A GLOBAL SEARCH FOR UNIVERSAL MODELS OF EDUCATION AND TRAINING IN ELECTRONIC RECORDS MANAGEMENT

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ABSTRACT

In developed countries, education and training for records practitioners and other key players on electronic records management (ERM) are provided by the universities, professional organisations, private consultants and individual archival institutions, or through collaboration between the various organisations. However, evidence from the review of literature suggests that in many countries especially those in Asia, the present situation is characterised by a lack of local expertise, experience and facilities. As a result, records practitioners are sent to developed countries to acquire knowledge and skills on ERM, or foreign experts are brought in to conduct in-service training for government record keepers. According to the literature, these issues have already been addressed in the UK and Europe where education and training programmes on ERM have been developed to provide the key players with the required knowledge and skills. Pursuance to this development, an international survey was conducted to identify universal models of education and training programmes in ERM. This article reports and discusses the findings of the survey questionnaire of the national archival institutions and related professional associations world wide for administrators, archivists, information managers, IT specialists and records managers.

Keywords: Electronic records management; Education and training; National archival institutions; Professional associations; Record keepers; Record-keeping

INTRODUCTION

The complexity of Electronic Records Management (ERM) as an after effect of sophisticated information and communication technologies and the diversified needs of various users add a new dimension to the problem of education and training programmes and curriculum development. The records and archival institutions, professional organisations and educators are expected to respond to these changes which affect the

profession. Records and archival education and training should reflect these changes in their programmes to produce record professionals capable of providing and maintaining the services in accordance with the required records management and archival standards and practices.

The literature on the worldwide approaches to education and training in records management reveals the lack of standardised course syllabi in universities worldwide. Most existing records and information management courses and programmes are found in colleges of business and in schools of library and information sciences. Many of these programmes provide practical internship experiences in addition to classroom instruction. Increasingly, courses are becoming available on an international basis via the World Wide Web, offered by universities around the world.

The only comprehensive survey on education and training on records and archives is the International Council on Archives' (ICA) survey. Even though only 65 institutions from 23 countries worldwide responded to the survey, the work reveals the latest situation pertaining to education and training on records and archives inclusive of electronic records. The ICA survey findings as explained in the following section have been published in the Directory of Archival Education and Training Institution (http://www.ica-sae.org).

EDUCATION AND TRAINING ON ERM IN DEVELOPED COUNTRIES
Academic institutions of higher learning have played a significant role in delivering educational and training programmes on ERM in developed countries such as Australia, Canada, Europe, UK and USA. ERM initiatives within the records management programmes in higher education in these countries have taken a variety of forms: accredited programmes, flexible modular programmes and distance learning; as well as traditional face to face classroom teaching form the common mode of delivery.

In Australia, education and training on ERM is provided by Curtin University of Technology, Edith Cowan University, Monash University and University of New South Wales within their existing records and information management courses. Education and training programmes on ERM was established on a strong foundation. As a result, records staff now act as consultants, educators and advisors and assist agencies to fulfil their record-keeping roles and responsibilities in the era of electronic government (EG), public accountability, freedom of information and knowledge-based organisations aimed at supporting ISO 15489.

In Canada records management courses have evolved with great energy, enthusiasm and creativity, in line with the dynamism of dealing with electronic records. Other than embarking on the harmonisation of education and training in records management, librarianship and information sciences as part of the philosophy which characterises the records management education and training in Canada, the development of research into ERM is another significant component of the philosophy behind the programmes offered by the various universities. The InterPARES project based in the University of British Columbia (UBC) brings together archivists from universities and archival institutions, along with computer and information scientists and engineers from around the world in a concerted effort to define the archival requirements for authenticity on the basis of archival science and diplomatics. Other than integrating the research findings into existing curricular frameworks, researchers of the project developed and pilot-tested continuing education and training products such as workshops, distance education courses, annotated bibliographies, glossaries, and also case studies on ERM that were made available for use by academic programmes and professional associations and institutions in their continuing education programmes. Issues on electronic records have also led to the introduction of specific modules on ERM at the University of Montreal and University of Toronto.

