

**EDUCATION AND TRAINING NEEDS IN ELECTRONIC RECORDS
MANAGEMENT: A CASE STUDY OF RECORD KEEPERS IN THE
MALAYSIAN FEDERAL MINISTRIES**

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ABSTRACT

This study examines the needs of record keepers in relation to knowledge and skills required to manage electronic records in the specific context of the Electronic Government (EG) in Malaysia. The research adopted a case study approach that combined both quantitative and qualitative data to answer the research questions. A questionnaire survey and in-depth interviews were used to investigate and identify the roles and responsibilities of different record keepers in the Malaysian Federal Ministries, explore the context in which the record keepers managed electronic records, and examine their needs for education and training in electronic records management (ERM). The study indicates the lack of knowledge and skills in ERM of the different record keepers

Keywords: Electronic records management; Record keepers; Record-keeping; Electronic Government; Malaysian Federal Ministries

INTRODUCTION

Electronic governments (EG) around the world such as Australia, Canada, the United Kingdom (UK) and the United States of America (USA) are developing systems to conduct the main business of government electronically, with the evidence of transactions created, stored and retrieved on computers. The aim of an EG is to move on to a paperless environment, with the only record being the electronic record. In the Malaysian context, the EG refers to “a multimedia networked paperless administration linking government agencies within Putrajaya (the new administrative capital of Malaysia) with government centres around the country to facilitate a collaborative government environment and deliver efficient services to business and citizens” (Prime Minister’s Department, 2005).

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The use of computers within the EG environment has led to rapid and dynamic changes in the way governments and businesses operate. One of the significant outcomes of computerization is that managing electronic records now relies on information technology (IT) and it needs to be integrated into the business processes of an organization. Therefore, electronic record management (ERM) not only requires the involvement of key players such as record managers and archivists in record-keeping, but also IT personnel and administrators under a common shared responsibility to establish a credible ERM programme (Johare, 2001).

However, people with the knowledge, skills and abilities required to build a record-keeping infrastructure that is relevant to the accountability and programme delivery requirements of the government have yet to be trained and recruited. Given these record-keeping challenges, how will the Malaysian government proceed? While countries such as the UK and some of the European States have proceeded with developing education and training programmes, as well as a series of guidelines and toolkits on ERM for the key players, countries like Australia and Canada have embarked on large-scale research on ERM.

McDonald (1998), Hare (2003), McLeod, Hare & Johare (2004) have suggested that education, training and recruitment strategies should be established to ensure that the administrators, records managers, archivists and IT personnel who are responsible for the record-keeping infrastructure in the government have the necessary knowledge, skills and abilities to perform their jobs. Based on these suggestions, education and training strategies should be designed for, and reach out to, the existing record keepers in the public sector in general and the Malaysian government in particular.

RECORD-KEEPING DEFINED

The definition of record-keeping and record keepers is an essential component of this paper because, in order to proceed, first and foremost, the writer needs to establish the range of players involved as stake holders for ERM: these include administrators, records managers, IT personnel and archivists. They are the key players who will determine the nature of education and training for the management of electronic records. In addition, defining terms, such as “record-keeping” and “record keepers” is important, because firstly, there is a definite need to clarify terms used in the context of the electronic environment. Secondly, practices differ from place to place and sometimes there are no local or national standards to fall back

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upon. Thirdly, clear definitions could help resolve problems of differing administrative and archive traditions. Finally, it is important to define these terms in order to meet the requirements of record keepers so as to ensure they are able to fulfill the same organisational, legal, regulatory, professional and other requirements that apply to paper records. This provides the context to establish the kind of education and training that will be needed for these record keepers in managing electronic records.

Based on ISO 15489 (2001), and discussions by Evans (1990), Bearman (1994), Horsman (1996), Erlandsson (1997), McKemmish, Acland and Reed (1999), Brogan (2000), Hurley (2000) and Kilkki (2004), the writer is able to conclude that the term 'record-keeping' should be understood as referring to the creation and maintenance of complete, accurate and reliable evidence of business transactions in the form of recorded information. The literature suggests that the record keepers must fully appreciate their jobs and responsibilities in record-keeping functions and activities aimed at protecting the integrity and authenticity of records as evidence of accountability in the electronic environment.

Based on the views of Emmerson (1989), Blethyn and Parker (1990), Cox (1992), Duff (1995) as well as Barata and Cain (1999), it is obvious to the writer that 'record keepers' is not an undifferentiated term. It includes various categories of personnel involved in the management of records, archives and information. ISO 15489 (2001) clearly states that the electronic record keeping activities involves four groups of key players. They are record creators (senior managers or administrators and the various administrative staff) throughout the organisation; record users (managers or administrators and the various administrative staff); records management professionals (records managers or officers and other records staff or archivists or archives officers and archives staff); and technical staff dealing with design and maintenance of information systems in which records or archives reside (IT personnel such as information technology managers or management information systems managers and their subordinate staff including system analysts, programmers and data base administrators).

