AN AWARENESS OF EDMS IMPLEMENTATION
AT THE PRE-IMPLEMENTATION STAGE AT MCMC

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DEDICATION

Specially dedicated to my beloved family

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ABSTRACT

This study focuses on the Electronic Document Management System (EDMS) implementation process at the pre-implementation stage at the Malaysian Communication and Multimedia Commission (MCMC). MCMC is a de-facto regulatory body in Malaysia regulating the communication and multimedia sector in Malaysia comprises the licensing of the said industry and the regulator for digital signature, broadcasting, and postal services. This research aims to understand how the implementation team implement EDMS in the pre-implementation stage in MCMC and obtain the factors of the pre-implementation stage by adopting Lewin's Model of Change. Next is to gather the factors of the pre-implementation stage and identify the weakness and shortcomings of procedures in the pre-implementation stage. This research will identify one of the key areas that should be put more emphasis on, as well as increasing the awareness level of MCMC staff towards EDMS at the pre-implementation stage in MCMC. The findings from this research will be formulated and provide recommendations on the best practice of procedures and processes in the pre-implementation stage to ensure the best delivery for the next life cycle, the implementation stage.

Keywords: Electronic Document Management System, EDMS Pre-Implementation, Lewin's Model of Change

ABSTRAK

Kajian ini memfokuskan berkenaan proses implementasi Sistem Pengurusan Dokumen Elektronik atau *Electronic Document Management System* (EDMS) di Suruhanjaya Komunikasi dan Multimedia Malaysia (SKMM). SKMM adalah badan pengawalselia tunggal di Malaysia yang mengawalselia sektor komunikasi dan multimedia di Malaysia yang merangkumi pelesenan industri berkenaan. SKMM juga bertanggungjawab sebagai badan pengawalselia untuk tandatangan digital, penyiatan dan perkhidmatan pos.

Matlamat kajian ini adalah untuk memahami bagaimana pasukan EDMS SKMM menjalankan implementasi di peringkat pre-implementasi serta mendapatkan faktor-faktor di peringkat pre-implementasi dengan mengguna pakai Model Perubahan Lewin. Seterusnya, pengkaji akan mengumpul faktor-faktor di peringkat pre-implementasi dan mengenalpasti kelemahan dan kekurangan dalam prosedur di peringkat pra-implementasi. Kajian ini akan mengenalpasti salah satu daripada bahagian penting yang perlu diberi perhatian dan juga meningkatkan tahap kesedaran kakitangan MCMC terhadap EDMS di peringkat pra-pelaksanaan di MCMC. Penemuan daripada kajian ini akan di formulasi dan akan mengemukakan syor dalam amalan terbaik kepada proses dan prosedur di dalam peringkat pra-implementasi untuk memastikan penyampaian yang terbaik untuk kitaran seterusnya iaitu peringkat perlaksanaan atau implementasi.

Kata Kunci: Sistem Pengurusan Dokumen Elektronik, Pra-Implementasi EDMS, Model Perubahan Lewin

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TERM	DEFINITION
EDMS	Electronic Document Management System
MCMC	Malaysian Communication and Multimedia Commission
Big Fish	A code name of digital transformation initiatives by MCMC comprising of multiple level of digitization and digitalization of documents and processes spanning of 2 years. The initiative will have expected to be completed in 2022.
NADI	A quarterly newsletter circulated internally within MCMC that provide information the progress of various activities in MCMC.
MCM	Management Committee Meeting.
HR Connect	An online Human Resources Management System where MCMC staff can manage all HR related matter such as applying leave, updating personal information and next of kin, applying applicable allowance etc via MCMC intranet. It is the equivalent of HRMIS in the Malaysian Government sector.
SIFESS	An online Financial Management system for MCMC where all financial transactions, invoices, receipts etc were managed. This system is limited via MCMC local intranet only.
iPROC	An online Procurement system where all procurement related matter are managed from creating Request for Quotation (RFQ), issuing Purchase Order (PO) and many more. This application also operated via a limited MCMC intranet. It is akin to ePerolehan used by the Government of Malaysia.