In the UK, ERM subjects are incorporated within accredited courses on archives at the University of London (UCL), Liverpool University (LU) and University of Wales (UWA) for their certificate, diploma, Masters and other postgraduate programmes. By comparison, Northumbria University (NU) has remained the first and to date the only UK school to teach records management from the perspective of information rather than archives management. It has thereby developed strong areas of concentration and specialisation on ERM in their MSc (Records Management) by Distance Learning and Advanced Diploma in Records Management by Lifelong Learning. The subjects focus on organisational record-keeping as practised in different situations, with electronic record-keeping constituting the core knowledge on ERM. The subjects seek to deliver knowledge and understanding required by those intending to be employed or already in employment as records managers and to do it in a manner that, where possible, corresponds to the electronic environment.

NU, with LU and the UK National Archives, have also established the rm3 programme, a flexible and modular Diploma and Certificate in Professional Studies: Records and Information Management which include modules on ERM. This partnership offers a unique collaboration and the first of its kind in the UK and provides an educational opportunity for the various record keepers across government to develop their records management expertise and to acquire a university accredited qualification. In addition,

NU has also developed a joint programme with Association for Information and Image Management (AIIM) - Information Management University (IMU) - to provide training on ERM for different types of clients in the UK (http://www.aiim.org.uk/imu/imuniversity.asp-18). The serious initiatives have put NU at the forefront of ERM educational and training development.

NU has also designed and developed records management education and training programmes for different levels of staff in other organisations. This includes operational administrative staff to strategic managers, in Irish universities and the British Broadcasting Corporation (BBC), records professionals on the MSc Records Management (by distance learning), all practitioners at either tactical or management level, and a combination of three key stakeholders groups i.e. IT, administration and archives and records management in the European Leonardo funded project, e-TERM (Education and Training in Electronic Records Management). These programmes have used different pedagogic models including face to face workshops, directed study, distance learning and the use of e-learning environment (Hare, Johare and McLeod, 2004).

There are also several other examples of education and training providers on ERM in Europe. In contrast with the development in other parts of Europe, the present education programmes in universities in Bulgaria such as Sofia University and South Western University offer ERM subjects as part of archives and records management courses in their diploma, degree and PhD in History. On the other hand, the Bavarian Archives School and the Marburg Archives School in Germany are offering courses for the various civil service career levels of staff employed by the archives administration inclusive of subjects on ERM in their diploma and degree courses on archival science. The structures of the programmes have been developed in cooperation with professional archival organisations. Similarly, the Mid Sweden University and University of Tampere in Finland have also developed programmes specialising in records management, but with concentration on electronic record-keeping in modern organisations.

In the USA, only two universities offering courses on electronic record-keeping and digital preservation responded to the ICA survey. In this case both the University of Michigan and University of California offered ERM as separate modules. The Schools of Information in the respective universities offer an integrated, multidisciplinary degree (MSc in Information) with an optional specialisation on ERM. Distinguishing features of their programmes include emphasis on modern records and modern technology inclusive of electronic record-keeping, digitization, and on-line access systems.

Other than academic courses provided by the various universities, there are also training courses provided by the universities and other organisations to provide competence and skills for the record keepers to manage electronic records as part of their professional development. The various universities in Australia, Canada, Europe, UK and USA run regular training courses on ERM for their existing government record keepers. For example, UCL in the UK runs a summer school and short courses in archives and records management inclusive of specific topics on ERM to meet the needs of a variety of clients and in response to major developments, for example, the impact of new legislation such as the Freedom of Information (FOI) Act and the development of ISO 15489 (Hare, Johare and McLeod, 2004).

Early records managers and archivists in the national archives received on-the-job training to learn how to set up records programmes for the government. This has also largely remained true for current records management professionals in the national archives and in many state archives. In a number of countries, archival institutions organise their own education and training programmes for the benefit not only of archivists and records managers, but also of civil servants in general for whom knowledge in this area is of vital importance in ensuring an orderly and efficient office administration.