Based on ISO 15489 on ERM, the creators and users of records, the managers of records and archives, and the technical staff dealing with the design and maintenance of the systems can be termed as record keepers because they are directly involved with the creation, use, maintenance and management of electronic records. However within the limited scope of this study, only four main groups of record keepers, namely the administrators, records managers, archivists and IT

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personnel were chosen as subjects. Although other administrative staff, records and archives staff and IT staff at the lower level were included in the ISO list as having responsibility in ERM, they were not included in this study as they were represented by their superior.

METHODOLOGY

A purposive sampling strategy was used for the population of record keepers, which constitute administrators, records managers and IT personnel in 24 Malaysian Federal Ministries, as well as the archivists in the National Archives of Malaysia for the survey and the in-depth case study. The archivists, as the fourth group of the record keepers, were surveyed separately because they are from the National Archives, a Federal Government department.

For the survey, a sampling frame was used to arrive at the most satisfactory situation for designing a sample as suggested by Nachmias & Nachmias (1993). One member of IT personnel, one administrator and one records manager were chosen as purposive samples representing their respective population in each Ministry. The IT personnel and the administrators were selected because of their position as heads of their respective departments at the Ministerial level, and their designated responsibilities for record keeping. For the records managers, sampling was based on those who were appointed as officers responsible for the management of departmental records in accordance with the General Circular Letter No. 1/1997.

This sample selection was appropriate because of the judgment that representation of the population is adequate due to the position of the respondents within the hierarchical administrative structure at the ministerial level. They are within the policymaking units and are directly in charge of the administrative or transactional functions, the IT functions and the records management functions. They also translate the various national policies into plans, programmes and projects in accordance with national aspirations and objectives. Thus, the formulation of policy guidelines for the implementation and management, together with operational responsibility for programmes and projects pertaining to electronic records, comes from the respondents chosen for this survey and in-depth case study.

The status of ERM and the knowledge and skills of the entire population of the record keepers in the 24 Ministries should be reflected by the samples of record keepers chosen for this survey and case study. To justify the basis for the writer's

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assumption, it is assumed that every Ministry and department, regardless of their primary functions, requires similar electronic records management principles as well as concepts and education and training for their record keepers.

The Federal Executive List in each of the Ministry's Human Resource Department was used as sampling frame to identify and select the samples. A total of 24 administrators, 24 records managers and 24 IT personnel were selected as samples representing the record keepers population in the 24 Malaysian Federal Ministries. The survey at the National Archives involved the entire population of archivists since there were only 67 of them holding the post, which is classified under the closed services scheme (not transferable elsewhere in the public services) when the survey was conducted. The archivists at the National Archives are responsible for the policies and programmes for the management and preservation of the nation's records inclusive of electronic records as well as for the management of their own records and electronic records, which are generated while discharging their administrative functions.

To verify the qualitative data from the survey, in-depth interviews were also conducted with the record keepers in the National Archives and the Prime Minister's Department. The National Archives was chosen because of its legitimate roles and responsibility over the preservation for posterity of public records of the Malaysian government. On the other hand, the Prime Minister's Department plays the lead role in all the key decision-making for the entire nation in all aspects of administration including records management (Department of Information Services Malaysia, 2003). This central agency prescribes and respects the best model of administration for all Ministries departments, and agencies at all levels of the Malaysian government to emulate and follow. It lays down policies and procedures that are binding at all levels of government. This is done in the interest of enhancing administrative modernization and efficiency. This being the case, the Prime Minister's Department is a microcosm of the situation within the larger administrative system of the government as a whole. The management and administration of records in the government departments also represents a part of the area inspected for the award of ISO 9000 for which MAMPU, a unit under the Prime Minister's Department, is solely responsible (Department of Information Services Malaysia, 2003). It is therefore reasonable to expect that the system practices by the Prime Minister's Department reflect the larger scenario of management principles and procedures in all areas of government administration, including record-keeping.

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As suggested by Patton (1990) and Oppenheim (2000), purposive sampling was used with those who were involved in the formulation and implementation of the policy on electronic records in the Malaysian government inclusive of education and training aspects. Six archivists were selected as a sample from the National Archives and four record keepers from the Prime Minister's Department. The number was decided on the basis of the actual numbers of relevant respondents in a position of authority.

