now, we bought one years ago and we had a project to implement it but for various reasons it hasn't quite gone off the ground so.. we may in slightly different position than the other people you're interviewing. In terms of the organisation, we have about 3000 staff, so yeah branch-sort of organisation and we're spread across 10 locations [...] so it's quite a distributed as well. I think like a lot of public education organisations we have quite a decentralized structure so there is a lot of different stuff going on at the different locations. In terms of general strategy, mostly our strategy is about public education and everything related to that, that kind of stuff.. but the strategy actually doesn't say much about supporting functions, like information management. So that's probably a bit of a gap yeah.

Interviewer: Do you have something like a IT strategy or policy in place that says something about your tech-basis or about usage of specific software?

Interviewee: There hasn't been anything written down in the past, I think that has definitely been a problem for us so there is an IT strategy under development at the moment and I gather that will be figured out next year, it's very much at development right now. I suspect in the past some senior IT people had some of that strategy up in their heads but there was nothing written down. Yeah and I think it has been a problem as the organisation has really struggled with how to manage large IT projects successfully and kind of manage change successfully. So one of the reasons that we haven't really progressed with getting our ECMS implemented is that the organisation has got another project going more or less at the same time to replace our student management system and that's already a key business for the organisation, but the project hasn't run quite as planned.. it was something like 2 years late and delivering the new system had a lot of problems so ahm I guess that had an impact and delayed our project because IT staff was really focussing on that one. The other effect was that the top level of the organisation had twice set out major IT projects and put some changes in place that actually put a better project management guideline in place and that sort of things.

- Do you have clear statements for an IT- or knowledge management strategy?
- Are you satisfied with the alignment of IT and business strategy overall?

- How old is the ECMS / When did you introduce the ECMS?
- (What were triggers / events that resulted in the decision to adopt the ECMS?)

In terms of how old the ECMS is, it was 2008 when the decision was made to purchase the ECMS, that was actually before I started working here in 2009. The partner who was selected was Oracle for universal records management. The license that we have allows us to implement the most up-to-date version, so we still have that option to implement the most up-to-date version. Well it was 4 years ago the decision was made so... Yeah in terms of triggers for the decision to adopt an ECMS.. yeah well I don't know how much you know about our business and how such a business is typical organised. We have a council which basically governs the organisation, it's really like the board of directors in a company but it's got not the actual managers on board etc.. and 2008 a committee of the council decided to put records management down as a high risk at the organisation and that was because of a number of incidents before, where things had gone wrong at the organisation and we were unable to find key records in relation to these incidents. So yeah there was a course that had been developed and we delivered that course and people that developed the course did not work very closely with the official registration bodies so the course ended up as not registered and did not recognize it. And there were just no records of correspondence of the organisation and the registration boards and bodies so.. yeah.. I think there were some other incidents as well, complaints from customers etc.. mostly about lost records. So the committee put that on the agenda and it really helped raising the profile of the issue within the organisation. An ECMS was key part of the strategy to reduce that risk.

Model questions:
- Q1.1: Was your application portfolio scattered and the adoption was part of a general overhaul initiative in the organisation?

Interviewee: When you ask about the application portfolio you mean what exactly?

Interviewer: All the systems, so what you usually see is that teams use different information system applications and they are most likely not interfaced with each other, so the information is actually there, but you don't know where exactly.

Interviewee: Yeah well..

Interviewer: Well did you have one central records management and just couldn't find the records because they were not registered centrally or was it maybe somewhere on a computer that was hidden in a corner and people couldn't find it.

Interviewee: Yeah. The problems were really because we didn't have systems that had basic records management or document management functionality. So in most of the similar organisations, people store documents on shared drives etc.. but there is no standardized structure for that shared drive, people just create folders according to what makes sense for them.. so one of the problems was the information stored on the shared drives and it was hard to find information, there was no easy way to find a wanted document. There are a lot of different shared network drives, there are about 200 so yeah.. very unstructured, doesn't have a lot of metadata.. as an organisation we're lacking some of that basic records management functionality. And because the organisation is quite decentralized, the way that we have tended to do it in the past, is that each branch would often have their own process so the board presses for really doing the same thing. Which means that this from the central we can always say, you have to follow this procedure for student complains etc.. but right now that makes it hard to implement, because of the different processes.

- Q1.2: Did your processes not have the quality they could have had?

- Q1.3: Did you adopt an ECMS because it was easy to adopt, meaning information/support was easily available and the ECMS was fit for the technology in-place in your organisation?

Interviewee: Yeah in terms of question 1.3, I think there is a pretty good understanding of this at least the key managers that are involved have that, which is mostly IT area and government area. It involved a lot of change and communication, we certainly didn't do it because it was easy to adopt, it was expected that it would be a big change.

Interviewer: But did you already had the technology basis for it or did you have buy new servers especially for that system or something like that, was there a technological fit?

Interviewee: Yeah.. I think the organisation uses quite a lot of Oracle products, so there was an expectation this one would work quite well with what we already had.. so yeah.. staff already expertise with Oracle and could understand how the system works. But we haven't bought new hardware but we will have to buy new when we finally implement it.

Interviewer: So it was basically just because people knew what was going on around the Oracle systems.. did you take a look at other systems? Maybe open source software?

Interviewee: Yeah it was a real process, I think 3 or 4 vendors were identified potentially offering a solution. And they were all invited to submit their proposals and presentations and the Oracle one was the one that came out the best so yeah.. I gathered the two main selling points for Oracle were that they offered us a very good price, which was a discount on the usual price. And they also sold

the system to us because it was easy to connect the system to other's the organisation uses.. ahm so the architectural system can easily be adapted via adapters. You can buy adapters for different systems and that would be easier too with Oracle.

- Q2.1: Do your communicational processes demand an ECMS?

Interviewee: Yeah I guess..

Interviewer: If you just need some information from another department then you could just look it up in the ECMS, was it necessary before to call somebody who might know what's going on or something like that? Did your processes demand that people need to know information other people might hold?

Interviewee: Yeah.. There is simply a need.. well I don't think it's a big driver for us but ahm.. there is a lot of talk in the organization's strategic planning around promoting collaboration between the several locations of the organisation and being more collaborative.. but it's not really something we looked for in the ECMS. To-date, at the moment, any sort of collaboration between locations does really rely on people asking each other about information, rather than look it up in a central system. So it would be a different benefit, but it was not really identified as a key driver, bit more of a perk.

- Q2.2: What was the adoption approach taken? Was it top-down with managerial support, or bottom-up and pushed by employees or teams?

Interviewee: The decision to purchase an ECMS was a top-down thing. I really did come from the organisation council that we need something like it. There was a consistent pattern of difficulties in producing records when things went wrong. So there was a push from them to get management to do something about it and the ECMS was identified as one of the key things to tackle this. So certainly top-down.

