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# Malaysian archival heritage at risk?

Archivists'  
knowledge  
and skills

## A survey of archivists' knowledge and skills in managing electronic records

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### Abstract

**Purpose** – The purpose of this paper is to report the results of a study carried out pertaining to the Malaysian archivists' knowledge and skills in managing electronic records (ER).

**Design/methodology/approach** – The main data collection has been gathered through survey questionnaires. Quantitative data were gathered from a total of 41 archivists at the National Archives of Malaysia.

**Findings** – The insufficiency of education and training received by the archivists contributed to the archivists' limited knowledge and skills to support their roles and responsibilities to manage ER. The archivists' limited knowledge and skills on ER management (ERM) prevented them from implementing the policies and standard procedures on ERM which was part of their main responsibilities.

**Practical implications** – This study would be useful in identifying the required knowledge and skills for the archivists and suitable education and training for them to acquire such knowledge and skills to manage ER.

**Originality/value** – This is the first study of its kind which deals with the archivists' competencies in managing ER in the Malaysian Government.

**Keywords** Archivists, Electronic government, Electronic records management, Knowledge, Skills, National Archives of Malaysia, Malaysia

**Paper type** Research paper

### Introduction

The problems and challenges in managing electronic records (ER) placed tremendous pressure and expectations on record keepers including records managers and archivists, administrators and IT personnel, who are seen as the key players in the creation, maintenance and preservation of records in electronic media. Thus, the creation, use, maintenance, dissemination, disposition and preservation of ER and archives have implications for the record keepers' education and training. The impact of ER can be felt in every area of records management including archival policies, work processes as well as procedures relating to maintenance and preservation of ER and archives for posterity. In Malaysia, there is a sense of urgency for the record keepers especially the archivists to be intellectually prepared for the time when the electronic government (EG) will be



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fully implemented across the Malaysian Federal Government by 2020. These issues have already been addressed in Australia, Canada, Europe, the UK and the USA where education and training programs on ER management (ERM) have been developed to provide the key players with the required knowledge and skills.

### Literature review

The Malaysian Government has taken a pragmatic approach to the advance of information technology by establishing an EG project in the form of a Multimedia Super Corridor amidst the legacy systems (Johare *et al.*, 2010).

Through the development (in 1997) and the implementation of the EG systems and the existing legacy systems, the Malaysian Government has developed a “roll out” plan whereby EG was extended to a wide range of functions by the year 2010. This was to include the day-to-day operations of 24 federal ministries and 118 federal departments and the delivery of a wide range of electronic services to 24 million citizens. This includes, for instance, the registration of births, registration for schools, the creation of identity cards, filing of tax returns, voting, home-building licenses, the transaction of social security, pension payments and death certificates. The legacy systems and the EG also affect businesses in terms of registration, transaction of fees and tax payments, participation in government procurement, corporate registration and transaction of import/export licenses (Yong, 2003).

The review of related literature elaborates the main line of arguments of this study (ISO 15489, 2001; Malaysian Standard, 2009). Literature on ERM supports the notion that for the successful implementation of any ERM system or ERM program, the knowledge and skills of administrators, archivists, IT personnel and records managers as key players in recordkeeping is vital. These key players need to have thorough grounding in the subject matter of ERM before they are able to fulfill their new roles and responsibilities (Dingwall, 2010; Jimerson, 2010; Kellerhals, 2010; Mollekleiv, 2010; Zimu, 2010).

In Malaysia, this matter has to be given serious attention, as archivists and records practitioners have to be equal to the responsibilities arising from the implementation of EG. At the same time, records created by the legacy systems are still not addressed. The question is whether the education and training that the professional archivists at the National Archives of Malaysia have so far acquired is adequate to meet the challenges in managing ER created by the Malaysian EG.

### Problem statement

The problem starts with the creation of ER. Millions of electronic documents are created every day in the public sector the world over. In Malaysia, the extent of the context as explained indicates the volume of ER which have been created by the legacy systems and which will be generated by a much more dynamic environment through the EG systems. The development of the EG systems in the Malaysian public administration would have an enormous impact on government recordkeeping in the fully electronic environment. This can threaten the government agencies’ capacity to document the business of government in ways that will meet business, accountability and cultural needs (Johare *et al.*, 2010).

It is assumed that ER constitute a national resource which should be generated, organized, preserved, disseminated and exploited in the interest of good governance, accountability and the perpetuation of the nation’s memory. Therefore, it requires

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qualified record keepers especially the archivists capable of performing these tasks resourcefully and efficiently in accordance with established standards.

The need to educate and train archivists in ERM is a world-wide concern of all governments, and professionals alike. Records management and archives are matters of universal concern as they affect what is increasingly being considered as constituting the common heritage of humanity as a whole.

### **Objectives of the study**

This study attempts to:

- investigate and identify the roles and responsibilities of the archivists at the national archives over ER;
- investigate the situation in which the archivists manage ER; and
- identify whether the archivists received adequate education and training to support their roles and responsibilities to manage ER.

### **Methodology**

The survey at the national archives involved the entire population of archivists since there were only 67 (which include the directors of archival services and heads of divisions) of them holding the post then 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 policy and programs for the management and preservation of the nation's records inclusive of ER as well as for the management of their own records and ER which are generated while discharging their administrative functions.

Questionnaires were the main instrument chosen and used in the collection of data for this study. Oppenheim (2000) explains:

[...] a questionnaire is a scientific instrument for measurement and collection of particular kind of data. They are commonly used by researchers to convert into data the information directly obtained from a person. Information or data is obtained by asking instead of observing behavior.

“Survey results were used to explore and measure the beliefs and knowledge of the target population” (Salkind, 1997).

A total of 46 questionnaires were returned out of 67 archivists in the national archives. However, during data analysis process it was found that five questionnaires had to be discarded because of considerable missing data. Therefore, only 41 questionnaires were accounted for the archivists and were analyzed.

### **Findings**

The findings are presented according to three main areas of investigation. These are:

- (1) to investigate and identify the roles and responsibilities of the archivists over ER;
- (2) to investigate the situation in which the archivists managed ER; and
- (3) to identify whether the surveyed archivists received adequate education and training to support their roles and responsibilities to manage ER.