Apart from the universities and archival institutions, professional bodies such as the Society of Archivists and other professional organisations of record managers, have also developed training opportunities on ERM in the various countries. For example, in the UK, the Society of Archivists and the Archive-Skills Consultancy deliver in-service training to people working as records practitioners at all levels without formal qualifications (www.archives.org.uk).Training specialisation features include managing digital records and electronic record-keeping.

In the USA and Canada, the central records management association, ARMA, has also been active in promoting education and training on ERM as part of records management programmes. ARMA with over 10,000 members and over 100 local chapters is active in promoting educational efforts through conferences, workshops, and continuing education programmes (www.arma.org). As reported by Bennett (1999), excellent opportunities were also provided by related organisations such as the Association of Information and Image Management (AIIM), the Society of American Archivists (SAA), the American Society for Information Sciences (ASIS), the Nuclear Information and Records Management Association (NIRMA), the National Association of Government Archivists and Records Administrators (NAGARA), and the American Health Information Management Association (AHIMA).

EDUCATION AND TRAINING OF RECORD KEEPERS IN ASIA

In many Asian countries, including Southeast Asia, education and training provided by the various universities are characterised by the traditional focus on archival management with emphasis on conventional records management. According to the response received by the ICA, only four out of the 23 institutions in China offering records and archives programmes also offer subjects on ERM. They are Zhejiang University, Beijing Union University, Soochow University and the Zhengzhou Institute of Aeronautical Industry Management. These four universities offer subjects on electronic record-keeping through their school of archives, library and information science. By comparison none of the archival schools in Japan namely the National Institute of Japanese Literature and the National Archives are offering ERM subjects. This is due to the fact that their area of specialisation limits their role to the management of historical manuscripts.

There is little evidence of concern for education and training of record keepers in managing electronic records in India. Even though the National Archives of India has been providing education and training for archivists from within and outside the country since 1943, the curriculum content remains traditional in approach due to the lack of local expertise and facilities to deliver education and training programmes on ERM (www.nationalarchives.nic.in/diploma.html)

There are several universities in Indonesia providing instructions in records and archives, such as the University of Indonesia in Jakarta, University of Deponegoro in Semarang and University of Hassanuddin in Ujung Pandang (www.ui.ac.id, www.fib.ui.ac.id, www.deponegoro.ac.id). In addition, the National Archives of Indonesia runs in-service training for government records managers and archivists. However, the existing educational programmes are limited to diploma courses in archival management emphasising conventional records management. Apart from the local education and training programmes, it is a current practice to send experienced archivists abroad for advanced training in specialised areas such as ERM and the preservation of information (www.arkib.gov.my/sarbica). They are being sent to countries like Australia, Canada, the USA and the Netherlands. The aim is to train specialists and also to improve the local education and training programmes on ERM (www.indosat.net.id)

In other Southeast Asian countries such as Burma, Brunei, the Philippines, Thailand, and Vietnam, education and training programmes in the area under study are mainly for archivists in general. The literature reveals that there are no organised and formal training programmes on ERM for archivists. Training has been sporadic and irregular, mostly in the form of on-the-job training (www.arkib.gov.my/sarbica). Some members

of the archives staff were sent to the National Archives of Australia, Canada, UK and the USA (NARA), for short courses and attachment on ERM.

In Singapore, the Nanyang Technological University has developed a postgraduate programme on information management emphasising ERM at the Masters level in the School of Communication and Information (www.ntu.edu.sg). The MSc (Information Studies) programme offered by the University for both part-time and full-time students aims at training graduates in any discipline into a new breed of information services and systems professionals who are able to develop and deliver value-added information products and services in all types of information environment. The course is interdisciplinary and draws upon the fields of library and information science, information management and computer technology. The broad range of subjects offered ensures ample opportunities for students to tailor the curriculum to suit their particular requirements or to specialise in one of five areas of concentration namely, Library and Information Science, Archival Informatics, School Media Resource Management, Information Management and Information Systems. Although there is no clear mention of record management, it is obvious that records managers might need to adopt the overall skills to their particular requirements (www.ntu.edu.sg/sci/is).