- Q2.3: Did employees innovate new processes that demanded an ECMS to support the improve processes?

Interviewee: The next question is really interesting, because it's really around connection between innovation and changing business process and the ECMS. The organisation is looking at business processes and I mentioned before that there is at present, there is often different processes for the same thing at different locations of the organisation so there is a push at the moment to try and get the organisation's business processes mapped and standardized across the board. So there has been a project setup to do that and there is a project about how the ECMS could support putting new processes in place so when there is a process, that it can be and will be supported properly be the ECMS in a consistent way. I think there is definitely a connection there between business process review and

ECMS implementation.

- Q3.1: Did you choose to adopt an ECMS because of the positive effect on existing partnerships?

Interviewer: I mean not internal, from different locations, but really external partners!?

Interviewee: Yeah. The organisation works a lot with external partners and I guess that is one thing that we have. I didn't find it as one of the drivers, it is to insure that when different parts of the organisation deal with the same partner, that we're aware of what everyone else is doing, so having an ECMS will help us keep better records of our engagement with external partners and then we are actually able to deal with a more single voice. That is one of the problems that have been identified in the past, that often people deal with the same partner and are not aware of what other's are doing. It is often even hard to locate the current agreement with some of our partners.. could be here could be there.. so we're looking for an ECMS to help us out.

- Q3.2: Did you choose to adopt an ECMS because of external and competitor pressure or imitation/mimicking?

Interviewee: That's interesting. We certainly have looked what other organisations are doing and we had benchmarking exercise where we not only looked at ECMS but also records management etc.. how does that compare with similar organisations across Australia. Do they have ECMS in place, and we concluded that the overwhelming majority of them did so yeah.. that's one of the reasons why we think it's a good idea to have one here.

Interviewee: Yeah one of the interesting discussion we had at the organisation was about the choice of the product. All similar organisations in Victoria except for us have gone with TRIM as their ECMS. So TRIM was one of the products that was knocked out while we did that screening process. But it's always a question that comes up, why aren't we using TRIM when all the other organisations are using it, why are we doing something different. But yeah we use the same student management system so.. TRIM easily integrates with that so that's why they have it.

Interviewer: Your's is also pretty easy to integrate then?

Interviewee: Ahm in theory it should, yeah

Interviewer: But it's probably not only about the student system, it's also because people are used to use Oracle products here.

Interviewee: Yeah and I mean the organisation has a huge number of systems and we really should be able to integrate with the finance system and the HR

system and other various systems used.

- Q3.3: Did legal issues make you adopt an ECMS? If so, has it been due to data security or privacy issues or due to archiving laws?

Interviewee: For legal issues. Yeah that may have been a driver, I guess the main driver we had was legal action taken against the organisation.. it's often to locate the records that we need to make a case or understand exactly what the problem is and why it is caused. So the ability to locate documents and records for legal proceedings was one of the main drivers. Whereas data security and privacy hasn't been such an issue here. Obviously we have a lot of personal information about our customers but I am not aware of any incidents where that caused us problems. In terms archiving laws, we're subject to the Public Records Act so we do need to keep records for different time periods based on reception for several authorities the public record office put out. So that has been one of our drivers, there is a lot of different periods for keeping records and it's quite complicated to work out how long different types of records need to be kept, so one of the main advantages of having an ECMS is that we can hardwire all that information. That is certainly an issue, there is a huge amount of data on our network drives so yeah.. very hard to identify what could be destroyed, what should be kept.. at the moment it just all sits there.

- Q4.1: Was there a clear (functional etc.) relation between the organisation's strategy and the ECMS intended functions before the adoption? Was the ECMS maybe even part of an IT-strategy ?

Interviewer: You said there was no clear formulated IT strategy right?

Interviewee: Yeah, I think IT strategy has been a gap for the organisation in the past and that's part of why we ran into problems, because that's when I came on board 2009 and we decided to implement an ECMS, but at the same time we already implemented the student management system and there were other organisation system's that were also upgraded and you know.. there was not really a strategy or plan that said well, does IT staff actually have the capacity to have all these things running at the same time.

- Q4.2: Looking back, would you favor a more strategically aligned adoption or a more mid-level, problem-solving adoption ?

Interviewee: Yes, we definitely need a more strategically aligned adoption, say.. yeah at the moment without ECMS the project is in a bit of a hiatus, that's not going ahead of the moment because we do not have funding, but we still need to do this.. so hopefully when that IT strategy gets finalised it's one of the things we're looking forward to implement.

Additional questions:
- What was your role in the decision process?

Interviewee: In terms of my role of the decision process, so I wasn't working here in 2008 when the product was selected, and the group that selected it had a quite strong IT focus, 2 people from IT, 1 from the governance area, 1 from the business area, 1 project oriented person and yeah.. that's it.

- Was there a clear (functional etc.) relation between the organisation's strategy and the ECMS intended functions before the adoption?

Interviewee: Yeah obviously we haven't.. it's frustrating because we had the funding approved for 3 years but we weren't able to go ahead and spend it because we didn't have the IT people on board because they were involved in their own implementations of the student management system, so there were no open capacities. A lot of that does come down to planning, because even with the student management system project running, if there would have been a better plan in place we could have worked around that, because there was a lot of unsettled planning for instance about when the project is actually finished etc..

- Are you currently satisfied with the overall ECMS performance?
- How many and what changes of the ECMS have been made to increase functionality and achieve a higher integration and therefore strategic alignment
- Looking back, would you rethink the major decisions made during the adoption process?

[not suitable in this case]

- Do you have any more ideas on the overall topic?

Interviewee: I guess in our case, although we had these drivers for putting ECMS in place, in the end that wasn't actually enough to get us over the line at least so far.. what other drivers might we have needed to actually adopt ECMS is a nice question though. We should have ensured to put new plans in place that give better guidelines.

Interviewer: Did people in the ECMS project communicate with the student management system people as well ?

Interviewee: Ahm, it was technically a lot of concessions around.. one of the problems was getting information from the student project about how long it was actually gonna take, what the scale of the problems were. I think one of our problems was always seen as a hardcore priority, while ours was more seen as a support. The word was, even if we don't have an ECMS, we can still go on with what we have at the moment, so it was not seen as critical as the student management system. So in the minds of some people it was only seen as an optional

extra, but not essential for the work at the organisation.

- Do you have any other comments?