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**The roles and responsibilities of the archivists over ER**

The findings were that although archivists had clearly laid out roles and responsibilities in terms of ER but they were not always discharging them. This is evident from the data analyzed, pertaining to the prime roles and responsibilities of archivists: responsibility pertaining to the national archives' own ER; responsibility pertaining to the federal government ER of archival value; and providing advisory services to government on ER and involvement in EG projects.

“The archivists have roles and responsibilities over ER but may not be discharging them.”

*Prime roles and responsibilities*

Responses in Appendix 1 showed that 20 out of 41 respondents (48.8 percent) comprising eight archivists, five directors and seven heads were responsible for managing paper records; five of them (12 percent) comprising two archivists, one director and two heads were responsible for managing ER. Five of them (12 percent) comprising two archivists, one director and two heads reported that they managed both paper and ER; and 11 of them (26 percent) comprising three archivists and six directors managed paper records together with other types of records such as audiovisual records, photographs, maps and plans. Finally, two heads reported that they only managed other types of records, i.e. audiovisual records.

The survey data on Appendix 1 showed that managing paper records constituted the prime responsibility of a majority of archivists at the National Archives of Malaysia. It is interesting to note that the responsibility for managing ER devolved not only to the ERM and Information Technology Division (ERM and IT Division), but other divisions as well. Five of the archivists comprising one from the Access Division; one from the Finding Aids Division; one from the Procurement Division (director) and one from Human Resource Division (head); and one from the Administrative Division. The responses indicated the existence of two systems, namely the COMPASS (an electronic finding aids program managed by the respondents from the Procurement, Access and Guide Divisions) and the Departmental Personnel Management System (SISPEN), an electronic human resource program made available by the Public Services Department (PSD) for the use of the Administrative Department, as well as Human Resource Unit for all the Malaysian ministries and departments.

The findings revealed that even though the prime responsibility for managing ER officially was devolved to the ERM and IT Divisions, archivists in other divisions were beginning to get involved for administrative reasons.

*Responsibility pertaining to the national archives own ER*

To confirm the above findings, this part of the survey sought to find out whether the archivists at the national archives were practically involved in looking after their own ER which they created, maintained and used in their day-to-day administration.

A series of questions was asked, beginning with the question “does your department create records/documents in electronic form?” Out of 41 respondents, 14 of them comprising of six archivists, six directors and two heads thought that the national archives did not create ER. Of those who answered “no” to the question, three were from the Conventional Records Division (all three were archivists), seven from Memorial Centre (two archivists, four directors and one head); one from Procurement Division (director);

one from AV centre (head); and one from Access Division (archivists). It is interesting to note that all of these respondents were positioned at the headquarters. Surprisingly the director of the ERM and IT Division also believed that the national archives did not create its own ER. This might be based on his perception that, in a true sense, transactional records in the archives were not created and maintained in accordance to standard practices and procedures (based on data obtained through interview). This being the case, it was not unreasonable to assume that the other 12 respondents who gave the same answers also had similar perception (Appendix 2).

Data analysis of the positive responses showed that 27 of 41 respondents believed that the national archives did not create its own ER. Interestingly, all the six directors from the branch offices recognized the existence of ER in their respective offices. This was contradictory to the response of the other seven directors who were all attached to the headquarters (one from Procurement, one from ERM and IT Division, one from Conservation and four from Memorial), who believed otherwise (Appendix 2). It was reasonable to assume, that the directors at the headquarters may not themselves created ER. On the contrary, the directors at the branch offices would have created and maintained records in the course of their daily administrative tasks (they did not have personal assistants or junior archivists at their disposal)[1].

However, those directors attached to the headquarters had their own personal assistants who generated and created records on their behalf. They hold a higher position (S54) as compared to the S48 directors at the branch offices. This situation might influenced their answers to the question.

In relation to the question of responsibility for looking after those records, of the 27 who believed that ER existed in their organization, only 12 thought they had responsibility for them. The majority of them (15) suggested that they were not responsible, as those records were being looked after by others: ten respondents (three archivists, four directors and three heads) thought that those records are looked after by the creators, two (archivists) believed the division in charge was responsible, one (head) suggested the ERM and IT Division was responsible; and two (heads) believed that the IT personnel were in charge. The data implies that the archivists at the national archives agreed on matters relating to their own ER, generated in the course of conducting their daily administrative responsibilities and similarly on matters pertaining to those responsible for looking after them.

Only 12 respondents comprising four archivists, three directors and five heads of divisions responded positively to the question “does your department create records in electronic form?” and “are you responsible for looking after the records?” Of these, two archivists were from the Training Division; and one each from the Finding Aids Division and the Repository; four were from the ERM and IT Division; and one from the Acquisition Division. Data in Appendix 2 showed that whilst 27 respondents thought that the national archives created its own ER, only 12 of them believed that they were responsible for looking after them. Those who responded positively to both questions obviously believed that the use of computers for their daily work, automatically allowed them to create and maintain their own ER. But this perception was not shared by all respondents.

#### *Responsibility for electronically generated federal records of archival value*

Questions were asked on whether the national archives housed public records of enduring value in electronic format. This question was asked in order to ascertain

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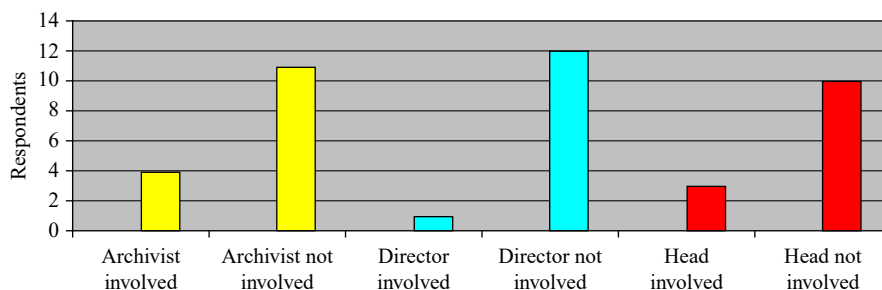
the respondents' roles and responsibilities as far as public records of archival value are concerned.