EDUCATION AND TRAINING OF RECORD KEEPERS IN MALAYSIA

In Malaysia records and archives education and training is being provided by the Faculty of Information Management of the Universiti Teknologi MARA (UiTM), the only institute of higher learning in the country offering such academic programme. The Faculty has undergone changes from time to time in tandem with employment prospects of the country. Currently, the records and archives courses are aimed at preparing information managers who are needed to advance both the country's information policies in relation to IT, as well as the electronic government (EG). ERM is being offered as a separate module in the diploma, degree and Masters programmes as qualified records and information managers are required for the successful implementation of the EG. However, the faculty is experiencing lack of experienced academic staff to deliver ERM subjects, and lack of facilities prevents the development of research initiatives in this area of concern (Johare, 2006).

The National Archives of Malaysia has remained the only provider of records and archival training for the government records practitioners including those from the third world countries in Africa and Southeast Asia. However, existing training programmes provided by the National Archives, as in other Southeast Asian countries are limited to the management and the preservation of conventional records. Due to the lack of local expertise, experience and facilities to run courses on ERM, government archivists and

records managers currently are sent abroad to acquire education and training on ERM (McDonald, 2003). Foreign experts on ERM were also brought in to deliver and conduct in-service training such as workshops, seminars and conferences by the National Archives as part of the e-SPARK project. One of the project's aim and objective is to develop guidelines for the training of records managers and archivists (www.arkib.gov.my).

Literature reveals that at present the Malaysian record keepers in the Administrative and Diplomatic Services (ADS), Administrative and Support Services (ASS), Social Services (SS) (including the archivists and records managers) and Information System Services (ISS) receive their in-service education and training at the National Institute of Public Administration (INTAN) (www.windowstomalaysia.com.my/gov/31_1_2.htm). This variety of education and training indicates that the ADS, ASS, SS and the ISS do not receive any education and training on records management although training for the ISS do cover information and knowledge management.

Other professional organisations, namely, the Malaysian Institute of Management and the Library Association of Malaysia have also initiated programmes that require the use of foreign expertise in providing training on ERM for their respective members (www.mim.edu, www.pnm.my/ppm). This situation implies that there is awareness of the need for education and training among record practitioners expected to assist the government to realise the EG initiative.

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.

Johare (2006) in her study to assess the state of knowledge and skills of the staff across the public sector and the National Archives of Malaysia pertaining to ERM found that "the staff in the agencies and in the National Archives have yet to acquire the knowledge, skills and abilities required to undertake the job". The survey also found that "the awareness and understanding of the importance of electronic records among public servants is lacking thus hindering efforts to promulgate ERM strategies". Thus education and training programmes must be designed and reached out to the existing record keepers in the Malaysian government. However, before designing education and training programme for the Malaysian record keepers, research needs to be undertaken firstly to identify international pragmatic examples of education and training in ERM. The

concepts which underpinned these pragmatic examples can be used in developing a suitable education and training programmes for the Malaysian record keepers.

SURVEY OF NATIONAL ARCHIVAL INSTITUTIONS AND RELATED PROFESSIONAL ASSOCIATIONS
Methodology

The national governments of national archival institutions were chosen as the respondents due to the fact that these national central agencies performed organisational, legal, regulatory, professional and other requirements that apply to the management of any public records inclusive of electronic records created by the government agencies in their respective countries. These organisational functions include that of providing guidelines such as education and training for the government staff to manage the nation's records.

The professional organisations of administrators, records, archives, information management and information technology were chosen as respondents because they are closely associated with the professional development of their respective members, the record keepers defined in this study. In this context the education and training in managing electronic records was thought to be provided by the professional organisations for their respective members.