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CHAPTER 1

INTRODUCTION

1.1   Introduction

This research focuses specifically on the Electronic Document Management System (EDMS) implementation process at the pre-implementation stage at the Malaysian Communication and Multimedia Commission (MCMC). MCMC is a de-facto regulatory body in Malaysia regulating the communication and multimedia sector in Malaysia comprises the licensing of the said industry and the regulator for digital signature, broadcasting, and postal services.

Strategic Information Technology Division (SITD) is one of the departments in MCMC that plays a vital role as the backbone of all information technology (IT) applications, implementations, and support in MCMC. The division is divided into four departments: Managed Network Services, Enterprise Information Systems, IT Service Management, and IT Continuity Management.

EDMS is a collection of technologies that work together to provide a comprehensive solution for managing the creation, capture, indexing, storage, retrieval, and disposition of records and information assets of the organization (North Dakota State Government, 2021). It is a leap forward to replace the old and archaic paper-based system, which has a lot of flaws that lead to inefficiencies, increase in cost and manpower, as well as confidentiality issues.

This chapter will discuss the sub-chapter, which includes the organization's background, problem statements in the said organization, answering the research questions and related objectives, the researcher's role and ethics, proposed research theoretical and practical significance, and term definitions.

1.2   Organization Background

Malaysian Communication and Multimedia Commission (MCMC) was established under the Ministry of Communication and Multimedia Malaysia. Through the establishment, MCMC has been empowered as a regulator in the communication and multimedia sector through the provisions stated under the Communication and Multimedia Act 1998 ("CMA 1998").

During the establishment of MCMC in 1997, MCMC was using a legal document, and record-filing system inherited from then was known as Jabatan Telekom Malaysia (JTM). JTM was a government department under the Kementerian Penerangan Malaysia in the 1990s, and Radio Televisyen Malaysia (RTM) dan Jabatan Penerangan Malaysia (JTM), its sister's agency. JTM was then dissolved and became MCMC as we know it today. In 2012, MCMC with Arkib Negara Malaysia (ANM) started to implement document and records management in accordance with ANM standards and, subsequently, a new revision of standards by ANM in 2015. ANM is a government agency under the Ministry of Tourism, Arts and Culture Malaysia responsible for the preservation and documentation of public and historical records. ANM also provides records disposal, training, and consultation service for file classification purposes to all government agencies and organizations who want to properly document and record-keeping practices and standards.

Since then, MCMC has been using the same filing classification system based on the Panduan Sistem Klasifikasi dan Pendaftaran Fail Suruhanjaya Komunikasi dan Multimedia Malaysia published in the same year in 2015 to standardize the documents and filing system across the organization as recommended by the ANM. Panduan Sistem Klasifikasi dan Pendaftaran Fail Suruhanjaya Komunikasi dan Multimedia Malaysia was published to create uniformity in MCMC's filing classification, systematic record creation and searches to fulfil the need for audit, investigation, and compliance purposes and helps in the preparing for the Record Disposal Schedule.

1.3   Problem Statement

Currently, MCMC is still using the traditional paper-based document system in almost all of its operations. Taking the approval process for an international meeting of MCMC officers, for example, the approval needs to be in the form of a memo containing the background of the meeting, a list of officers nominated to attend the meeting, financial implications, and a conclusion. This memo requires the signature of the Head of Department, Head of Division, Chief Officer, and finally, the signature of the Chairman of MCMC before it is passed down to the respective officers for the next step. The same memo duly signed by the Chairman is then copied via a photocopy machine. A different paper form is then filled to request advances and subsistence allowances and purchase flight tickets. The memo and the forms are then distributed to two (2) different departments, Finance Department and Procurement Department, to process the said request. The process itself takes about seven (7) days to complete, not counting the delay on any other part of the process and/or missing information and/or document required that needs clarifications or input in which may take up to 14 days or longer.