Data in Appendix 2 revealed that of 41 respondents only 36 percent (15) respondents (comprising four archivists, seven directors and four heads) believed that the national archives housed public records of archival value in the electronic format; while the majority (comprising 26 respondents) which made up 64 percent believed otherwise. They are four archivists (one from Access Unit, two from ERM and IT Division and one from the Repository); out of seven directors, six of whom are from the state branches claimed that their branch offices housed ER. Surprisingly this time, the director of the ERM and IT Division also gave a positive answer together with four other heads (one from ERM and IT Division, one from Repository, one from Conventional Records Division and one from the Finding Aids Division). It was clear that respondents had no common answer to questions on ER in their custody. When asked "who are responsible for looking after the ER of the federal government in the custody of the archives", surprisingly, none of those who believed that the national archives held ER (15), accepted responsibility for looking after the records. Even the respondents from the ERM and IT Division (two archivists, one director and one head) disclaimed responsibility. Out of the 15, 11 (75 percent) thought that the IT Division was responsible. The data suggest that IT Division plays a significant role in looking after public records in electronic format. However, the issue of the requisite knowledge and skills needed by the personnel for managing the records in accordance to archival standards and practice needed to be probed. From the interview with the director of the ERM and IT Division, the data revealed that none of the IT personnel at the IT unit had any training on the management of ER[2].

#### *Advising government on ER*

In order to ascertain further the respondents' responsibilities for public records in the electronic environment, questions were asked on their involvement in advising government on ER. The purpose of these questions was to identify who was responsible and the kind of advice given, in order to discover the extent of the respondents' roles and responsibilities in relation to ER.

Figure 1 shows that out of 41 respondents only eight (19 percent) were involved. They comprised four archivists, one director and three heads. It was not surprising that all the respondents were attached to the ERM and IT Division (Appendix 1). Considering the size of the Malaysian Government machinery, one would wonder if the staff strength was sufficient enough for the national archives to have been able to play a significant role in advising the government on ERM.



**Figure 1.**  
Respondents' level of involvement in advising government on ERM

The activities mentioned pertaining to advising government on ERM involved drawing up of guidelines, as well as meetings with the various agencies, particularly IT personnel, administrators and records managers. In contrast, no importance was attached to the provision of skills training. The advisory service did not include certain important issues such as appraisal, migration and preservation. It is not unreasonable to assume that the lack of coverage indicated a lack of knowledge and skills on the part of the archivists in vital areas of ERM.

#### *Involvement in EG projects*

Appendix 3 showed that out of 41 only eight respondents (comprising four archivists, one director and three heads) were involved. The majority of the respondents constituting 88 percent were not involved. It was not surprising that all five respondents were from the ERM and IT Division. The impression from the responses was that work carried out by the ERM and IT Division was still at the infancy stage of developing standards and procedures through a research project on the management and preservation of ER in the public sector. As shown in Appendix 4, four archivists reported that they were responsible for developing standards for ERM; planning for ERM in the public sector; preparing the archives for accepting electronic archives; and to conduct research into ERM. On his part, the director described his job as preparing strategic plan and policy on all aspects of ERM.

From the data analysis, it was clear that only a small number of archivists were involved in the EG projects. This scenario did not auger well for the future of our archival heritage. Activities relating to conventional records were distributed among the majority of the respondents. This was not surprising because the approach to managing conventional records was more tactical and operational in terms of human resource in which activities were centralized at the national archives. By comparison, ERM was dependent on strategy in terms of system designs, as well as activities, which needed to be distributed among the ministries. This called for a different human resource structure. This needed to be recognized by the national archives and the federal ministries.

#### *ER work practices involving the archivists*

A list containing 12 electronic work practices was included in the questionnaire to identify further whether the archivists in the national archives were involved at all in ERM. The aim was to ascertain the extent of the respondents' knowledge and skills on the subject under study in order to justify the needs for education and training.

Out of 12 respondents who recognized themselves as being responsible for looking after the ER (Appendix 2) only five responded to this question. They comprised one archivist, three directors and one head. The data in Table I indicated that the archivist was only involved in identification and auditing of ER. On the other hand, the head was also involved in similar activities such as identification, creation, appraisal, retention, disposal, link with ERM and IT Division and other work practices (in charge of SISPEN). However, a detailed analysis of the data showed that not all the respondents were involved in the technical work practices relating to naming convention, metadata, conversion and transfer of ER to the archives. In connection with the transfer of ER to the national archives, it was surprising to note from the majority of the respondents,



LR 60,8	ER practices	Archivist	Director	Head	Total
	<b>692</b>	Identification	1	2	1
Creation		0	0	1	1
Appraisal		0	0	1	1
Retention		0	2	1	3
Disposal		0	0	1	1
Naming convention		0	0	0	0
Metadata		0	0	0	0
Preservation		0	2	0	2
Transfer		0	0	0	0
Conversion		0	0	0	0
Prepare ERM programme		0	3	0	3
Establish link with ER and IT Division		0	1	1	2
Other		Auditing	0	SISPEN	2

**Table I.**  
ER practices involving  
the respondents in the  
National Archives  
of Malaysia

35 out of 41 (as shown in Table II), that non-current records in electronic formats were yet to be transferred to the archives.

From the findings of the survey it was clear that the roles and responsibilities of the respondents were predominantly focused on conventional records management. Even though the respondents attached to the ERM and IT Division recognized the need for electronic recordkeeping at the archives, those who were assigned this role did not consider themselves responsible for looking after the national archives own ER and those of the federal government in their custody. This was because ER of the national archives or other federal government departments were yet to be transferred to the custody of the national archives, as revealed by the literature.

### The situation in which the archivists managed ER

In this area of investigation, it was evident that the national archives was not managed in accordance with records management standard practices. The data collected related to various areas of ERM such as creation, use and maintenance; records storage; policy on ERM; and advisory services on ERM.

#### *ERM in the national archives*

Several questions were asked to assess the way ER were currently being managed by the archivists in the national archives in accordance with records management standard practices. These questions covered areas, such as record contents, as well as maintenance, retention and preservation of the archives' own ER and also the federal governments' ER in the custody of the archives.

<b>Table II.</b> Current practice on the transfer of non-current ER into the national archives	Job title	Non-current ER transferred into the national archives	Non-current ER not transferred into the national archives	Total
	Archivist	3	12	15
Director	1	12	13	
Head	2	11	13	
Total	6	35	41	

*Creation, use and maintenance of ER in the National Archives of Malaysia*

This part of the survey sought to find out whether the archivists at the national archives were practically involved in looking after their own ER which they had created, maintained and used in the course of daily administration. In regard to the contents of ER under its custody, a list of 15 categories of informational content were listed (Table III).