(a) Sampling of the Surveyed Organisations

In these two surveys the researcher used purposive sampling because it is impossible for the researcher to include in the survey; all the national archives and professional organisations in more than 190 nations in the world due to time constraint and cost incurred. To accommodate the naturalistic strategy, purposive samples, occasionally refereed to as judgment samples according to Lincoln and Guba (1997) was appropriate. The sampling units for both organisations were selected subjectively by the researcher, in an attempt to obtain a sample that appears to be representative of the population. The chance that a particular national archive and the professional organisations of administrators, records, archives, information management and information technology selected for the sample was dependent on the subjective judgment of the researcher, and in this case it was heavily referred to the literature review.

Based on the existing literature, the target organisations of the national governments consisted of the national archival organisations and the prominent state archives and that of professional organisations of administrators, records, archives, information managements and information technology in Australia, Canada, Europe, New Zealand, UK and USA. Based on the suggestion by Patton (2002), the sampling method used on

the selection of the national archival institutions and professional organisations was based on purposive sampling. Both organisations in Australia, Canada, Europe, UK and USA as suggested in the literature review were purposively chosen as sampling for several reasons. Firstly with regards to electronic records management, the literature suggests that the work carried out by the aforementioned organisations has been substantial in the past one decade. Secondly, they are the leading advocates for developing, establishing and providing authoritative guidance on all aspects of ERM. Thirdly, the organisations are all leading advocates from different countries around the world, thereby offering a wider perspective of ERM. Finally, while similar organisations of many countries produced many policies and guidelines regarding the management of electronic records, those of the sampling countries addressed the whole functionality of ERM systems. Thus the aim of the purposive sample used is based on informational consideration rather than statistical considerations. Its purpose is to maximise information and not to facilitate generalisation as explained by Lincoln and Guba (1997).

(b) Data Gathering and Analysis
A web-based interactive questionnaire was developed for both surveys and the URL address of the questionnaire was sent through e-mail addresses of the identified respondents. These are: http://www.geocities.com/rusnahjohare/Survey_Archives.htm and http://www.geocities.com/rusnahjohare/Survey_Prof.htm.

The qualitative data from the semi-structured questionnaire of open-ended questions for both surveys relied on the methods advocated by Weitzman et al (1994) who illustrated the use of software to facilitate analysis of qualitative data. The Non-numerical Unstructured Data Indexing Searching Theorizing (NUD'IST) version 6 (N6) was used to handle the unstructured data collected from both surveys. The code-based theory builder's software was used to facilitate the analysis process.

The statistical data of both sets of questionnaire mainly took the form of content analysis and it is not on percentages and averages (means). There was no intention to make statistical comparisons or cross tabulation of data. They should be regarded as an indication of individual development rather as a comparative development. This is in line with the objective and goal of the survey. The replying organisations provided complete data for standardised close-ended questions and contributing open-ended information relevant to their individual existing experiences and views on issues under investigation. Responses to both surveys were tabulated and examined. The open-ended responses were reviewed and synthesised. Considerable amount of attachment materials were downloaded, printed out and studied. These materials were used to help interpret the qualitative data from the open-ended answers.

FINDINGS
Survey of the National Archival Institutions
In the survey of national archival institutions, 59 questions were asked to identify pragmatic examples, programmes, and the interest in education and training for record keepers who manage electronic records. The 59 questions yielded a better picture of the record keepers' levels of knowledge and skills in ERM, and how they acquired knowledge and skills to manage electronic records in their respective organisations. Interactive web-based questionnaire were sent to 24 archival institutions, but only eleven (46%) responded.

The responses indicated problems in the area of education and training in ERM. The problems were grouped into five categories: insufficient knowledge and skills in ERM, lack of coordinated skills training in ERM for the different record keepers, the mismatch between what is taught and what is needed, lack of clear and consistent policy on education and training, as well as partners involved in the provision of education and training. However, these may have changed now.

(a) Insufficient Knowledge and Skills in ERM
A feature of the findings was the frequency with which the surveyed archival institutions reported that the levels of knowledge and skills among the administrators, archivists, IT personnel and the records managers were insufficient. The data revealed that the majority of the respondents (archival institutions) acquired and maintained electronic records physically; however, the levels of knowledge and skills among the record keepers were not sufficient to meet the needs of ERM in the respective institutions.