[closed]

C.7 INTERVIEW G

Position: Enterprise Architect at the CIO Office
Location: University of Melbourne - Skype interview

General questions:
- Please describe your organisation. [size, structure, general strategy]

Interviewee: Maybe it's good to explain also a little my position in the organisation. I am working [...]. Within that IT organisation there are the main parts, development department that builds and maintains applications. There is an operations department running the applications and the infrastructure and the CIO office and we are part of the security and architecture department within the CIO office. In the CIO office there are a couple of enterprise architecturects [...]. Each enterprise architect has next to his general focus also specific domains in which they specialise. Then we have business domains that are aligned with business and IT architecture and there are technology domains. Next to those domains we have specific subjects. One of the subjects has been getting attention was the whole set of document management systems [...].

Interviewer: So how large is that complete organisation?

Interviewee: The complete organisation in number of people?

Interviewer: Yes

Interviewee: I think it's around 100.000.

Interviewer: And this enterprise architecture team or the team you are in, do you have a specific role for the whole organisation? Do you explore new technologies or do you actucally have the power to push some IT related technologies in the company?

Interviewee: In fact we do. We develop set guidelines regarding the way our new systems should be developed and we check if those guidelines are properly provided to the projects who have to apply those guidelines. The guidelines themselves are approved by the organisation. So it is not the enterprise architect who is setting the guidelines, approving them and checking that they are properly applied but it is the CIO meeting that is approving those guidelines.

Interviewer: Alright that is good for the general stuff.

- Do you have clear statements for an IT- or knowledge management strategy?

Interviewer: Do you have a clear IT or knowledge management strategy that.. well you just said that departments somehow govern or stay in line with your governance proposals is that a mature IT strategy or is that still evolving and

how old is it?

Interviewee: It is not mature. Let's first make a difference between, to be clear, about knowledge management and enterprise content management and document management systems. For my feeling those are three different topics. If you talk about enterprise content I think you can also talk about E-Mails, tweets, files, additional documents etc etc.. it encompases everything which has to be stored and made available for day-to-day use and if you look at our organisation I think we are merely involved with document management systems and that is that at several business processes you have to store the physical documents, like for example in the cargo organisation. We have to store the invoices, in the aircraft maintenance department we have to store documentation related to components, at the human resources department we have to store the personal files.. those type of things. I think it has to do with scanning those documents, recognizing the documents, filing the documents and making it possible to receive those documents and to archive those documents, so in that case we talk about document management systems, which I think is a smaller scope than you are interested in with ECM so real enterprise content management systems.

Interviewer: Yes that's right. What I prefer to look at, if there is such a system, a system that is used really by a lot of people and nearly everybody uses. So it's very enterprise-wide, not just department- or SBU-wide.

Interviewee: Okay. So we have also systems that are generally used like for example if you know Alfresco, or Confluence. That kind of systems we also use.

Interviewer: And Alfresco is used enterprise-wide?

Interviewee: Yes. It is mainly used to store all kind of documents to make those company-wide available.

Interviewer: And Confluence is mostly used by IT-realted staff?

Interviewee: Yes.

Interviewer: Are these systems somehow interconnected, are there interfaces for communication?

Interviewee: Well that's one of the problems we have. We see a lot of departmental initiatives to have something to store and manage their own documentation. Some departments indeed within the IT organisation use Confluence. The IT was to go on with Alfresco a couple of years ago, but it is still not really used within the IT department. Nowadays our vision is that we should standardize more and I expect that in the coming years we will concentrate on the use of Sharepoint.

- How old is the ECMS / When did you introduce the ECMS?

Interviewer: Alright. To come back a bit more to the questions now. Let's talk about Alfresco, how old is it when did you introduce it?

Interviewee: Five years ago.

Interviewer: What was there before? Only shared harddrive or some other system?

Interviewee: We had a custom-made system allowing us to manage the web-content. So it was not a system we bought at the market.

Interviewer: That was also used enterprise-wide or only for web-related topics?

Interviewee: The system was used enterprise-wide yes.

- (What were triggers / events that resulted in the decision to adopt the ECMS?)

Interviewer: What was the main decision to well move on from the custom-made solution to get an open-source system like Alfresco?

Interviewee: I think the efforts required to keep it up and running and the functionality offered.. so if you look at that at a price, at a cost, we thought an open-source system would be much cheaper.

Interviewer: So there were no big problems with it?

Interviewee: That was also a problem, it was not easy to use, it was not well integrated with out office environment. It was quite laboursome to publish something or to change something within that environment. That is still also the problem with Alfresco. That is also why we feel that we have to a much more integrated system with our office environment.

Interviewer: When you chose Alfresco you said well you chose open-source because of the financial part. Were there other systems in the possible short-lists that could be adopted? Like for instance Sharepoint.

Interviewee: At that moment not. We looked at it as something we could use at relatively short notice without investments so the decision was rather quickly made. If you analyze it you see that a lot of people look at the Alfresco environment as a kind of drop and forget environment. They complain that it is very difficult to find something. That's why I think we have to go for a more structured approach and a more supported and standardized environment, thats we look at Sharepoint nowadays.

- Are you satisfied with the alignment of IT and business strategy overall?

Model questions:
- Q1.1: Was your application portfolio scattered and the adoption was part of a general overhaul initiative in the organisation?

Interviewer: Was your application portfolio with regard to ECMS scattered, was there just one application or were there other similar applications within other departments that have been used by a small amount of people? Did you just push Alfresco in to combine the efforts or what did it look like?

Interviewee: If you look at the document management systems it is really scattered with several systems in use. If you look at the systems in the collaboration and sharing area, like Alfresco or Confluence, also that is pretty scattered yes.

Interviewer: It was scattered or it is still scattered?

Interviewee: It is still scattered yes.

Interviewer: When you adopted it, did you see that other people were using different software or did the usage of software for instance with Confluence, did it evolve next to Alfresco?

Interviewee: Yes it evolved parallel.

Interviewer: So the Alfresco adoption was not really part of an overhaul of the scattered portfolio.

Interviewee: No, no no. It was more offered as an opportunity than as a managed and structured approach of how to manage and exchange documents via multiple departments.

- Q1.2: Did your processes not have the quality they could have had?

Interviewer: Ok, next questions. Did your processes not have the quality they could have had? So did people not find specific information they needed quite quickly, did they had to call a lot to get information?

Interviewee: I think it is still the case. Takes a lot of time to find the right information.

Interviewer: That was before Alfresco and is still the case now?

[Skype crash]

Interviewer: Did the system improve your processes or did you add new processes to Alfresco, did you customise the software in any way?

Interviewee: Basically the processes were not really improved. One thing is still, we spend to much energy in getting access to the information.

Interviewer: And was it one of the reasons to adopt such a system enterprise-wide because processes were bad? Was it a goal to improve finding of information.

Interviewee: For Alfresco I think it was the mind, but not explicitely expressed and managed. It was a low-cost approach to see how it works, how it should work, how it did work. Using it it was more a trial to get more experience with these types of environments.

- Q1.3: Did you adopt an ECMS because it was easy to adopt, meaning information/support was easily available and the ECMS was fit for the technology in-place in your organisation?