For the archivists, minutes and supporting papers registered the highest frequency (13), followed by personnel records (ten) and correspondences (eight). The response to the other record types such as lists and inventories, agreements, project papers and financial records registered the next highest frequency (two). Policy papers, circulars and directives, as well as papers relating to legal and procurement matters registered the lowest responses (one each). None of the archivists claimed to have in their custody blueprints/plans; property records; publications; and maps and plans in electronic format. The data implied that the archivists used the computer for creating minutes, personnel records and correspondences more than any other types of records. This was reflected on the nature of their work which was largely transactional.

Similar to the archivists' responses, the heads also acknowledged that they had in their custody minutes in electronic format (registering the highest score); followed by correspondences and personnel records and finance; and then by policy papers, circulars, directives, lists and inventories (three scores). None of the heads dealt with property records, publications or maps and plans in electronic format. In contrast to the data on the archivists, the data here indicated that responsibilities of the heads were more tactical in nature since policy and finance records; as well as circulars and directives were commonly used and maintained by them (Table III).

In comparison to the responses of the archivists and the heads, the directors' responses to this question registered the least score. The directors gave the highest score to lists and inventories (three scores); followed by personnel records (two scores); and finally records on policy, finance, project management and procurement (one score each). Surprisingly, the directors did not acknowledge at all that minutes and supporting

Types of ER	Archivist	Head	Director	Total
Policy	1	3	1	5
Blueprints and plans	0	0	0	0
Circular/directives	1	3	0	4
Finance	2	4	1	7
Project management	2	2	1	5
Legal	1	1	0	2
Procurement	1	2	1	4
Agreement	2	1	0	3
Lists and inventories	2	3	3	8
Personnel	10	5	2	17
Correspondence	8	6	0	14
Minutes and supporting papers	13	8	0	21
Property	0	0	0	0
Publications	0	0	0	0
Maps and plans	0	0	0	0
Other types	0	0	0	0

**Table III.**  
Categories of national  
archives' own  
ER in custody

papers and correspondences were generated and maintained electronically. However, collectively they agreed that personnel records were created and maintained in electronic formats (for scores, please refer to Table III). This was nothing of a surprise, as the PSD had instructed that the personnel information of every government department to be created and maintained in SISPEN.

The respondents did not agree on the types of ER that were generated by the archives kept in their own custody. Nevertheless, the respondents acknowledged the existence of their own administrative records in electronic format which should be managed in accordance to standard procedures.

#### *Records storage (media and location)*

In seeking to identify how the archives own ER were maintained, questions were asked pertaining to the storage media and locations where records were kept.

As shown in Appendix 5, there were varied responses to the questions. The storage media commonly used by the national archives to store their own ER were: hard disks (27), floppy disks/diskettes (24), compact disks (six), magnetic tapes (four) and optical disks (two). The response indicated that the national archives mainly used hard disks and floppy disks to store information electronically.

In relation to the location where the ER were kept, data in Table IV showed that out of 27 respondents who acknowledged holding in their custody ER of their own, only three respondents believed that the records were kept at the ERM and IT Division; two believed that they were housed in the main archives Repository in Jalan Duta Kuala Lumpur; one thought that they were kept in the Records Centre in Petaling Jaya. By comparison, the majority of the respondents (23 of them) reported that the records were kept at the very division where they were created. Whereas 12 believed that the records were kept in each administrative unit of the national archives.

Putting this data together with the findings in Appendix 2, it was evident that these records were being looked after by the creators and the staff concerned. The data in Appendix 2 also suggest that the person in charge of these records had received no training in ERM. In this case, education and training should be the prime concern and be made available to them.

#### *Federal ER in the custody of the national archives*

The data revealed some interesting patterns. More than half of the respondents believed that the only ER of the federal government that were in custody of the national archives were in the form of mere electronic finding aids[3]. In addition, lower response on other types of records such as policy statements, circulars and directives, agencies

**Table IV.**

The locations where ER generated by the National Archives of Malaysia were kept

Job title	Reporting own ER in custody	Records Centre, Petaling Jaya	Repository, Jalan Duta, Kuala Lumpur	ER and IT Division	Every administrative unit	Scattered locations	Division where created	Other places
Archivist	9	0	0	0	5	0	9	0
Head	11	1	2	3	5	0	7	0
Director	7	0	0	0	2	0	7	0
Total	27	1	2	3	12	0	23	0

publications, digital photographs and also other types of records indicated that the national archives then, was not in a position to discharge its responsibilities to preserve the nation's ER.

Responses on storage media used for these records were shown in Table V. The most common storage media used by the national archives, as reported by all three groups of respondents fell within the category of "other media". According to the responses, most of the directors believed that servers were being used in contrast to other types of media such as magnetic tape, optical disk and compact disk. On the other hand, the archivists did not admit that magnetic tapes, optical disks, compact disks and digital linear tapes were used by the national archives to store ER of federal government in their custody. In contrast to these responses, one of the head thought that magnetic tapes were used, while two of them believed that servers were used as storage media.

Table VI shows the storage locations used by the national archives to keep ER under its custody. Nearly half of the respondents including six out of seven directors believed that ER were kept at the branch offices. The branch offices were quoted most often as the finding aids were installed in all branch offices for use by researchers. The rest of the locations mentioned by the respondents in the order of frequency included the repositories (five), records centres (two) and other locations (two). Overall, the findings suggested that the national archives stored ER of federal government of archival value in its custody at several locations. However, it was not known what types of ER were kept at these different locations. This needed further investigation.

#### *General overseeing of ERM operations at the national archives*

In the federal government agencies, working committees were often set up to oversee the implementation of certain activities or program in order to ensure their effectiveness.

Storage media	Job title			Total
	Archivist	Director	Head	
Magnetic tapes	0	2	1	3
Optical disks	0	1	0	1
Compact disks	0	1	0	1
Digital linear tapes	0	0	0	0
Other media (servers)	3	6	2	11
Number of respondents reporting federal government ER in custody	4	7	4	15

**Note:** As reported by the respondents

**Table V.**  
The storage media of FG ER of archival value in the national archives

Job title	Number of respondents reporting ER of federal government in custody	Record Centre, Petaling Jaya	Repository, Jalan Duta, Kuala Lumpur	Branch office	Other locations
Archivist	4	0	3	0	1 (IT unit)
Director	7	1	0	6	0
Head	4	1	2	1	1 (IT unit)
Total	15	2	5	7	2

**Table VI.**  
The storage locations of the ER of federal government of archival value in the National Archives of Malaysia

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In relation to the management of ER, a question was asked on this matter in order to ascertain whether committees had been set up to exercise general oversight of ERM in the archives (in view of the implementation of the EG).