The National Archives of Canada, Finland, New Zealand, Norway, Poland and Sweden, for example, reported that their record keepers possessed such knowledge of IT as to allow them to manage electronic records. This was however thought to be rather limited as reported by the National Archives of Canada, "they received knowledge of IT on specific applications and not specifically on the principles and technical aspects of electronic record-keeping". On the other hand, the Ontario State Archives reported that "our record keepers received just-in-time training on record-keeping technology from the vendors of the corporate record-keeping systems". The rest of the surveyed archival institutions (National Archives of Netherlands; UK National Archives; as well as the New York and Ontario State Archives; and the Archives in Ireland) indicated that their record keepers lacked both knowledge and skills necessary for the management of electronic records. For instance, the UK National Archives specifically reported that, "those in charge of electronic records currently lack knowledge and skills in the

principles of ERM, in particular electronic file plans and sustainability of electronic records". The National Archives of Ireland noted that "knowledge and skills of those concerned are lacking because of the absence of coherent policy on ERM in government". On the other hand, the New York Sate Archives indicated that, "most archivists and records managers have only enough knowledge to run their systems and they do not usually have skills in developing needs assessments, improving systems etc."

This was also true in the case of the public services in Ontario and Poland. The Ontario States Archives revealed that there was a wide variance in IT-related knowledge of record keepers in the Ontario public service, "where records are generally recognised as vital in some ways, for example land titles, those in charge normally possess knowledge of IT to manage these types of records". Similarly in Poland those record keepers in charge of the national database of births, marriages and deaths normally possessed adequate knowledge of IT to manage their respective database.

Another factor contributing to the record keepers' insufficient knowledge and skills on ERM as indicated by the Ontario States Archives was that "the body of knowledge required for those responsible has not been identified and defined responsibilities were not assigned. The UK National Archives suggested that "education and training on electronic records are fragmented and curricula vary widely between countries and within countries".

In the majority of cases, shared responsibility among the different record keepers was not evident as the different record keepers' knowledge and skills were still restricted to their core roles and responsibilities. According to the National Archives of Sweden, "the archivists are concerned with the preservation and theoretical aspects of archives". The National Archives of Poland reported that, "the administrators normally deal with management issues and programmes delivery". The Netherlands Archives opined that the administrators "are more concerned with business process design rather than issues relating to electronic records". This was further supported by a statement of the National Archives of Finland to the effect that "the administrators deal with organisational procedures and IT personnel are involved in active information and management of the systems".

(b) Lack of Coordinated Skills Training in ERM Among the Different Record Keepers
A majority of the surveyed archival institutions (seven of them) reported that emphasis was given to the training of archivists in IT and computer courses, in preference to training the different record keepers specifically in ERM. This was evident in the

response of Finland where the training programmes for archivists were provided by the systems vendors. In Poland, the newly appointed archivists were trained by the experienced archivists. The National Archives in Ireland, New Zealand, Norway and Sweden as well the New York State Archives reported that training programmes for archival staff in the area of IT and computers were available in the form of short courses, seminars, conferences, and workshops and were provided occasionally by archival schools, system vendors and IT consultants.

By comparison, only the National Archives in Canada, Netherlands and UK, as well as the Ontario State Archives have developed new training opportunities in ERM for the different record keepers. The Netherlands National Archives provided training not only for the new staff and archivists but also for the IT personnel. However, the different record keepers received their training in different places. The archivists received theirs in the archival schools, while the IT personnel were trained on digital preservation by commercial trainers. Only the new staff and archivists were given training in ERM at the Ontario State Archives. The new staff training "entails organisational approaches and procedures on ERM, whereas the archivists were given training in the application of technology related concepts to specialised areas such as data warehouse and Geographic Information Systems". By comparison the UK National Archives was more focused on the provision of skills training for the senior staff, records managers and IT personnel provided by the ERM Unit and on occasions by outside consultants. Training was concerned "with hands-on use of a pilot ERM system in a workshop environment".