Nevertheless, some departments have EDMS implemented, such as Human Capital Division with HRConnect application, Finance Division (SIFSESS), and Procurement Division (iProc and MyProc) based on their respective department purposes. However, these applications are not entirely integrated with each other and, in the end, require paper-based documents as a prove for supporting documents. For example, the SIFSESS application used by Finance Department still needs the user to print the form that has been filled inside the system for any claims made, whether it is mileage claims, advances, or subsistence allowances together with original receipts. The policy made by the Finance Department also requires the Head of Department to sign the said hardcopy forms and receipts before it is sent to Finance Department for verification even though the head of the department has approved it in the SIFSESS system making it redundant to have an online system but still require hard copy documents.

From the explanation on the process above alone, the timeframe takes more than five days and above, not to mention hundreds of processes involving all facets of

multiple departments in MCMC from licensing, spectrum management assignments, enforcements, persecutions, to name a few. To make it worse, there are issues on timeliness whenever the assigned officers responsible for processing and reviewing all paper documents or the person who makes the decision and signs the papers goes on emergency leave, on annual leave, attending courses and meetings outside the office. The timeliness issue may reflect poorly on MCMC's reputation and possibly not comply with the relevant client charter specified on the timeline that has been assigned to several departments in MCMC.

There are also issues on missing documents while in possession of the responsible officers, either being buried with other paper documents or during transit to different stakeholders for verification or signature. The missing documents may lead to a security issue if the papers are labelled CONFIDENTIAL or SECRET, consequently may affect the audit report should the papers are indeed missing based on the scenario mentioned above.

As new technologies have emerged, an organization needs to progress from a traditional paper-based document management system to an electronic method of document management system. Various research has been conducted around the world to evaluate the conventional paper-based documents management system, and electronic form of the documents management system field (Noyes & Garland, 2008) proved that there are advantages in terms of performance and facilitation file integration, and control to name a few. Many countries have already embraced Electronic Document Management System (EDMS), such as Australia, Germany, and Croatia, and the system is able to improve the efficiency of document management in the respective countries (Abdulkadhim, Bahari, & Hashim, 2015). Close to home, Malaysia also has implemented *Digital Document Management System* (DDMS) since 2012 and the new iteration of DDMS 2.0 in 2016 with the objectives to:

- Replace paper records with digital records
- Eliminates the use of paper in stages
- Enabling digital and non-digital documents to be captured, stored, maintained and utilized electronically
- Enabling all government businesses such as presentation materials, internal circulars and inter-agency/department can be produced electronically.

According to Unit Pemodenan Tadbiran Dan Perancangan Pengurusan Malaysia (MAMPU, 2020), who is also the implementing agency of DDMS 2.0, a total of 173 governmental agencies; both federal and state agencies adopted the system, and MCMC is not on the list at all.

However, after major structural re-organization of MCMC's management, the organization is willing to embrace EDMS with a project called Big-Fish. Big Fish project is a cumulative of 200 over IT initiatives over the span from 2021 to 2022 with a budget of RM90 million. The project was mooted in at the fourth quarter of 2020 and approved for implementation in early 2021 by the MCMC top management, all on a secrecy basis. The EDMS implementation will take place in 2022, and in 2021 the pre-implementation stage will be executed by the relevant stakeholders in MCMC. To ensure successful implementation of Big Fish and, in particular, the implementation of EDMS as exampled by other countries (Nguyen et al., 2009; Ejlertsson et al., 2011; Hang and Torben 2014; Gröger et al., 2014). As such, understanding the process of EDMS pre-implementation is crucial to establishing a good foundation for a successful implementation in MCMC. This can be achieved by unravelling the characteristic of the pre-implementation process (the factor and relevant activities).