Table VII indicated the types of committees established to administer the activities of ER at the national archives. Responses showed that several committees and personnel were in charge, namely:

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- the National Archives Records Committee;
- the National Archives Electronic Records Committee (NAER Committee);
- the National Archives Information Management Committee;
- the National Archives Electronic Records and Information Technology Committee;
- archivists from the Electronic Records and Information Technology Division; and
- other officers from other departments.

It was noticeable from the data that archivists from the ERM and IT Division played a significant role in overseeing the general management of ER. More than half of the respondents (23 out of 41) reported that archivists from the ERM and IT Division were responsible. At the same time, a working committee was established by that division (National Archives ERM and IT Committee) to perform the same functions. It can be assumed that the members of this committee were archivists from the same division. Therefore, the National Archives ERM and IT Committee was frequently mentioned: 16 respondents acknowledged the existence of such a committee in that division.

Although the data in Table VII confirmed the existence of the various committees, the findings from the breakdown of the responses were surprising. None of the 13 directors believed that the NAER Committee and the National Archives Information Management Committee (NA Info. Mgt Committee) existed. As higher level officers who were in control of divisions or branch offices, the directors should have known about the existence of all committees concerning the activities of ER, or at least the director of the ERM and IT Division should know about it. But surprisingly, the NAER Committee had a strong membership comprising nine archivists and heads. This compared well to the NA Records Committee, and the NA Information Management Committee.

Further analysis of the data showed that only one director acknowledged the role played by the National Archives Records Committee in overseeing the management of ER. This was understandable, as this committee was obviously concerned only for the management of conventional records. The archivists (four) and the heads (three)

Job title	National Archives Committee	NAER Committee	National Archives Information Management Committee	National Archives ER and IT Committee	Archivist from ER and IT Division	Other officer
Archivist	4	4	1	6	9	1 (PSD)
Director	1	0	0	5	7	1 (MAMPU)
Head	3	5	1	5	7	1 (treasury)
Total	8	9	2	16	23	3

**Table VII.**  
The general overseeing of ERM in the national archives

believed that this committee was also making some contributions to the management of ER. In addition, four respondents indicated that officers from the other departments also discharged similar roles. It was reported that officers from the PSD, Prime Minister's Department (Malaysian Administrative Modernization and Management Planning Unit (MAMPU)) and Treasury were involved. This was on account of the fact that the PSD was in control of the SISPEN; MAMPU was in charge of the EG pilot systems; and the Treasury responsible for auditing financial records.

#### *Policy on ERM*

To investigate further the management of ER, questions were asked on the availability of written policy which was formulated into guidelines by the National Archives of Malaysia.

The responses represented in Table VIII showed that out of 41 respondents, only 17 (41 percent) acknowledged the availability of a written policy used as guidelines by the national archives in the area of ERM. However, the data strongly suggested that the key players such as the archivists, records managers and administrators were generally not involved in formulating and issuing policies and guidelines on ER. Surprisingly, the IT personnel made significant contributions. In this case, more than half the respondents (17 out of 24) believed that the written policy and guidelines were issued by the IT personnel from the ERM and IT Division. In addition, guidance on ER were also issued by policy making agencies such as the PSD, MAMPU and the Auditor General's Office. The question that emerged from the findings was whether the contents of the policy were actually on ERM. In addition, the main concern here was whether the IT personnel in the national archives and officers from the policy making departments were knowledgeable enough to formulate ER policy according to standard records management practices.

#### *Advise on ERM*

To provide links to the above findings, a question was asked on how the policy was made known to the respondents across the national archives in order to support their roles and responsibilities in managing these records.

Of the 17 respondents, 14 acknowledged the existence of a written policy in the form of guidelines from the ER and IT Division. Data indicated that other types of advice such as departmental directives and general circular letters were also issued. These include treasury instructions on financial records. No guidelines were published in any form, be it leaflets/brochure or handbook. Surprisingly, the ministry in charge of the national archives (Ministry of Arts, Culture and Tourism) was generally not involved in issuing any guidelines for the archivists in the area of ERM as the Ministerial

Job title	Organisation's records managers	Organisation's archivist	Organisation's administrator	Organisation's IT personnel	Other officer
Archivist	1	1	1	4	0
Director	0	1	0	9	0
Head	1	0	0	4	3 (PSD, MAMPU, treasury)
Total	2	2	1	17	3

**Table VIII.**  
Written policy formulated into advice issued on ERM in the National Archives of Malaysia

Directives got the least response of all. It indicated that the ministry was not taking a leading role where ER was concerned, even though the ministry was responsible for approving every policy pertaining to records and archives management developed by the national archives. Overall, the data seemed to suggest that the ERM and IT Division had a significant role in developing guidelines on ER.

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*Guidance on ERM*

An attempt was made to ascertain the nature and content of guidance issued in support of the roles and responsibilities of the respondents from the national archives.

Some patterns emerged from an analysis of the data. The response from the archivists seemed to suggest that a link-up with the ERM and IT Division provided the best source of guidance (five responses). Guidance on creation, appraisal, retention, disposal and transfer was next in order of popularity (four responses each). The least popular subjects requiring guidance were ER programs (three responses) and identification of ER (one response). In contrast to the archivists' response, the directors acknowledged that identification of ER and their preservation were the most widely needed subject calling for guidance (four responses each); followed by the subject on retention (two responses). Guidance on preparing ER programs and link-up with ERM and IT Division were least appealing (one response each). In comparison, the heads believed that guidance on ER identification was most in demand (three responses), followed by guidance on the creation of ER (two) and retention of the record (two). The least popular response was for appraisal, disposal, transfer, formulation ER program and establishing link with ERM and IT Division (one each). The variation in responses was reflective of the differing levels of responsibilities; the archivists' role is transactional; the directors' is strategic; and the heads' is tactical.

The overall response suggested that guidance was needed in the following areas: identification of ER, retention, link with the ERM and IT Division, creation, appraisal, disposal, transfer and preparing ER program. The breakdown of the responses revealed that the three groups of respondents did not consider it necessary to have guidance on metadata, naming convention, migration, preservation and conversion. Data pointed to the non-existence of such guidance. It was reasonable to assume that these aspects of ER involved technical knowledge and skills.