Of those archival institutions which provided training in ERM, only the National Archives of Canada developed new training initiatives for the different record keepers. As reported, "new training programmes on ERM were developed for the new staff, senior staff, records managers, archivists, administrators and IT personnel provided by internal staff, mentors, consultants and vendors as appropriate". The training entailed on-the-job coaching and monitoring on electronic record-keeping. But the data did not suggest that the different record keepers learned ERM under common training programmes.

(c) The Training Content Did Not Match the Needs
The majority of archival institutions surveyed revealed their concerns over the content of training programmes which were considered either inadequate or in need of improvement. The data indicated that in many instances, the training content was said to have sidelined the practical aspects of ERM. It was considered too conceptual and theoretical. According to the National Archives of Poland, "the training content was more on theory and concepts rather then transferring skills". The National Archives of New Zealand stated, "short courses and seminars are mainly organised to deliver

concepts". The New York State Archives believed that "most of records managers and archivists trained in the universities and in their own agencies get little specific training in electronic records subjects". The National Archives of Norway admitted, "IT personnel in our department were given higher training in computer sciences." In the majority of cases, the curriculum for the training of archivists and records managers concentrated mostly on IT subjects and computer systems and not specifically on ERM subjects. This is borne out by the National Archives of Poland which said that they had organised 54 IT and computer courses for the archivists. In the case of the National Archives of Ireland, New Zealand, Norway and Sweden, archival staff was given workshops and short courses in IT by system vendors and IT consultants.

It is evident that although the majority of the archival institutions have increased the number of training to meet the ERM requirements, training providers found it difficult to keep up with the curricula. This was expressed by the National Archives of Sweden: "it is difficult to keep up with the perfect curriculum as this field is still emerging and changing rapidly". The National Archives of Canada, New York State Archives, Ontario State Archives, National Archives of Netherlands, UK National Archives and the National Archives of Sweden proposed that the technical aspects of ERM should be incorporated into the training curriculum. This would include the development and implementation of records/documents management applications, complete with robust file classification schemes and monitored implementation of retention requirements for the long-term preservation of electronic records. The National Archives of Poland recommended the, "adoption of the Canadian Competencies Profile Standards and ISO 15489 as the core of a serious ERM training".

(d) Lack of Clear and Consistently Applied Policy on ERM Education and Training
Data indicates that generally the archival institutions that responded to the survey did not have a clear and consistently applied policy with regard to education and training in the area of ERM. Instead the data suggested that the majority of the surveyed archival institutions issued regulations and guidelines to facilitate ERM. As stated by the National Archives of Norway, "there is no specific policy on education and training in ERM, but for those wishing to work as records managers and archivists in the government must follow a training course provided by the Norway Archives Academy". On the other hand the Ontario State Archives policy contained general matters on the provision of efficient training on recorded information. In the UK, general policy issues on education and training on ERM were based on the EG policy framework which emphasised the roles of the National Archives in helping departments with advice and guidance on ERM. As reported by the UK National Archives, "we came out with practical toolkits containing guidance on how to produce a corporate policy on electronic records; compile an

inventory of electronic records collection; appraise the inventory, to manage electronic records documents using Window NT on local area network, framework strategic planning and implementation, sustainable electronic records, strategies for the maintenance and preservation, and the management of electronic records on websites and intranets". Other then providing guidelines on the disposition of electronic records, the National Archives of Canada has "developed the Record-keeping Competencies Profiles for government employees and guidelines for government departments for the provision of knowledge and skills in ERM". The rest of the archival institutions in Ireland, Poland, New Zealand, Sweden, the Netherlands as well as the United States (New York State Archives) reported that they did not have any policy for education and training of record keepers in their government.