FINDINGS

Roles and Responsibilities of Different Record Keepers on Electronic Records

Two emergent issues in the area of roles and responsibilities were identified. Firstly, the roles and responsibilities were not understood by the different record keepers and secondly, there was evidence of shared and individual responsibilities. The different record keepers did not interpret their roles and responsibilities in the same way and some did not view themselves as being responsible for the task at hand. Although the data in Table 1 suggests that all the 15 Ministries hold records in electronic form, not all of the key players in each Ministry recognized this. Of the 41 respondents, eight (five records managers and three administrators) believed their Ministry did not hold electronic records. When asked if they themselves were responsible for the electronic records, of the 33 who had recognized the existence of electronic records in their Ministry, only 23 felt they were responsible for those records. It is perhaps not surprising that not everyone felt they could answer 'yes' to the question about responsibility. They may have felt responsible for some of the electronic records in their Ministry but not others. However, what is interesting is the breakdown of the responses.

Seven of the nine records managers and nine of the 10 administrators acknowledged responsibility, but only six of the 15 IT personnel recognized themselves as being responsible for electronic records. The data therefore seems to suggest that, whilst all of the IT personnel surveyed recognized the existence of electronic records within their Ministries, less than half of them (46%) recognized themselves as being responsible for the care of those records. IT personnel have a significant role in developing systems, which may be record-keeping systems, and have an important role to play alongside records professionals and system users in support of electronic record-keeping. An additional intriguing result relates to the 'perception' of who is ultimately responsible for looking after the electronic records if it is not the key player in question. Of the 18 respondents who did not view themselves as having

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responsibility, only 11 identified the people they believed to be responsible. Of the 11 responses, no fewer than eight were identified the records creators. Disappointingly, four of the non-respondents to this follow-up question were records managers.

This analysis indicates that not all respondents interpreted their roles and responsibilities in the same way. Evidently, they were unaware of their roles and responsibilities in relation to ERM. For example, one records manager in the Prime Minister's Department firmly believed that he was not responsible for looking after the electronic records when he argued that, "electronic records is not my area of responsibility. People in charge of the systems should know this because it is they who have created the systems. In the registry we deal only with paper records." In this case it is obvious that the records manager's role and responsibility was confined to the registry and paper records. His distance from activities pertaining to systems creation and maintenance, coupled with lack of awareness and knowledge, made him believe that ERM was the sole responsibility of the IT personnel. But the IT personnel at the Prime Minister's Department insisted that it was not their responsibility to look after the records. As reported by the Head of the Systems Division, "records are the concern of the records staff". The Chief Assistant Director of EG Development Division of the Prime Minister's Department believed that the administrative staff was not involved in looking after the records because "right now policy guidelines and standard procedures are lacking in the government and nobody can tell us what to do".

Those respondents, including the records managers who did not view themselves as being responsible for electronic records, did not understand their actual roles and responsibilities. It is possible that they may not have been made aware or may not have been told, of their respective role and responsibility. Further exploration of the data shows that only three out of the 15 Ministries had all three key groups of their record keepers (records managers, IT personnel and administrators) respond positively to both the question "Does your ministry hold records in electronic form?" and "Are these e-records looked after by yourself?" Of these three, two are new Ministries (Ministry of Entrepreneur and Cooperative Development and the Ministry of Plantation Industries and Commodities). The third is the Ministry of Education, which is apt given the context of the research. These could provide a model for other Ministries for their recognition of the need to combine roles and responsibilities, in regards to getting record managers and administrators to participate in the design of computer-based information systems as suggested by the literature review.

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Table 1: Roles and Responsibilities of the Record Keepers in Managing Electronic Records