1.3.1   Problem Diagnosis

The most general categorization for any information system (IS) and IT is generally focused on the three phases of the implementation process: pre-implementation, during implementation, and post-implementation (Jafni et al., 2017). Pre-implementation is one of the essential phases for successfully implementing every project in the organizations' (Soeini & Miri, 2011). Considering that the EDMS in MCMC is still in the pre-implementation stage, it is imperative to consider various angles before implementing a project of such magnitude. This particular phase needs to consider multiple angles such as change management, human resources, process, and software package (Soeini & Miri, 2011).

1.3.2 Theoretical Gaps
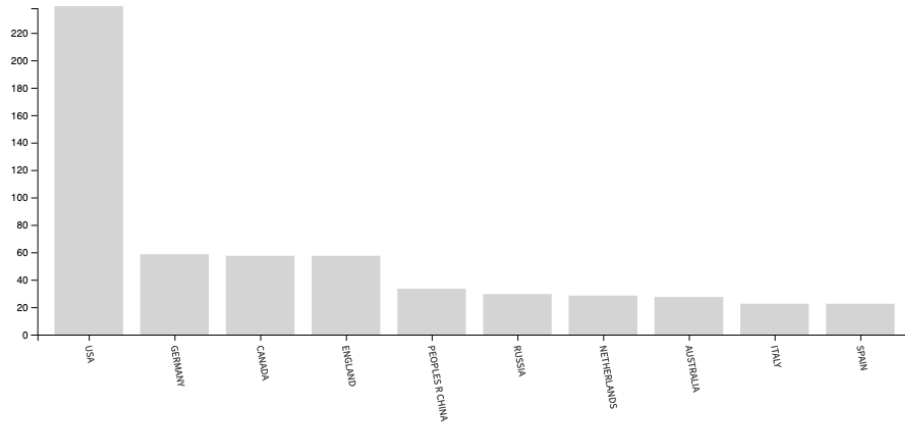
Figure 1.1: Significance by Country
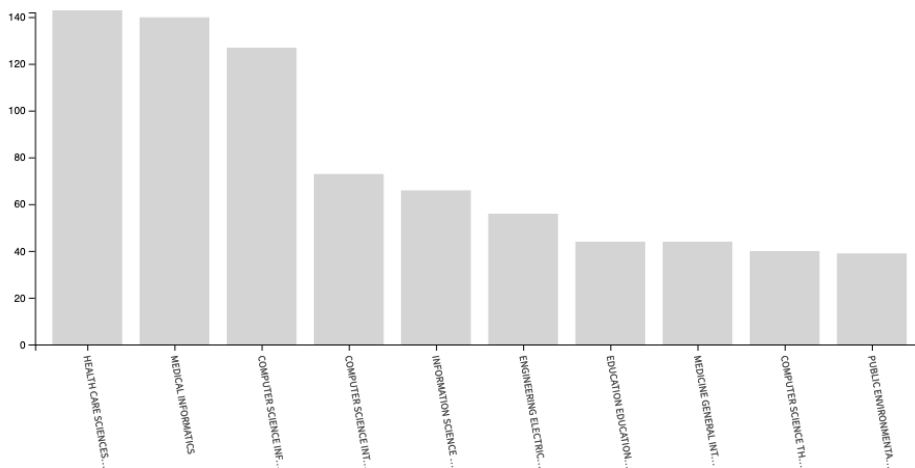
Figure 1.2 Significance by subject

The finding in Figures 1.1 and 1.2 above shows the significance of the proposed study, interestingly in the health care studies and medical with 281 out of 775 studies recorded in Web of Science. From the search, the majority of related medical studies were on the transition from paper-based patient information to electronic-based patient information. Most of the studies were based in the United States. None from Malaysia shows that although the issue is significant globally, it begs the local research and research to focus on Malaysia's perspective in EDMS implementation, particularly the pre-implementation phase. Following this, the

selection of this study topic is pertinent to the relevant industry implementing the same large scale IS and IT deployment.