Interviewer: Ok, next question. Did you adopt Alfresco because it was easy to adopt, meaning well.. you already had the infrastructure for it, possibly the users did somehow know how to handle a web-based system, it was financially attractive?

Interviewee: Yes ahm.. yes yes yes.

Interviewer: Ok! Was there only Alfresco on your list of software that could have been adopted or did you also had a look at other open-source systems?

Interviewee: No I stated earlier that at the time the feeling was that we had to improve something. On the other hand the funds for significant structural investments were not there and we would like to start at short-notice. Those were the main reasons to start with Alfresco.

Interviewer: Who mentioned Alfresco as being suitable?

Interviewee: We did as architects.

- Q2.1: Do your communicational processes demand an ECMS?

Interviewer: Do your communicational processes demand an ECMS? So do you have a lot of communications going on that need to be recorded or available for your staff?

Interviewee: Do you mean the communication between the employees ?

Interviewer: Yes. Between the employees and others. It goes bottom-up and top-down, so reporting, seeing what is going on, steering of projects for instance.

Interviewee: Yes I think if you look at the type of work we are doing you notice that to make a result, a lot of departments are involved and thus departments contributed to the result and the final document has to be shared and needs to be available for everyone.

Interviewer: Before the system was adopted and a customised software was used did you have a specific structure or taxonomy on how to handle documents or was what different within each department?

Interviewee: We had no taxonomy or guidelines on how to handle documents.

Interviewer: Is that the case now? Did you give a clear structure or taxonomy with the implementation of Alfresco?

Interviewee: Also not, no.

- Q2.2: What was the adoption approach taken? Was it top-down with managerial support, or bottom-up and pushed by employees or teams?

Interviewer: Alright next question. You said your team basically came up with the idea to adopt Alfresco. Was that initiative also supported by the top-management or was it more like we need something, we are gonna have to do something here and just gonna throw it in and see how it works out?

Interviewee: We formulate it differently but basically your last sentence is the way it went.

Interviewer: But the top-management said 'yes do it', but did they have any idea of what kind of changes..

Interviewee: ..I think the topic and how high it is on the agenda of the top-management, I think.. I am not sure maybe it has been on the agenda of it has not been subject of deep discussions at that level.

Interviewer: Will the new decision with possibly moving to Sharepoint have a bigger attention by top-management?

Interviewee: I think so yes. Because it is now more a comprehensive approach, we do not talk about specific systems but about collaboration, about new ways of working, working at home or somewhere else. You see that the way people cooperate are changing, the way communication tools become much more important, but also sharing becomes much more important. It is now realized that this has to be supported in our structure.

- Q2.3: Did employees innovate new processes that demanded an ECMS to support the improve processes?

Interviewer: Well I guess your time is in charge of Alfresco stuff. Did employees send you emails and said 'guys this could be improved..' or 'can we have this process implemented' ?

Interviewee: Well we got of course remarks, but there were also departments that just don't use it because they have a number of shortcomings in that environment. For them to use it, it was more like 'if you need to store your documents, use this one'.

- Q3.1: Did you choose to adopt an ECMS because of the positive effect on existing partnerships?

Interviewer: Did you adopt Alfresco because of the use for partnerships ? So, not internal partners but external companies. Do they have access to specific parts of the systems?

Interviewee: In real life some external partners have been given access to this environment, but that was also not stimulated alot because the access security is basically not at the level we would like to have it. It means that if you give access to an external party, they are allowed to connect to specific areas, but that is not simple in that environment.

- Q3.2: Did you choose to adopt an ECMS because of external and competitor pressure or imitation/mimicking?

Interviewer: When choosing Alfresco, where did you know it from? Was it other companies, competitors? Was it just personal opinion?

Interviewee: We looked at the functionality, we invited the account manager, sales manager of Alfresco and discussed the possibilities regarding also the scale and then we made the decision.

- Q3.3: Did legal issues make you adopt an ECMS? If so, has it been due to data security or privacy issues or due to archiving laws?

Interviewer: Did any legal issues made you adopt a system like that? For instance there could be a lawsuit, and you're missing important documents.. we need to record anything.

Interviewee: I think that type of documents are not stored in Alfresco, that is not encouraged. That still is a topic of ongoing discussion, how to deal with documents that we have to store for legal reasons, compliance and so. For example for the maintenance department it is important to be in compliance with Dutch aviation guidelines and there the discussion are about to see if we can meet this

type of compliance with the current document management systems used over there, at their department. We also talk about the mails. You also have to store mails for a number of years, but also that type of storage is not considered to take place in the Alfresco environment. So you should look at Alfresco.. yeah those type of documents are not in Alfresco.

Interviewer: It was more of a spark to start collaboration within the organistion then?

Interviewee: Yes..

- Q4.1: Was there a clear (functional etc.) relation between the organisation's strategy and the ECMS intended functions before the adoption? Was the ECMS maybe even part of an IT-strategy ?

Interviewee: What do you mean?

Interviewer: Do you heavily require such a system and does it contribute to the overall business performance, does it make life much easier for you?

Interviewee: I think there is a need for those type of environments and it is also requested, but a comparison is made with the current way of archiving documents and maybe a more general enterprise content management way. I think the funding for such a structure, standardized enterprise-wide approach is not there, at the moment.

Interviewer: Well when it's there that's when you also plan the sharepoint thing?

Interviewee: Once again, the Sharepoint approach is driven by the need to improve collaboration. There is another driver you mentioned about compliance, regularity, law compliance. There are more specific points to address.

Interviewer: So Alfresco will be turned off when Sharepoint is being introduced?

Interviewee: Yes.

- Q4.2: Looking back, would you favor a more strategically aligned adoption or a more mid-level, problem-solving adoption ?

Interviewer: Looking back, would you favor a more strategically aligned adoption. So a more structured adoption with everybody on board, trainings etc.. or would you favor a more mid-level, problem solving approach, every partner throws in something, but then you have the risk that in the end people would not use the system. So would you favor a more structured approach to that, if

you could do it again?

Interviewee: I think that a more structured approach is better yes.

Interviewer: And that will be the case with Sharepoint?

Interviewee: Yes.

Additional questions:
- What was your role in the decision process?

Interviewee: Regarding this decision?

Interviewer: The adoption decision for Alfresco, I guess you had a team, project manager, leader and so on..

Interviewee: My role was mainly to formulate a more joint policy regarding the use and the management of the document management systems.. so those are the systems used by the business departments to store their operational documents, like invoices, bills, tickets.. those type of things. And I was not directly responsible for the move to Alfresco and the customization, but those decisions took place within my department so I know exactly what happened.

- Was there a clear (functional etc.) relation between the organisation's strategy and the ECMS intended functions before the adoption?