Ministry	Job title	Are e-records held?	Are you responsible for e-records?	Are others responsible?	Have you had any education & training on e-records
Defense	Administrator	Yes	Yes	--	No
	IT personnel	Yes	No	Records officers	No
	Records manager	Yes	Yes	Other officers assigned	No
Education	Administrator	Yes	Yes	--	Yes
	IT personnel	Yes	Yes	Creators	Yes
	Records manager	Yes	Yes	--	Yes
Entrepreneur & Cooperative Development	Administrator	Yes	Yes	--	Yes
	IT personnel	Yes	Yes	IT personnel	Yes
	Records manager	Yes	Yes	Other officers in charge	Yes
Finance	IT personnel	Yes	Yes	--	No
Foreign Affairs	Administrator	Yes	Yes	--	No
	IT personnel	Yes	No	System administrators	No
	Records manager	Yes	Yes	--	Yes
Health	Administrator	No	No	--	No
	IT personnel	Yes	No	Individual creator	No
	Records manager	No	No	--	No
Housing & Local Government	Administrator	No	No	--	No
	IT personnel	Yes	Yes	--	Yes
	Records manager	No	No	--	No
Natural Resources & Environment	Administrator	Yes	Yes	--	Yes
	IT personnel	Yes	No	Finance officers	No
	Records manager	Yes	Yes	--	Yes
Tourism	IT personnel	Yes	Yes	--	Yes
	Records manager	No	No	IT personnel	No
Plantation Industries & Commodities	Administrator	Yes	Yes	--	Yes
	IT personnel	Yes	Yes	--	Yes
	Records manager	Yes	Yes	--	Yes
Prime Minister's Department	Administrator	Yes	Yes	--	Yes
	IT personnel	Yes	No	Individual creators	No
	Records manager	No	No	--	No
Public Works	Administrator	No	No	--	No
	IT personnel	Yes	No	Creators	No
Science, Technology & Innovations	Administrator	Yes	No	Individual creator	No
	IT personnel	Yes	No	Creators	No
	Records manager	No	No	--	No
Transport	Administrator	Yes	Yes	--	Yes
	IT personnel	Yes	No	Creators	No
	Records manager	Yes	Yes	--	Yes
Youth & Sport	Administrator	Yes	Yes	--	Yes
	IT personnel	Yes	Yes	--	Yes
	Records manager	Yes	No	Creators	No

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A little surprising and in need of further investigation, is the response from the Prime Minister's Department. Here the records manager indicated that this department did not hold e-records, and therefore was not responsible for looking after them; whereas the IT personnel, though acknowledging the existence of electronic records within the Ministry, likewise did not look after the records. The administrator, on the other hand, acknowledged not only the existence of e-records but also his role in looking after them. As the Prime Minister's Department is responsible not only for the initiation but also the implementation of EG in the Malaysian public sector, it would not be unreasonable to expect that all three key players should at least recognize the existence of electronic records in their department and quite possibly their combined roles and responsibilities in the management of these records. The questions asked to elicit this data were close-ended questions, and may not have taken cognizance of the actual situation. When this issue was taken up with the same records manager, it was revealed that "other than keeping digitized documents through the scanning project, we also have human resource management systems – SISPEN, HRMIS and the EPS, but I am not in charge of these."

This data reveals the actual situation. Although the three key players at the Prime Minister's Department recognized the existence of electronic records in their Department, it was only the administrator who recognized himself as being responsible for looking after the records. This might suggest that the records manager tend to deal with confidential records, whilst the IT personnel dealt with confidential data, which as the interview data revealed, tend to be held in paper format.

Evidence of shared and individual responsibilities

The existence of shared and individual activities among the three groups of key players is evident in four areas of electronic records management – responsibility for the records, administrative overseeing of electronic records, issuance of electronic records policy and implementation of electronic records work practices.

As illustrated in Table 1, 12 of the Ministries surveyed had different key players discharging their respective roles and responsibilities which were mutually exclusive, as compared to the three Ministries where the three groups of record keepers performed shared and combined roles and responsibilities in looking after their electronic records. The data indicated that:

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- i) the IT personnel did not recognize themselves as being responsible for looking after the records;
- ii) the administrators recognized themselves as having the responsibilities; and
- iii) the records managers believed that the creators were responsible for the records.

In this case, the creators may be the administrators and their subordinate staff. Even though the different key players were performing different roles, there was a need for coordinated responsibility as all of them were involved somehow or other with electronic records as they used computers to carry out their administrative routines. As suggested in the literature review it is very important for the different record keepers to understand their roles and responsibilities in the area of electronic record keeping. Within the context of this study, there is work to be done on building partnerships. Education and training programmes provide the impetus for this.

The survey data in Table 2 shows that the Ministries surveyed have set up different locations to keep their electronic records. The findings indicate that different record keepers perform different roles for the same records. The majority of the Ministries surveyed kept their electronic records in the Ministry's IT Department. This implied that the IT personnel in the IT Department were responsible for electronic records, regardless of whether they recognized themselves as being responsible for looking after the records. This is because they were actually in charge of the systems, which must necessarily include record-keeping systems, and they also discharged routine activities such as making back up copies and ensuring migration. The same Ministries also used their record centres to store their electronic records, and in this case, it is reasonable to assume that the records managers were involved in ERM, whether directly or indirectly, even though they thought that they were not. This is simply because records centre management constitutes their professional responsibility. However, in the case of the Prime Minister's Department, the records and information copied onto magnetic tapes were preserved in the records centre, called the data recovery centre. When asked who is the person responsible for looking after the records and the records centre, the Chief Assistant Director of the EG Development Division answered, "the IT personnel in charge of the system". The Head of the Registry confirmed the involvement of the IT personnel when he said, "I am in charge of the registry and not the data recovery centre". In this case the Head of the Registry firmly believed that he was not responsible for looking after the electronic records even though he was assigned the responsibility to manage his departmental records through the General Circular Letter No.1/1997.