If the policy and guidance issued by the IT personnel from the ERM and IT Division did not include these technical aspects, the implication was that the contents of the guidance might comprised nothing other than the general aspects of ERM pertaining to identification, creation, appraisal, retention, disposal and transfer of records.

### **Inadequate education and training to support archivists' responsibilities in ERM**

In order to assess whether the archivists at the national archives who are responsible for ER are trained to do their work, a series of interrelated questions were asked. First, they were asked if they received any education and training, second about the nature of education and training received, and third on the sufficiency of the training received in support of their roles and responsibilities in managing ER in archival custody.

The responses to these questions revealed some interesting findings. Data in Appendices 1 and 3 showed that, out of 17 respondents who had received education and training in ER, 64 percent (11) of them had served the archives for the past 20-28

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 breakdown of the data from the heads revealed some interesting patterns: it was not only the heads from ERM and IT Division had received education and training, but also heads from the Human Resource and Administrative Divisions, Conventional Records Division, Acquisition Division and Access Division. This implies that respondents from divisions other than the ERM and IT had also been given the opportunity to receive education and training on ER.

On the types of education and training received by the respondents, data in Table IX showed that the most common medium of education and training were seminars, followed by conferences. In comparison, workshops were a less popular medium for education and training, and none of the archivists had attended any customized programs and induction courses on ER. Four respondents reported having attended other forms of education and training, and surprisingly one respondent has received education and training in ERM at university level, while yet another had attended a briefing session by consultants.

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. Given these data, 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 the data in Appendix 2 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 ER had not received any form of education and training on this subject.

### Conclusion

When knowledge and skills of the surveyed archivists was placed in the context of the objectives of this study, it became evident that the insufficiency of education and training received by the archivists contributed to the archivists' limited knowledge

Job title	Respondents who have received education and training on ERM	Workshop	Seminar	Conference	Accredited			Sufficiency
					programme	Induction	Other	
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 (briefing by consultant)	1
Total	17	6	12	8	0	0	4	2

**Table IX.**  
Education and training  
on ERM received by the  
respondents in the  
National Archives  
of Malaysia



and skills to support their roles and responsibilities to manage ER. The archivists' limited knowledge and skills on ERM prevented them from developing policies and standard procedures on ERM which was part of their main responsibilities. This provides justification for education and training of the archivists at the National Archives of Malaysia as a critical step towards preparing the national archives for the challenges of preserving the nations' records produced by the legacy and the EG systems.

Data from the questionnaire unveiled the actual work situation involving the archivists: how they manage ER, their current states of knowledge and skills in ERM, and their need for relevant and appropriate education and training to perform their professional jobs and to develop appropriate policies and standards on ERM. The quantitative data strongly indicates the lack of knowledge and skills in ERM of the archivists, and the absence of implementation of the existing policies and standards on ERM within the federal government. Without proper knowledge and skills on ERM, the archivists are placing the Malaysian archival heritage in their custody at risk. These concerns may be addressed by having an appropriate curriculum for education and training in ERM for the archivists at the National Archives of Malaysia.

### Notes

1. The branch offices are managed by one professional archivist only (director). He/she is assisted by non-professional staff at a lower level.
2. There were only three information systems officers and one assistant information officer manning the IT Division of the national archives (<http://arkib.my/bm/profil/menegnaikamibadan1.htm> (accessed 23 January 2005)).
3. COMPASS is the only electronic finding aids used in the national archives. It is a finding aids for paper records (<http://arkib.gov.my>).

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**Further reading**

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## Appendix 1

**Table A1.**  
Profile of archivists  
in relation to ERM

Job title	Division	Length of service	Place of attachment	Prime responsibility	Involvement in EG project	Advising government on ERM
Archivist	Training	12	Headquarters	Managing paper records	No	No
Archivist	Training	17	Headquarters	Managing paper records	No	No
Archivist	Access	17	Headquarters	Managing paper and ER	No	No
Archivist	Guide	2	Headquarters	Managing paper and ER	No	No
Archivist	ERM and IT	13	Headquarters	Managing paper records	Yes	Yes
Archivist	Repository	6	Headquarters	Managing paper records and AV	No	No
Archivist	ERM and IT	18	Headquarters	Managing ER	Yes	Yes
Archivist	ERM and IT	1	Headquarters	Managing paper records	No	Yes
Archivist	ERM and IT	17	Headquarters	Managing ER	Yes	Yes
Archivist	Conventional record	18	Headquarters	Managing paper records, maps and plans	No	No
Archivist	Conventional record	17	Headquarters	Managing paper records, maps and plans	No	No
Archivist	Conventional record	9	Headquarters	Managing paper records, maps and plans	No	No
Archivist	Acquisition	15	Headquarters	Managing paper records	No	No
Archivist	Prime gallery	2	Memorial Tunku	Managing paper, AV, photographs	No	No
Archivist	Prime gallery	18	Memorial Tunku	Managing paper, AV, photographs	No	No
Director	Kedah State	20	Branch office	Managing paper, AV, photographs, maps and plans	No	No
Director	Johore State	25	Branch office	Managing paper, AV, photographs, maps and plans	No	No
Director	Procurement	29	Headquarters	Managing paper and ER	No	No
Director	Perak State	21	Branch office	Managing paper, AV, photographs, maps and plans	No	No
Director	Sabah State	17	Branch office	Managing paper, AV, photographs, maps and plans	No	No
Director	Conservation	24	Headquarters	Managing paper records and AV	No	No

*(continued)*

Job title	Division	Length of service	Place of attachment	Prime responsibility	Involvement in EG project	Advising government on ERM
Director	Penang State	10	Branch office	Managing paper, AV, photographs, maps and plans	No	No
Director	ERM and IT	28	Headquarters	Managing ER	Yes	Yes
Director	Memorial	15	Headquarters	Managing paper, AV, photographs	No	No
Director	Sarawak State	13	Branch office	Managing paper, AV, photographs, maps and plans	No	No
Director	Heroes' gallery	20	Headquarters	Managing paper, AV, photographs	No	No
Director	Prime gallery	25	Headquarters	Managing paper records	No	No
Director	Memorial	25	Headquarters	Managing paper records	No	No
Head	Human resource	19	Headquarters	Managing paper and ER	No	No
Head	ERM and IT	24	Headquarters	Managing ER	Yes	Yes
Head	ERM and IT	21	Headquarters	Managing ER	No	Yes
Head	ERM and IT	20	Headquarters	Managing paper records	No	Yes
Head	Repository	21	Headquarters	Managing other records (AV)	No	No
Head	Conventional record	20	Headquarters	Managing paper records	No	No
Head	Conventional record	20	Headquarters	Managing paper records	No	No
Head	Administrative	20	Headquarters	Managing paper and ER	No	No
Head	Acquisition	25	Headquarters	Managing paper records	No	No
Head	Guide	18	Headquarters	Managing paper records	No	No
Head	Access	22	Headquarters	Managing paper records	No	No
Head	AV centre	21	Headquarters	Managing AV records	No	No
Head	Exhibition	21	Headquarters	Managing paper records	No	No