1.3.3   Practical Gap

The chosen topic is vital to understand the EDMS implementation process at the pre-implementation stage for MCMC, transitioning from paper-based documents to digital and electronic-based documents. This study will assist MCMC for optimal EDMS implementation companywide; however, the implementation also needs to consider the said implementation on a technological aspect such as coding, installation, testing, and developing system solutions.

The study can also be replicated in terms of study procedure or intervention program for government agencies nationwide who are still in the planning stage of major IS/IT deployment to guide them, particularly in the pre-implementation stage. There are no papers and articles from Malaysia related to this study from the literature review side. Therefore, this can help become the breakthrough example for further improvement in EDMS implementation in Malaysia. The technological aspect is fundamentally crucial for EDMS; hence, a comprehensive study on this topic should be expanded to become a holistic approach to EDMS implementation.

1.4   Research Questions

Research questions are vital for this study as they paved the way and set the course for this study. The research questions are:

RQ1: How do MCMC undertake the pre-implementation stage for EDMS?

RQ2: What factors are in the pre-implementation stage for EDMS in MCMC?

RQ3: What factors need to be considered for MCMC to move forward to the next stage of EDMS implementation?

1.5 Research Objectives

The objectives of the study have a correlation with the development of the research questions that signifies achievable, verifiable research and transparent in terms of answering the said questions. The research objectives are listed as follows:

- To understand how the implementation team implements EDMS in the pre-implementation stage in MCMC
- To gather the factors of the pre-implementation stage and subsequently identify any weakness in the pre-implementation stage
- To identify one factor for MCMC to move forward to the next stage of EDMS implementation?

1.6 Researcher's Role

This particular action research can guide the organization to improve the current process through an effective, transformative change. In this action research, it is the researcher's responsibility to explore the problems and issues, collecting relevant data, find solutions for the said problems and at the same time measure the effectiveness for the solutions and finally reporting all outcomes of all findings for MCMC in particular for EDMS implementation in pre-implementation stage.

1.7 Research Ethics

The study was conducted in full compliance with fundamental ethical principles in research. All records, including videos and voice recordings, are to be kept with strict confidentiality and limited to be used for the purpose of the study only. Written and verbal permission was obtained from the management of MCMC prior to the study. As mentioned before, the researcher is required to observe, follow and comply with the decision of the management of MCMC and all other relevant regulations therein.

1.8 Significance of the Research

The proposed research plays a vital role in determining the improvement of the organization workflow. It can be further examined through detailed analysis and in-depth details via research and subsequently gives benefit to the organization.

1.8.1 Significance to Theory

In the digital world, EDMS plays a pivotal role in document management not only in Malaysia but globally, transcending various disciplines of the industry. Naturally, should be even more studies conducted on this particular topic. The study may become even more accurate in terms of findings should there be a lot of resources deployed, such as more staff and more facilities to look into a different perspective of EDMS. Although the previous researches were significant in the number of research papers, global-scale research may become the answer to bridge the gap to measure the EDMS implementation.

1.8.2 Significance to Practice

The study could be used as an example for the best practice on EDMS implementation, specifically in the pre-implementation stage, as this stage is one of the crucial stages in the EDMS life cycle. The data collection used in this research can be used for further improvement and research. It may be beneficial to other government agencies nationwide who are still in the planning phase of EDMS in their respective organization for replication or intervention program. Thus, it will contribute to digitising one's organization and further improving public delivery.

1.9   Definition of Terms

      This research is using conceptual concepts to define the terminology used clearly. The definition for the terms used in this research is taken from various sources, and the researcher may apply conceptual notions to demonstrate the meanings on order to explain the terminology in this research.

TERM	DEFINITION
EDMS	Electronic Document Management System
MCMC	Malaysian Communication and Multimedia Commission
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