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Table 2: The Location of Electronic Records Kept in the Ministries Surveyed

Ministry	Job title	Records Centre	IT Department	In every Administrative Unit	Other (specify)	Transfer to Archives
Defense	Administrator	No	Yes	No	--	No
	IT personnel	No	Yes	No	--	No
	Records manager	No	Yes	No	Strong room	No
Education	Administrator	No	No	No	--	No
	IT personnel	No	No	Yes	--	No
	Records manager	Yes	No	No	--	Yes
Entrepreneur & Cooperative Development	Administrator	Yes	Yes	Yes	--	No
	IT personnel	Yes	Yes	Yes	--	No
	Records manager	Yes	Yes	Yes	--	Yes
Finance	IT personnel	No	Yes	Yes	--	No
Foreign Affairs	Administrator	No	No	Yes	--	No
	IT personnel	No	Yes	Yes	--	No
	Records manager	No	Yes	No	--	No
Health	Administrator	No	No	No	--	No
	IT personnel	No	No	Yes	--	No
	Records manager	No	No	No	--	No
Housing & Local Government	Administrator	No	No	No	--	No
	IT personnel	Yes	Yes	No	--	No
	Records manager	Yes	Yes	No	--	No
Natural Resources & Environment	Administrator	No	Yes	Yes	--	No
	IT personnel	No	Yes	Yes	--	No
	Records manager	No	Yes	Yes	--	No
Tourism	IT personnel	No	Yes	No	--	No
	Records manager	No	No	No	--	No
Plantation Industries & Commodities	Administrator	Yes	Yes	No	--	No
	IT personnel	No	Yes	No	--	No
	Records manager	Yes	No	Yes	--	No
Prime Minister's Department	Administrator	No	Yes	No	--	No
	IT personnel	No	Yes	Yes	--	No
	Records manager	No	No	No	--	No
Public Works	Administrator	No	No	No	--	No
	IT personnel	No	No	Yes	--	No
Science, Technology & Innovations	Administrator	No	No	Yes	--	No
	IT personnel	No	No	Yes	--	No
	Records manager	No	No	No	--	No
Transport	Administrator	Yes	No	No	--	Yes
	IT personnel	No	No	Yes	--	No
	Records manager	No	No	Yes	--	No
Youth & Sport	Administrator	No	No	Yes	--	No
	IT personnel	Yes	Yes	No	--	No
	Records manager	No	Yes	Yes	--	No

The data in Table 2 also indicates that the same Ministries kept their electronic records in the administrative unit where the records were created, used and maintained. It is reasonable to assume that the administrators and/or the creators were involved in ERM even though they thought otherwise. The same thing

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occurred in the Prime Minister's Department where the qualitative data suggests that electronic records were created, used and maintained in the respective administrative unit. Although in all these cases custody did not always imply responsibility, the different record keepers in question must have understood their responsibility for managing the records as suggested by ISO 15489 (2001).

Table 3: Electronic Records Practices Carried Out by the Different Respondents in the Ministries Surveyed

E-records practices	Administrators	IT personnel	Records Manager	Total
Identification	2	1	1	4
Creation	0	1	0	1
Appraisal	1	2	0	3
Retention	2	3	1	6
Disposal	2	2	1	5
Naming conventions	0	0	0	0
Metadata	0	0	0	0
Preservation	2	3	1	6
Transfer	0	0	0	0
Migration	1	5	0	6
Prepare e-records programme	0	2	2	4
Establish link with National Archives	0	0	0	0

Education and Training to Support Record Keepers' Roles and Responsibilities in Managing Electronic Records

As evident from the survey findings in Table 4, 16 out of 41 key players surveyed had received some form of relevant education and/or training. Across the Ministries, workshops and seminars are the most frequent or popular forms of education or training, and over half of the education or training received was via customized programmes (seminars with 15 responses, workshops with 13 responses). Conferences were a less frequent form of disseminating knowledge (as indicated by eight responses) in comparison to seminars and workshops. Up until now, education and training in ERM is not part of most induction programmes because only one record keeper said that he had attended this form of training (the IT personnel from the Ministry of Housing and Local Government). Only one person, an IT player from the Ministry of Tourism, had undertaken a relevant accredited programme.

The answers on the sufficiency of existing education and training programmes varied amongst respondents. Not all agreed that the education and training received were sufficient for them to support their roles and responsibilities on electronic records. Even though the overall data in Table 4 indicates that 13 (five records

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managers, four administrators and four IT personnel) out of 22 record keepers who received education and training believed that the education and/or training they had received was sufficient, a question arises pertaining to the content of the education and training received. If these were sufficient, why is it that at most of the Ministries surveyed (Table 3) were work practices on ERM not carried out?