## Appendix 2

**Table AII.**  
Summary of roles  
and responsibility

Job title	Division	Your division create ER?	Are you responsible?	Are others responsible?	Are ER of federal government in custody?	Who are responsible?	Have you had any education and training in ER?	Has the person in charge had any education and training on ER?
Archivist	Training	Yes	Yes, which I created	No	No		No	
Archivist	Training	Yes	Yes	No	No		Yes	
Archivist	Access	No	No	No	Yes	IT unit	Yes	Visits/study tour
Archivist	Guide	Yes	Yes	No	No		Yes	
Archivist	ERM and IT	Yes	No	Creators	No		Yes	No training
Archivist	Repository	Yes	Yes	No	Yes	IT unit	Yes	Do not know
Archivist	ERM and IT	Yes	No	Division in charge	Yes	Division in charge	Yes	Not sure
Archivist	ERM and IT	Yes	No	Division in charge	Yes	Division in charge	Yes	Not sure
Archivist	ERM and IT	Yes	No	Creators	No		Yes	No
Archivist	Conventional record	No	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 concerned	No		No	No training

*(continued)*

Job title	Division	Your division create ER?	Are you responsible?	Are others responsible?	Are ER of federal government in custody?	Who are responsible?	Have you had any education and training in ER?	Has the person in charge had any education and training on ER?
Director	Penang State	Yes	No	Those who created the records	Yes	IT unit	No	None
Director	ERM and IT Memorial	No			Yes	Repository	Yes	No
Director	Sarawak State	Yes	No	Administrative staff	Yes	IT unit	No	No
Director	Heroes' gallery	No			No		No	
Director	Prime gallery	No			No		No	
Director	Memorial	No			No		No	
Head	Human resource	Yes	Yes		No		Yes	
Head	ER and IT	Yes	No	IT unit	Yes	IT personnel	Yes	No training
Head	ER and IT	Yes	No	Creators	No		Yes	No training
Head	ER and IT	Yes	No	Staff/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	System management
Head	Access	Yes	No	IT personnel	No		Yes	Information system management
Head	AV centre	No			No		No	
Head	Exhibition	No			No			

Archivists' knowledge and skills

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Table AII.

**Table AIII.**  
Respondents' involvement in advising government on ERM and EG projects

Job title	Division	Advice to government	Nature of advisory services	EG projects	Area of advice/assistance
Archivist	Training	No		No	
Archivist	Training	No		No	
Archivist	Access	No		No	
Archivist	Guide	No		No	
Archivist	ER and IT	Yes	Visits; issuance of policy, guidelines on appraisal, migration and preservation; established ERM program; meeting with agencies' IT personnel; meeting with agencies' administrators; meeting with agencies' records managers	Yes	On preservation of ER of archival value
Archivist	Repository	No		No	
Archivist	ER and IT	Yes	Visits; issuance of policy, guidelines; established ERM program; meeting with agencies' IT personnel; meeting with agencies' administrators; and meeting with agencies' records managers	Yes	Preservation of ER
Archivist	ER and IT	Yes	Visits; issuance of policy, guidelines; established ERM program; meeting with agencies' IT personnel; and meeting with agencies' records managers		
Archivist	ER and IT	Yes	Visits; issuance of policy, guidelines; established ERM program; meeting with agencies' IT personnel; and meeting with agencies' records managers	Yes	Research to develop policy, standards and procedures on ERM
Archivist	Conventional record	No		No	
Archivist	Conventional record	No		No	

(continued)

Job title	Division	Advice to government	Nature of advisory services	EG projects	Area of advice/assistance
Archivist	Conventional record	No		No	
Archivist	Acquisition	No		No	
Archivist	Prime gallery	No		No	
Archivist	Prime gallery	No		No	
Director	Kedah State	No		No	
Director	Johore State	No		No	
Director	Procurement	No		No	
Director	Perak State	No		No	
Director	Sabah State	No		No	
Director	Conservation	No		No	
Director	Penang State	No		No	
Director	ER and IT	Yes	Visits; issuance of policy, guidelines; appraisal; meeting with agencies' IT personnel; meeting with agencies' administrators; meeting with agencies' records managers; and giving training	Yes	Research project to develop policy, standards and practices on ERM
Director	Memorial	No		No	
Director	Sarawak State	No		No	
Director	Heroes' gallery	No		No	
Director	Prime gallery	No		No	
Director	Memorial	No		No	
Head	Human resource	No		No	
Head	ER and IT	Yes	Visits; issuance of policy, guidelines; appraisal; migration; preservation; establish ERM program; meeting with agencies' administrators; and meeting with agencies' records managers		Research to develop policy, standards and procedures

*(continued)*

Archivists' knowledge and skills



Table AIII.