Interviewer: Yeah I think we had that question already. There was no real relation between strategy and functions or did you had a specific look at the functions that needed to be there, especially on collaboration level?

Interviewee: I think in the current situation there is a much more clear link between the functions the company needs and the IT strategy yes.

- Are you currently satisfied with the overall ECMS performance?

Interviewer: Are you satisfied with the overall performance of Alfresco or not so much ?

Interviewee: Yeah.. it's.. I think the performance is okay. It depends of course on the amount of infrastructure you put in it. The functional use we are less enthusiastic about, and especially the possibilities to search for a specific document. What's happening that in this large environment that if you specifiy a search term, you get back a huge number of references and you still have to consult the references before you find the document you need. That makes it less attractive to work with.

- How many and what changes of the ECMS have been made to increase functionality and achieve a higher integration and therefore strategic alignment

Interviewer: Did you do a lot of changes in the system? Like customization from start?

Interviewee: Alfresco was implemented out of the box. Maybe one change, that it was behind our LDAP directory so that people have to authenticate themselves to be authorized to the system, that has been done.

- Looking back, would you rethink the major decisions made during the adoption process?

Interviewer: So would you for instance chose another system or would you do the same all over again?

Interviewee: Yeah.. I think you have to look, I think the time we made the decision I think it was good to do this because we got a lot of experience with these systems and possibilities. What could be done, what could not be done. At that time it was good. Nowadays we have more experience, clearer needs and functions. So nowadays you can look at the possibilities which are now on the market.

Interviewer: Was it planned as test run and then possibly run something else after five years or was is thought to be system that everybody uses?

Interviewee: The idea was that.. well just give it a try, if it turns out to be very successful the use will continue and will grow and if its not successful we have to rethink. So there was no well defined future strategy. The need at that moment to have something, the need to do it on short notice, the need not to make huge investments and that could might lead to the implementation. That was the situation at that time.

- Do you have any more ideas on the overall topic?

Interviewer: Okay thank you very much.. do you have any other ideas on the overall topic?

Interviewee: I think it's indeed a very important topic and what we feel is that the structural approach as in clear guidelines how to use so that people share the information, I think that is really important topic we have to work on.

Interviewer: Just my personal questions, were there any trainings for the system?

Interviewee: Ahm no.

Interviewer: You're planning something more structured for Sharepoint?

Interviewee: Yes.

Interviewer: And you're also using office I guess?

Interviewee: Yes.. because that is a comprehensive approach looking at the number of systems to be used to make collaboration happen.

Interviewer: Did you consider the cloud?

Interviewee: Yes, that is also something is being considered. For instance with Microsoft Office360..

Interviewer: I guess you have a specific infrastructure in your company internally?

Interviewee: Yes, but what again?

Interviewer: I think you might have the internal IT resources to manage these systems without cloud, so you do not necessarily need to move to them.

Interviewee: Yes. When we talk about these systems we run them on our own infrastructure, but clearly we have the option to outsource these systems and use cloud providers.

Interviewer: Thank you very much for your time.. appreciate that.

C.8 INTERVIEW H

Position: Integration Services Manager
Location: University of Melbourne - Skype interview

General questions:
- Please describe your organisation. [size, structure, general strategy]

Interviewee: My position at the organisation is Integration Services Manager, predominantly I take care of and am responsible for the internal IT infrastructure, the support teams (internal as well as external). That is within the executive team here and it's actually quite a new role here. The whole organisation is very service oriented for internal as well as external customers and we have proven support models in place, so that arranges everything to a point where information is easier to find, also for customers.. makes it easier to get in contact with us, faster responses.. the technology aspect is key for us an ECMS does come into the equation as well.

Interviewee: In terms of the actual size of the organisation, we have around 100 staff globally. At the head office here in Australia we have a finance team, HR, software development team, marketing, service and support, and we also have sales and training offices in the US and in the UK.. and we're expanding there as we speak. The markets are mainly education and commercial, and the audience is quite different within these sectors, but our main strategy is to provide accessible research software. Our key product is [...], I'm not sure if you..

Interviewer: Yes, I know it.

Interviewee: Yep, so that's pretty much what we do. That's pretty much it about the organisation.

- Do you have clear statements for an IT- or knowledge management strategy?
- Are you satisfied with the alignment of IT and business strategy overall?

- How old is the ECMS / When did you introduce the ECMS?
- (What were triggers / events that resulted in the decision to adopt the ECMS?)

Interviewer: So what kind of ECMS do you have and how old is it?

Interviewee: We pretty much have 2 content management systems. The first one is predominantly used by the marketing team for concept management and websites.. that was implemented before my time. Around 7 years ago.. but we actually work with Sharepoint for internal use. The key drivers in choosing Sharepoint, versioning control, management insight around that, and we had an issue of data centralization in our organisation. We could not really update data sets or edit them. On top of that, one of the advantages of the ECMS was that it would be in line with our collaboration and sharing strategy in the business segment. So that would be in-line with our business and IT-strategy. The IT strategy was simply 'maximize the ROI' so aligning services, consolidation of technology. From the business strategy point of view it's all about having efficient processes in place.

Interviewer: Do you have a technology base in the IT strategy? So do you use Microsoft a lot or are you more open-source focused?

Interviewee: We actually use Microsoft. We're also a MS Gold Partner so that is easy to integrate and to get the software. That was probably one of the key reasons why we went with Microsoft. If we didn't have that Sharepoint server, it would have been one of the other technologies.. it would have come down to additional costs then. It integrated well with the other systems in place as well, so that was also part of the main reasons to choose Sharepoint, the central repository.

Model questions:
- Q1.1: Was your application portfolio scattered and the adoption was part of a

general overhaul initiative in the organisation?

Interviewer: The first model question is about your internal characteristics of your technology. Before you had Sharepoint, what did you use and did you use multiple software packages or just shared hard drives?

Interviewee: A lot of business applications were scattered. So in terms of documents, they were several drives somewhere, but not centralized. In terms of our CRM systems, pretty much no versioning. So that was affected as well. Then Sharepoint allowed us to integrate everything and enable version control over our records.

- Q1.2: Did your processes not have the quality they could have had?

Interviewee: The questions here is, did our processes not have the quality they could have had. Well, so in terms of the process quality, I guess it comes down to how efficient we could have been. Not having an ECMS system in place, it really should not be seen as lack of quality or of input of work.. rather it does allow the quality of work to become more efficient and better. At certain times, version control makes it easier to work with documents, going through approval work for instance.

Interviewer: But afterwards it improved your processes ?

Interviewee: Yeah, so far it definitely has helped with upgraded processes and the record sets. Stuff like HR documents, all the top documents, this allows us to control security over these documents and makes it easier. In terms of versioning control, we now have the ability to track what version was it back then etc..