On the other hand, the remaining half of the record keepers (six out of 15 Ministries) stated they did not receive any education and training. They felt that they should be given appropriate education and training so that they could fully understand their roles and responsibilities in this specialized area and could perform the roles and responsibilities effectively when the EG is fully operational in 2005. When views on these issues were sought from the respondents in the open-ended question in the questionnaire, the majority of the respondents (12 of the 20 who responded) suggested that government staff should be given training on electronic records. However, a closer examination of the data in Table 4 shows that the record keepers in the Prime Minister's Department did not have any education or training in ERM, except for the administrator who had attended workshops and seminars on electronic records. It was generally felt that workshops and seminars alone were insufficient to support the administrator's roles and responsibility with regards to electronic records. The interview data with the different record keepers in the Prime Minister's Department drew attention to the following issues: the record keepers' need for education and training; present level of knowledge and skills of IT personnel and their need for education and training; and records manager's insufficient professional preparation for managing electronic records.

Table 4: Education and Training Received

Ministry	Workshops	Seminars	Conferences	Customised programmes	Induction	Other	Education/training is sufficient
Defense							
Administrator	No	No	No	No	No	No	--
IT personnel	No	No	No	No	No	No	--
Records manager	No	No	No	No	No	No	--
Education							
Administrator	Yes	Yes	Yes	Yes	No	No	Yes
IT personnel	No	No	No	Yes	No	No	No
Records manager	Yes	Yes	No	No	No	No	Yes
Entrepreneur & Cooperative Development							
Administrator	Yes	Yes	Yes	No	No	No	No
IT personnel	Yes	Yes	No	No	No	No	Yes
Records manager	Yes	Yes	No	No	No	No	Yes

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Finance							
IT personnel	No	No	No	No	No	No	--
Foreign Affairs							
Administrator	No	No	No	No	No	No	--
IT personnel	No	No	No	No	No	No	--
Records manager	Yes	No	No	No	No	No	No
Health							
Administrator	No	No	No	No	No	No	--
IT personnel	No	No	No	No	No	No	--
Records manager	No	No	No	No	No	No	--
Housing & Local Government							
Administrator	No	No	No	No	No	No	Yes
IT personnel	No	Yes	No	No	Yes	No	--
Records manager	No	No	No	No	No	No	--
Natural Resources and Environment							
Administrator	Yes	Yes	Yes	No	No	No	Yes
IT personnel	No	No	No	No	No	No	--
Records manager	Yes	Yes	Yes	No	No	No	Yes
Tourism							
IT personnel	No	No	No	Yes	No	Yes*	No
Records manager	No	No	No	No	No	No	--
Plantation Industries & Commodities							
Administrator	Yes	Yes	Yes	No	No	No	No
IT personnel	Yes	Yes	Yes	Yes	No	No	Yes
Records manager	Yes	Yes	No	Yes	No	No	Yes
Prime Minister's Department							
Administrator	Yes	Yes	No	No	No	No	No
IT personnel	No	No	No	No	No	No	--
Records manager	No	No	No	No	No	No	--
Public Works							
Administrator	No	No	No	No	No	No	--
IT personnel	No	No	No	No	No	No	--
Science, Technology and Innovations							
Administrator	No	No	No	No	No	No	--
IT personnel	No	No	No	No	No	No	--
Records manager	No	No	No	No	No	No	--
Transport							
Administrator	No	Yes	No	No	No	No	Yes
IT personnel	No	No	No	No	No	No	--
Records manager	No	No	No	Yes	No	No	Yes
Youth & Sports							
Administrator	Yes	Yes	Yes	No	No	No	Yes
IT personnel	No	Yes	Yes	No	No	No	Yes
Records manager	No	No	No	No	No	No	--

* Accredited programme

Inadequate Education and Training to Support Archivists' Responsibilities in ERM: The Case of the National Archives of Malaysia

In order to assess whether the archivists at the National Archives who are responsible for electronic records are trained to do their work, a series of interrelated

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questions were asked. Firstly, they were asked if they received any education and training, secondly about the nature of education and training received, and thirdly on the sufficiency of the training received in support of their roles and responsibilities in managing electronic records in archival custody.