Job title	Division	Advice to government		Nature of advisory services	EG projects	Area of advice/assistance
		Yes	No			
Head	ER and IT	Yes		Issuance of guidelines; migration; preservation; establish ERM program; meeting with agencies' IT personnel; meeting with agencies' administrators; and meeting with agencies' records managers	No	
Head	ER and IT	Yes		Providing training	No	
Head	Repository	No			No	
Head	Conventional record	No			No	
Head	Conventional record	No			No	
Head	Administrative	No			No	
Head	Acquisition	No			No	
Head	Guide	No			No	
Head	Access	No			No	
Head	AV centre	No			No	
Head	Exhibition	No			No	

## Appendix 4

Job title	Division	Year of service	Place of attachment	Position description
Archivist	Training	12	Headquarters	Assisting in organizing talks, briefings and lectures on conventional records management for staff in the public sector
Archivist	Training	17	Headquarters	Organising workshops and talks on records management and archives
Archivist	Access	17	Headquarters	Research
Archivist	Guide	2	Headquarters	Providing guidance to researchers (provide findings aids) and input data into computerized finding aids
Archivist	ERM and IT	13	Headquarters	To assist in developing standards for ERM
Archivist	Repository	6	Headquarters	Assisting in the management of the repository
Archivist	ERM and IT	18	Headquarters	To assist in the planning for the management of ER in the public sector
Archivist	ERM and IT	1	Headquarters	Assisting in preparing for the archives to get ready with electronic archiving
Archivist	ERM and IT	17	Headquarters	To do research on ERM
Archivist	Conventional records	18	Headquarters	Records management – appraisal/review/consultancy/records management procedures/briefings/inspections
Archivist	Conventional records	17	Headquarters	Appraisal of records, advice government departments and implementation of records management projects
Archivist	Conventional records	9	Headquarters	Visit and advise on records management to government agencies, appraisal and transfer of records
Archivist	Acquisition	15	Headquarters	To acquire and process, arrange and describe records from the government departments
Archivist	Prime gallery	2	Headquarters	Research/outreach programmes, interview people to get information to set up prime ministers' gallery
Archivist	Tunku's Memorial	18	Headquarters	Assisting in managing archives, records, artifacts and library materials related to the first prime minister
Director	Kedah State	20	Branch office	Managing federal government records and archives and to advise federal agencies in the state of Kedah on records management
Director	Johore State	25	Branch office	Managing the branch office, doing appraisal, review and records transfer from the federal department in the state of Johore
Director	Procurement	29	Headquarters	Management of the procurement of archival materials and the management of AV centre
Director	Perak State	21	Branch office	Taking care of Perak's branch archives, administration, finance and provide access to archives
Director	Sabah State	17	Branch office	Implementing archival policy of the federal government for federal agencies in the state of Sabah
Director	Conservation	24	Headquarters	Managing the conservation and reprographic division of the national archives

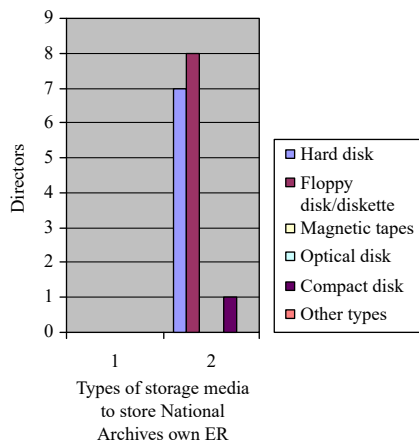
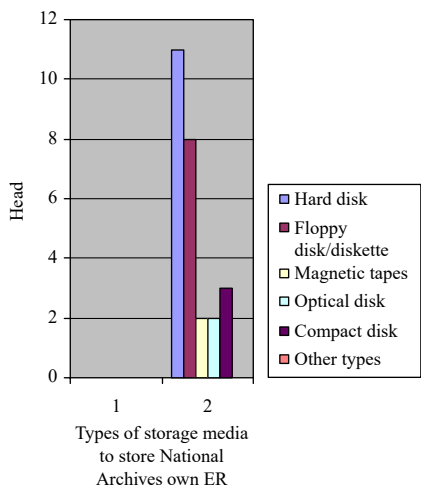
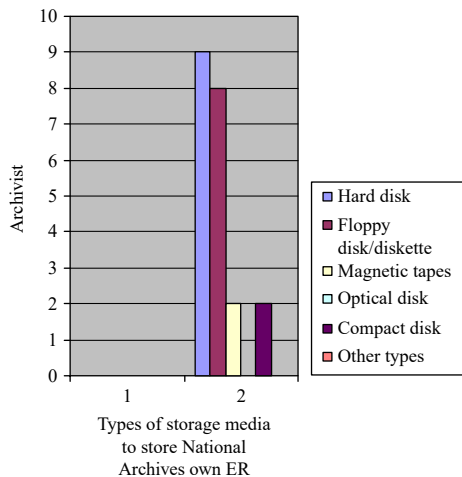
*(continued)*Archivists'  
knowledge  
and skills

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**Table AIV.**  
Year of service, place of attachment and summary of position description of respondent

Table AIV.

Job title	Division	Year of service	Place of attachment	Position description
Director	Penang State	10	Branch office	Managing the Penang branch of the national archives including giving advise on records management
Director	ERM and IT	28	Headquarters	Preparing strategic plan and policy on ERM for archiving and formulate policy and standard procedures for ERM
Director	Memorial	20	Headquarters	Managing the acquisition of records and artifacts and library materials for the prime ministers' gallery
Director	Sarawak State	13	Branch office	Managing federal archives in the state of Sarawak and providing access to archival materials
Director	Heroes' gallery	20	Headquarters	Managing the gallery and in charge of documenting the biographies of notable people and statement
Director	Prime gallery	25	Headquarters	Managing and administering the gallery of the former prime ministers and the public services gallery
Director	Memorial	25	Headquarters	Managing the overall administration of the gallery of the first prime minister
Head	Human resource	19	Headquarters	To plan and implement the development of human resource management for the department
Head	ERM and IT	24	Headquarters	Planning and managing ER in public sector for permanent preservation
Head	ERM and IT	21	Headquarters	Evaluating international best practice in order to develop national standards, procedures on ERM
Head	ERM and IT	20	Headquarters	Organise awareness programmes such as briefings on ERM for the public sector
Head	Repository	21	Headquarters	Managing records centre and archival repository
Head	Conventional records	20	Headquarters	Supervisory, to do records inventory, schedules, transfer, arrange and describe public records
Head	Conventional records	20	Headquarters	Managing appraisal, disposal and transfer of paper records from the government departments
Head	Administrative	20	Headquarters	Managing administrative and finance division, building maintenance and other administrative functions
Head	Acquisition	25	Headquarters	Supervising, organizing process of acquisition, and the transfer of archival materials from the creating agencies
Head	Guide	18	Headquarters	In charge of description and preparation of finding aids/guides to public and private archives
Head	Access	22	Headquarters	Managing the research room and providing services to the researchers
Head	AV centre	21	Headquarters	Planning for the establishment of AV centre and managing the centre
Head	Exhibition	21	Headquarters	Supervising and organizing exhibition for the national archives



**Figure A1.** Media used for storing ER generated by the National Archives of Malaysia

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