- Q1.3: Did you adopt an ECMS because it was easy to adopt, meaning information/support was easily available and the ECMS was fit for the technology in-place in your organisation?

Interviewee: In terms of the technology. Sharepoint was not put in place so much because.. or any solution if you see it from a technical and information point of view because it was easy to adopt.. I think the key challenge is the cultural adoption, so the end-users adapting to technology, how it incorporates within the organisations needs and how it is really helping. So I think it is really important for people to get trained, understand how to use the technology, as well as adopt to the new processes as well. So in terms of how we approach that problem and increase adoption rate, for every project there is a project management team which informs each department, when there was a handover, training would be conducted with key people and champions, we adopted a sort of train-the-trainer model for key leaders, key staff.

- Q2.1: Do your communicational processes demand an ECMS?

Interviewee: Communicational processes, yeah well, a request comes to IT and we respond to that request by a service.

- Q2.2: What was the adoption approach taken? Was it top-down with managerial support, or bottom-up and pushed by employees or teams?

Interviewee: So I would say the initial recommendation came from the staff. The project itself was then run by management once everything was approved, and key staff was involved as well.

- Q2.3: Did employees innovate new processes that demanded an ECMS to support the improve processes?

Interviewee: Yes, that's actually something that is still ongoing, so again going back to the system that was put in place.. have records sets etc.. from a IT point of view it reduced data storage etc.. now I am pretty comfortable that a cultural adoption has caught up to where we now have position where we can take Sharepoint to its next level. That's further refining control and security, and collaboration in the organisation.

- Q3.1: Did you choose to adopt an ECMS because of the positive effect on existing partnerships?

Interviewee: It definitely had an impact on existing partnerships. What they say is that the ECMS is pretty much in place for the website. What they said back then, they want to resell it to external customers, as far as ease of updating information. Internally, long term vision is pretty much to turn it into an external model. So it did have a role in the process, but not a key one.

- Q3.2: Did you choose to adopt an ECMS because of external and competitor pressure or imitation/mimicking?

Interviewer: Did you do it because of competitor pressure or did you have a look at other companies?

Interviewee: Internally.. what competitors use we do not really know.. but one of the key drivers in using Sharepoint was definitely the market size, that was important for us. Gartner rates them, it has the features etc..

- Q3.3: Did legal issues make you adopt an ECMS? If so, has it been due to data security or privacy issues or due to archiving laws?

Interviewee: There were no real legal issues at our corporation. The adoption made it easier to create and track record sets, but it was no issue.

- Q4.1: Was there a clear (functional etc.) relation between the organisation's strategy and the ECMS intended functions before the adoption? Was the ECMS

maybe even part of an IT-strategy ?

Interviewee: In terms of the organisation's strategy, it was about a need for staff satisfaction and finding a sufficient way of handling workflow processes. From an IT strategy viewpoint, it was more about having a system that manages version control, improves security management and content management. With those 2 alignments we have some standards that allow us to raise efficiency of the processes. Before, everything was done manually, that's better now. We just need training and assistance.

- Q4.2: Looking back, would you favor a more strategically aligned adoption or a more mid-level, problem-solving adoption ?

Interviewee: For us back then it was kind of.. so we had a problem and we also had the need in the organisation and the business and IT strategy layers. I think they actually go hand in hand. You can't have an aligned adoption when there is no guidelines there.

Interviewer: I found out that it is quite hard to say something related to these questions when you're an IT company, because usually you implement systems to help your information spreading across teams, or versioning, or storage, that's usually hard to tell with software companies. For software companies one would maybe ask 'Would you favor a more planned approach' but I guess you had project management on top of all the things, you had trainings, so I guess it was already pretty structured.

Interviewee: Yeah! So in terms of training, it was I suppose strategically. For us, perhaps, the question is more do we take a reactive approach or a proactive approach. So we definitely prefer the proactive approach in terms of that. It is better than to wait out and get stuck with a bad system. Additionally you eliminate the risk of putting a system out and people will not take it up appropriately.. which results in a low ROI.

Additional questions:
- What was your role in the decision process?

Interviewee: My role in the decision process. Back then I actually was an IT systems admin here at the organisation. So I was more of an adviser in that process, I was mainly involved in working on proposals and requirements for this. But I was not involved in the decision process itself.

- Was there a clear (functional etc.) relation between the organisation's strategy and the ECMS intended functions before the adoption?

Interviewee: Again a clear functional relation between the organisation's strategy and ECMS, so again the organisation was about to improve collaboration, as well as from what we see from company growth point of view, in the future, per-

haps 2-3 years from now, working together with partners and open up to them. So adopting a system that will allow us to deliver that information is important. It was part of that decision, the future possibilities.

Interviewer: Are you working on that yourself, so is that a customized module or something else?

Interviewee: We've customised Sharepoint, but there are also out of the box parts of course.

- Are you currently satisfied with the overall ECMS performance?

Interviewee: In terms of performance, so in terms of technical performance, it's pretty much average performance, people get the information they need. They can work with it etc.. the key performance has been more important in terms of cultural adoption, that was probably a bit slower than we would have thought it would be, but it definitely now at a stage to take it to the next level.

- How many and what changes of the ECMS have been made to increase functionality and achieve a higher integration and therefore strategic alignment.

Interviewee: In term of changes to the existing system, it was pretty basic when introduced, good for the first three years, there have been a few minor tweaks here and there of course. We simply improved searching capabilities to make it available across the organisation, how it can be found, as well as versioning control and data retention functionalities. There hasn't been anything major other than that.

- Looking back, would you rethink the major decisions made during the adoption process?

Interviewee: It probably takes some years to get the final approval to adopt a system in an organisation, looking back and rethinking that I think that we should improve the process perhaps in terms of analysing requirements. In terms of made decisions, of what has been chosen and been recommended, I don't think that would change, pretty much listened to what the audience was saying.

- Do you have any more ideas on the overall topic?

Interviewee: I think, there is a challenge with moving more technologies to a cloud-based model.

Interviewer: Do you think of that right now or have you thought about it back then?

Interviewee: No, but right now most of the IT companies are moving to cloud based solutions. When it comes to internal information and company informa-

tion, the key challenge is the high amount of security. Once you do it, it's probably less of a technological challenge but a challenge of how you actually do it. Adoption, customers, billing, big data.. sitting elsewhere those are the general challenges I think there.

- Do you have any other comments?

[..project working on.. personal experiences..]

C.9 INTERVIEW I

Position: CIO
Location: University of Melbourne - Skype interview

General questions:
- Please describe your organisation. [size, structure, general strategy]

Interviewee: Well let's start

Interviewer: Yeah let's just go through the questions together.