The responses to these questions revealed some interesting findings. Data in Table 5 showed that, out of 17 respondents who had received education and training in electronic records, 64% (11) had served the Archives for the past 20 to 28 years, and were holding the position of Directors (five) and Heads (seven). In comparison, the Archivists (five) who received education and training had been serving the Archives for the past two to 17 years. All of them were stationed at the National Archives headquarters. Interestingly, in the Director's group of respondents, the majority of those who had received education and training (four of them) are the Directors attached to the Branch offices. The break down of the data from the Heads revealed some interesting patterns. It was not only the Heads from ERM and IT Division who had received education and training, but also Heads from the Human Resource and Administrative Divisions, Conventional Records Division, Acquisition Division and Access Division. This implied that respondents from Divisions other than the ERM and IT had also been given the opportunity to receive education and training on electronic records.

Table 5: Profile of Archivists in Relation to ERM

Job title	Division	Length of service	Place of attachment	Prime record management responsibility	Involvement in EG project	Advising government on ERM
Archivist	Training	12	Headquarters	Paper records	No	No
Archivist	Training	17	Headquarters	Paper records	No	No
Archivist	Access	17	Headquarters	Paper & e-records	No	No
Archivist	Guide	2	Headquarters	Paper & e-records	No	No
Archivist	ERM & IT	13	Headquarters	Paper records	Yes	Yes
Archivist	Repository	6	Headquarters	Paper records & AV	No	No
Archivist	ERM & IT	18	Headquarters	E-records	Yes	Yes
Archivist	ERM & IT	1	Headquarters	Paper records	No	Yes
Archivist	ERM & IT	17	Headquarters	E-record	Yes	Yes
Archivist	Conventional Record	18	Headquarters	Paper records, maps & plans	No	No
Archivist	Conventional Record	17	Headquarters	Paper records, maps & plans	No	No
Archivist	Conventional Record	9	Headquarters	Paper records, maps & plans	No	No
Archivist	Acquisition	15	Headquarters	Paper records	No	No
Archivist	Prime Gallery	2	Memorial Tunku	Paper, AV, photographs	No	No

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Archivist	Prime Gallery	18	Memorial Tunku	Paper, AV, photographs	No	No
Director	Kedah State	20	Branch Office	Paper, AV, photographs, maps & plans	No	No
Director	Johore State	25	Branch Office	Paper, AV, photographs, maps & plans	No	No
Director	Procurement	29	Headquarters	Paper and e-records	No	No
Director	Perak State	21	Branch Office	Paper, AV, photographs, maps & plans	No	No
Director	Sabah State	17	Branch Office	Paper, AV, photographs, maps & plans	No	No
Director	Conservation	24	Headquarters	Paper records & AV	No	No
Director	Penang State	10	Branch Office	Paper, AV, photographs, maps & plans	No	No
Director	ERM & IT	28	Headquarters	E-records	Yes	Yes
Director	Memorial	15	Headquarters	Paper, AV, photographs	No	No
Director	Sarawak State	13	Branch Office	Paper, AV, photographs, maps & plans	No	No
Director	Heroes' Gallery	20	Headquarters	Paper, AV, photographs	No	No
Director	Prime Gallery	25	Headquarters	Paper records	No	No
Director	Memorial	25	Headquarters	Paper records	No	No
Head	Human Resource	19	Headquarters	Paper and e-records	No	No
Head	ERM & IT	24	Headquarters	E-records	Yes	Yes
Head	ERM & IT	21	Headquarters	E-records	No	Yes
Head	ERM & IT	20	Headquarters	Paper records	No	Yes
Head	Repository	21	Headquarters	Other records (AV)	No	No
Head	Conventional Record	20	Headquarters	Paper records	No	No
Head	Conventional Record	20	Headquarters	Paper records	No	No
Head	Administrative	20	Headquarters	Paper and e-records	No	No
Head	Acquisition	25	Headquarters	Paper records	No	No
Head	Guide	18	Headquarters	Paper records	No	No
Head	Access	22	Headquarters	Paper records	No	No
Head	AV Centre	21	Headquarters	AV records	No	No
Head	Exhibition	21	Headquarters	Paper records	No	No

On the types of education and training received by the respondents, data in Table 6 shows that the most common medium of education and training were seminars, followed by conferences. In comparison, workshops were a less popular medium

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for education and training, and none of the archivists had attended any customized programmes or induction courses on electronic records. Four respondents reported having attended other forms of education and training with one respondent receiving education and training in ERM at the university level, and another had attended a briefing session by consultants.

Table 6: Education and Training on ERM Received by the Respondents from the National Archives

Job title	ERM education & training	From Workshop	From Seminar	From Conference	From Accredited programme	From Induction	From Others	Sufficiency
Archivist	5	1	3	2	0	0	2 (visit/at University)	1
Director	5	4	5	4	0	0	1 (Study visit)	0
Head	7	1	4	2	0	0	1 (consultant briefing)	1
Total	17	6	12	8	0	0	4	2

When asked if the training was sufficient, of the 17 respondents who had received education and training on ERM, only two acknowledged that the training was adequate. It was evident from the majority of the archivists at the National Archives that the training they had received was insufficient to support their roles and responsibilities in the area of ERM. This was further supported by data in Table 7 pertaining to education and training of those other than the respondents, who were responsible for looking after the records. Over half of the respondents mentioned that the “creators” in charge of the electronic records had not received any form of education and training on this subject.