Interviewee: So firstly I'll go through it but you can also get the details at our website. We have about 2000 people in our company, the majority of them are drivers, so we're a transform logistics organisation. The majority of our staff are drivers or yard staff, I have about 500 to 550 computer users and we have quite a flat structure as well. We're broken up in 4 different business units, [...].

Interviewer: Ok and you said mostly drivers and 550 computer users, what do they do?

Interviewee: It would be mainly administration and HR and stuff like that. People that for example put the orders in the system, they do the invoicing, the billing, the managing, the fleet controlling, all that kind of stuff. So probably a lot of documentation. There is also shared services, so HR, IT, safety, corporate.. the commercial managers, sales all that kind of stuff.

Interviewer: What's your general strategy?

Interviewee: We're still working through it at the moment, but broadly it is about growth. We're looking at growing as a company.

- Do you have clear statements for an IT- or knowledge management strategy?

Interviewee: Look, the reality is, look.. we've been in a very unusual situation, so.. I am told now we're working the business strategy, but prior to this the business strategy was not highly documented, and it was there.. but whether it was communicated to the entire organisation, probably not. So, based on that, the IT

strategy, I had gone through and drafted something and had a strategy ready to go out. But because we've eventually just been through a significant change in leadership, we have a new managing director and CEO, therefore putting together a new strategy based on that. So I knew my IT strategy would have to change. So to answer your questions: the IT strategy is currently revised and developed and we'll be communicating it probably the next quarter.

Interviewer: I guess it now states basic things like probably a common infrastructure and techbase you use.

Interviewee: Well yeah the strategy talks more about other things.. so probably if the organisation wants to grow, what can we as IT do to support the company to grow. And then you're right, some of the stuff is based on infrastructure, now what do we need to do to make sure the lights are on and we're also supporting the business to achieve what they want to achieve in their business strategy.

- Are you satisfied with the alignment of IT and business strategy overall?

Interviewer: Well you might not be able to answer that question properly, as this is still in development right?

Interviewee: Actually, yes I am, because it is something.. even though it's not broadly and efficiently communicated, we are in close alignment with the business.. I have an IT committee steering meeting that's done every month. There is.. I am in close collaboration with all of the executive team and the stakeholders, so I know where the business is going, and they know what IT is doing, and we're in an agreement in terms of what we're doing and what we're doing supports business strategy. So even though it's my IT strategy it is not being communicated with the whole world, that's because I am waiting on the business strategy, even though that has not happened yet, but I am confident in what we're doing to support the business strategy.

- How old is the ECMS / When did you introduce the ECMS?

Interviewer: You said you're currently looking at Sharepoint right? Do you have an ECMS in place right now?

Interviewee: Well.. it's an interesting question. What we use currently for our content management, we have an intranet which we use quite extensively, that's very good for our policies and procedures and forms.. and we have very strict order processes and all of that. We do have a quality assurance manager and her job is to make sure that we are doing the right things from a client perspective, but we do not have content management systems like Sharepoint or anything like that.

Interviewer: What is the intranet based on?

Interviewee: We've developed an inhouse transport management system. Obviously we got shared drives that we use to share documents with each other, but there is no formal content management system. The business doesn't see a need for it really. We do have a knowledge strategy. We transfer tacit knowledge to documents, procedures etc.. we do basic knowledge management principles. But when it comes to Sharepoint the business doesn't see a problem with how it works right now. If it ain't broke, they don't wanna fix it. We're working in an industry which has a very lean profit margin, every dollar that we spent, is dollar coming off our bottom line.. it really is quite significant and it's not something that is being pushed by the business.

Interviewer: But you push it because you know there is probably gonna be some problems if you don't address it.

Interviewee: Yeah that's why, look there are certain aspects of Sharepoint for example, based on the fact that the business is not really pushing it, there are two approaches that I am looking at. One is I am trying to pilot it in IT, so we can show and sell it the benefits to business. Number two is that we are looking at Sharepoint, as we are already licensed with them, there's not gonna be any costs involved. And number 3, we are already a Microsoft shop anyway, so it will fit with everything else.

- (What were triggers / events that resulted in the decision to adopt the ECMS?)

Interviewer: Were those also the main drivers that motivated your decision? I mean, already licensed, low financial costs..

Interviewee: Yeah that's why. I see a benefit of using Sharepoint. Couple of benefits actually, one for example is our intranet, which is based on an inhouse solution and it is not as good as it could be, the search facility is not very good.. no versioning etc.. Sharepoint would have a big impact on the business, search, automatic versioning etc.. so I see some business benefits there, but those benefits are not big enough for the business people to want them to change. So what I am doing right now is to develop the prototype in IT and we use it ourselves and we show them how they can do it. Search will be better, the network connection will be better. Once we get them to think that way, then we can start the process of moving the whole business to Sharepoint. Why Sharepoint? Well finance is one of the things that come in you know, one of your key drivers you must have business in it and for any project to work. If the business isn't driving it, you're most likely to fail. So you gotta have the business buy into it, and the way the business is going to buy into this is by showing them the benefits.

Interviewer: I guess you will host this inhouse, did you also consider moving to the cloud with Sharepoint?

Interviewee: Yeah look, at the moment we looked at the cloud overall and we're actually setting up our own private cloud, the public cloud we have a bit of a concern right now, it's not there yet. I am considering moving some parts to the cloud, but would I move Sharepoint to the cloud, I don't know yet.. something I haven't really looked into to be honest.

Model questions:
- Q1.1: Was your application portfolio scattered and the adoption was part of a general overhaul initiative in the organisation?

Interviewee: Look, they all use either Excel spreadsheets or shared drives (intranet).. everything they're using is either on the internet or shared drives.. there probably is some paper processes etc around as well.. but they are all pretty much the same..

Interviewer: So it is not really scattered?

Interviewee: Right it's not. Nobody has it's own ECMS or similar. There are shared drives and the intranet, that is pretty much it.

- Q1.2: Did your processes not have the quality they could have had?

Interviewer: So you stated that the search is bad, that some for instance, form processes if they have to be signed and approved, I guess that can be improved?

Interviewee: Yeah look, what I see is being possible and better. The business doesn't see a major issue for them, so therefore they have the approach 'if it isn't broken, don't fix it'.. so.. do I think some of the processes could be improved? Yes.. but when I look at and when I compare where we are at as a transport organisation, in comparison to many other transport organisations, we are far far above and beyond in terms of technology. So in terms of processes could be better.. Yes, there is always room for improvement.. Does a business see problems so we would have to take a move right now? No. That's something we can do in a medium term.

- Q1.3: Did you adopt an ECMS because it was easy to adopt, meaning information/support was easily available and the ECMS was fit for the technology in-place in your organisation?

Interviewer: You mentioned you're already fully licensed, it's not financially risky.. you have the tech basis. Or did you also had a look at for instance Alfresco or other open source systems?

Interviewee: To be honest, we haven't been looking at others. We have just been looking at this because the license is already covered, we're also a Microsoft shop and probably it would be our first preference. So what we're doing is we're going through it and have a look at how it works and when it doesn't meet our

needs, we'll have a look at something else.

- Q2.1: Do your communicational processes demand an ECMS?

Interviewer: So, for instance, the process of form signing, I guess that could be better solved with such a system, or is there no real need for that.

Interviewee: Does it demand it? No. Would the processes be better with it? Yeah it would. But it doesn't demand it.

Interviewer: Are you also in one office or is it often the case that signatures need to be collected around the whole continent?

Interviewee: Around the whole continent. We have 20 sites and in total 47 branches around the country including NZ.

- Q2.2: What was the adoption approach taken? Was it top-down with managerial support, or bottom-up and pushed by employees or teams?

Interviewee: Well this is a hard one isn't it. We're looking at all three probably. Influencing top-down mostly probably.

Interviewer: First you gonna pilot it in your department right?

Interviewee: Yes and then we're gonna test it other areas as well.. I can slowly sell it across the business.

- Q2.3: Did employees innovate new processes that demanded an ECMS to support the improve processes?

Interviewer: Well you cannot really answer the question, yet. But would you think that would be the case once the adoption is finished?

Interviewee: Yeah that happens to us right now with all of our systems. We try to get the business to drive the majority of the changes. They come to us and say hey we would like to x or y..

Interviewer: Ok, did you actually do a lot of customisation in your current system?

Interviewee: Ahm our current system was developed from the ground up inhouse. Yes we did. Well we got three different transport management systems inhouse. What we are trying to do is we're trying to do vanilla implementations, whenever there is an upgrade or something like that, it is an easy upgrade to do. I prefer vanilla.

- Q3.1: Did you choose to adopt an ECMS because of the positive effect on existing partnerships?

Interviewee: To be honest I don't think it will make that much of a difference to them.

Interviewer: Are they using the system that is in place right now. Do they have access to that?

Interviewee: Look our external companies only access for example our transport management systems. And Sharepoint would not have an effect on that. It would probably only help... the main things I would see is to help us internally not externally.

- Q3.2: Did you choose to adopt an ECMS because of external and competitor pressure or imitation/mimicking?

Interviewer: Well you already said that you are quite ahead of your competitors. Did you have a look at your competitors when deciding that you should upgrade or adopt an ECMS?

Interviewee: No I haven't when it comes to competitors. There are not as many that are in the same ballpark as us from a technology perspective. The only 2 that would be ahead of us and would have a much bigger budget would be X and Y. Yeah in terms of other competitors, no I don't really see massive pressure from other places. It's pretty much only internal pressure, workflows, intranet, I don't think there are any external pressures.

- Q3.3: Did legal issues make you adopt an ECMS? If so, has it been due to data security or privacy issues or due to archiving laws?

Interviewee: Yeah. Look a large part of what it is we do we have a strong need for compliance so there is a lot of government regulations and rules etc. From a legal perspective we need to keep a very tight track of what versions.. let's say somebody did something wrong.. and we would need evidence that this person has done all the trainings necessary to drive that specific load etc. We have to be able to show that they have looked at the correct version of the content and our records. So from that perspective the compliance requirements, we need the world to show that. Currently we manage that within our processes and proper versioning etc, names.. naming on the documentation. But using Sharepoint, that should make things easier you know, we have the names and versions automatically stored and are not reliant on a person following the right process.

- Q4.1: Was there a clear (functional etc.) relation between the organisation's strategy and the ECMS intended functions before the adoption? Was the ECMS maybe even part of an IT-strategy ?

Interviewee: Probably I haven't gotten into it as much as I could but there will be improved processes, that is part of it. So improved processes and technology is a part of our business strategy so therefore, yes, Sharepoint will directly contribute there.

- Q4.2: Looking back, would you favor a more strategically aligned adoption or a more mid-level, problem-solving adoption ?

Interviewer: Well I guess you're doing it kind of strategically. So let's say you start with the real adoption of the system, I guess you're gonna do it with trainings, top-management support, small training groups and these things right?

Interviewee: Yes that's right. Absolutely.

Additional questions:
- What was your role in the decision process?

Interviewee: Well I am the decision maker.

Interviewer: Do you also have a small group of people that you ask what to do or did you sit together?

Interviewee: Yeah I have a team, infrastructure team and business systems team. I would be project managing the adoption or give it to somebody else, depending on time. And I got stakeholders which obviously are the business exec and business users as well. A large part of my role there will be that they are all on board and managing the stakeholder relationships.

- Was there a clear (functional etc.) relation between the organisation's strategy and the ECMS intended functions before the adoption?

- Are you currently satisfied with the overall ECMS performance?

Interviewee: Yes. I think it could be better, but it isn't broken.

- How many and what changes of the ECMS have been made to increase functionality and achieve a higher integration and therefore strategic alignment

Interviewer: Is it still an ongoing development?

Interviewee: Yeah there are some small ongoing changes yes.

Interviewer: There will also be some with Sharepoint?

Interviewee: Yes

Interviewer: And your team has the knowledge to customise Sharepoint as well?

Interviewee: Well that's something I've gotta go through and understand a bit more. I got a few people that are familiar with Sharepoint, but I think there need to be more developers involved, I probably have to skill them up a bit more.

Interviewee: For example we're gonna use a workflow. Obviously that needs configuration. But like I said I want it to be as vanilla as possible. Vanilla implementation with customisation that has been done right, that will be done by us. That consistently happens as you try to maintain it as well.

- Looking back, would you rethink the major decisions made during the adoption process?

Interviewer: Would you up till now rethink any major decisions in your process? Or you might regret something later on if something goes wrong?

Interviewee: At the moment I hope not. Look that's why I am taking the approach of trying to make sure we do things smart, we do them right and also not trying to rush the business into it. Like I said the business isn't driving this, this has to be something that I am doing behind the scenes as a pilot so I can demonstrate the clear business benefit. From a business perspective I am supporting them to achieve the business goals and the business strategy. Let's be honest, you might not have a lot of experience in the business world but particularly companies look at IT as being a cost center, not a revenue generating center. So you need to be sure that you are producing the delivery.. you delivering anything you need to so the business can continue to function. So from a business perspective, their priorities are my priorities, and this is happening in the background.

- Do you have any more ideas on the overall topic?
- Do you have any other comments?

Interviewee: I did Knowledge Management consulting myself and being out there, regardless of the outcome, the business has got to buy it and the business is gonna have to drive this change, if not the whole project is more likely to fail. When I did my master's, that was my CSF of a Knowledge Management project, so this is the same thing here right now.

[Thanks for time .. ending..]