Table 7: Summary of Role and Responsibility

Job title/ Division	Does your division create ER?	Respondent responsible for creating ER?	Are others responsible?	Custodian of Federal Govt. ER?	Division /Unit responsible?	Respondent has ER E&T*?	Other person in charge with ER E&T*?
Archivist/ Training	Yes	Yes	No	No	--	No	--
Archivist/ Training	Yes	Yes	No	No	--	Yes	--
Archivist/ Access	No	--	No	Yes	IT Unit	--	Yes (Visits)

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Archivist/ Guide	Yes	Yes	No	No	--	Yes	--
Archivist/ ERM& IT	Yes	No	Creators	No	--	Yes	No training
Archivist/ Repository	Yes	Yes	No	Yes	IT Unit	Yes	Don't know
Archivist/ ERM & IT	Yes	No	Division in charge	Yes	Division in charge	Yes	Not sure
Archivist/ ERM & IT	Yes	No	Division in charge	Yes	Division in charge	Yes	Not sure
Archivist/ ERM & IT	Yes	No	Creators	No	--	Yes	No
Archivist/ Conventional Record	No	--	--	No	--	No	--
Archivist/ Conventional Record	No	--	--	No	--	No	--
Archivist/ Conventional Record	No	--	--	No	--	No	--
Archivist/ Acquisition	Yes	No	Creators	No	--	No	No training
Archivist/ Prime Gallery	No	--	--	No	--	No	--
Archivist/ Prime Gallery	No	--	--	No	--	No	--
Director/ Kedah State	Yes	Yes	--	Yes	IT personnel	Yes	Technical
Director/ Johore State	Yes	Yes	--	Yes	IT Unit	Yes	No training
Director/ Procurement	No	--	--	No	--	Yes	--
Director/ Perak State	Yes	Yes	--	Yes	IT Unit	Yes	No
Director/ Sabah State	Yes	No	Creators	Yes	IT Unit	No	None
Director/ Conservation	Yes	No	Staff	No	--	No	No training
Director/ Penang State	Yes	No	Creators	Yes	IT Unit	No	None
Director/ ERM & IT	No	--	--	Yes	Repository	Yes	No
Director / Memorial	No	--	--	No		No	
Director/ Sarawak State	Yes	No	Admin. staff	Yes	IT Unit	No	No
Director/ Heroes' Gallery	No	--	--	No	--	No	--

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Director / Prime Gallery	No	--	--	No	--	No	--
Director/ Memoria/	No	--	--	No	--	No	--
Head/ Human Resource	Yes	Yes	--	No	--	Yes	--
Head/ ER & IT	Yes	No	IT Unit	Yes	IT personnel	Yes	No training
Head/ ER & IT	Yes	No	Creators	No	--	Yes	No training
Head/ ER & IT	Yes	No	Creators	No	--	Yes	No training
Head/ Repository	Yes	Yes	--	Yes	IT Unit	Yes	Not sure
Head/ Conventional Record	Yes	Yes	--	No	--	No	--
Head/ Conventional Record	Yes	No	Staff	Yes	Guide Division	Yes	No
Head/ Administrative	Yes	Yes	--	No	--	Yes	--
Head/ Acquisition	Yes	Yes	--	No	--	No	--
Head/ Guide	Yes	No	IT personnel	Yes	IT personnel	No	Syst. mgmt
Head/ Access	Yes	No	IT personnel	No	--	Yes	Information syst. mgmt
Head/ AV Centre	No	--	--	No	--	No	--
Head/ Exhibition	No	--	--	No	--		--

* E&T – Education and Training

CONCLUSION

There were strong similarities between data gathered from the record keepers in the Federal Ministries and data gathered from the archivists at the National Archives who were assigned the responsibility for the preservation of electronic records. Both sets of data strongly indicate the lack of knowledge and skills in ERM of the different record keepers. These concerns may be addressed by having an appropriate curriculum for education and training in ERM for the record keepers as suggested by the record keepers in the Prime Minister’s Department and the archivists in the National Archives of Malaysia. The failure on the part of the administrators, archivists, records managers and IT personnel to perform their roles and

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responsibilities with regards to electronic records due to their lack of knowledge and skills has very serious implications. The Malaysian Federal Government may have already lost records of its activities in electronic formats.

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