(e) Partnership in the Provision for Education and Training

Six of the eleven archival institutions that were surveyed were involved in supporting tertiary educational programmes at the university level for record keepers responsible for the management of electronic records. There was cooperation between the National Archives of Netherlands and the Netherlands Archiefschool in developing a training course in ERM since 1997 for senior records managers and archivists working in government and private organisations, as well as in archives. The course, which started in 1997, was a five day seminar. The data revealed that more than 300 students had pursued the course. It had been evaluated and some adaptations were made following students' and teachers' reactions and suggestions. In Finland the data suggested that "the National Archives Services has worked with the University of Tampere whose Department of Information Studies provides training in ERM through the e-Term project". The New York State Archives provided training in support of the universities' tertiary education through a variety of routes. It has been "supporting the development of records management certificate programmes in four community colleges across the state, but no particular model or programme has been developed specifically for the different record keepers as yet". On the other hand, the Ontario State Archives provided placement for the practicum component of archival programmes at the graduate level. It was stated that, "the Archives also recruits heavily among graduates of such programmes". In the UK, the National Archives has developed a partnership with two leading records management educators in the UK, namely the University of Liverpool and Northumbria in providing education and training not specifically on ERM but on information and records management through the rm3 programme. According to the response received, "this partnership offers a uniquely complementary set of records management experience and skills". It has developed a new training and education programme in records and information management for the benefit of government staff working with records.

Eight of the 11 archival institutions surveyed indicated that they collaborated with existing professional organisations in providing training for the record keepers.   For example, the National Archives of Canada worked with the Canadian Association of Archivists and ARMA. The UK National Archives has professional relationship with the Society of Archivists of Great Britain, the Records Management Society of Great Britain, as well as the Association of Commonwealth Archivists and Records Managers (ACARM). None of the respondents had a professional relationship with any of the professional associations involving administration, information management or information technology specifically on education and training of record keepers in managing electronic records.

SURVEY OF PROFESSIONAL ASSOCIATIONS
Professional associations responded to 27 questions.   The selected sample of professional associations was required to identify various associations that existed in the respective areas of archives management, records management, public administration, information management and information technology in relation to their role in providing education and training for record keepers in managing electronic records. The sampling strategy adopted for this survey involved sending questionnaires to 20 professional associations for archivists (of which only eight participated); seven professional records associations (of which five participated); 28 associations related to information management (of which nine participated); 16 associations in the field of IT (of which only five participated); and 26 associations involved with public administration (of which only four participated).   The countries represented in the survey included Australia, Canada, Europe, UK and USA.

The analysis of results of the survey may be grouped into three themes: limited involvement of professional associations in providing education in ERM; lack of joint effort in providing education and training in the area concerned; and lack of practical training in ERM.

Limited Involvement of Professional Associations in ERM Education and Training
Among the 31 professional associations surveyed, only seven indicated that they were involved in providing training in ERM. They were three archives associations, three associations of records management and one association of administrators.   The professional associations in the area of records and archives were involved in the training of only the record practitioners and administrators.   Surprisingly, the American Association of Administrators was involved in providing education and training for the different record keepers defined in this study, although the training was specifically on

"the overall management of law firm business process". The respondent reported that, "many of our trainers may belong to the ARMA". Subjects delivered included that of "knowledge management and the various strategies for the retention of records in both electronic and paper formats".

The three associations of archivists; and the three records management associations were considerably active in providing training. As reported by the Records Management Association of Canada, "we have monthly programme meetings with guest speakers including policy makers, product vendors, subject experts and frontline personnel, and a one day seminar with guest speakers from information management and records management areas". Subjects include best business practices, impact of IT on records programmes; information disposition; as well as current and new government policies and legislation that have a bearing on records and information management. On the intended target group for training, the association explained that the organization "caters strictly to the records and information management community of the Federal Government of Canada" and that "all training, guidance and information provided to our membership must be relevant to the Federal Government's policies, procedures and legislation". On the other hand, the Records Management Group in UK has provided ERM training to records practitioners, but admitted that, "in the past training has been of a general nature to raise awareness of the issues involved". By comparison, the Australian Society of Archivists reported that it had organised one seminar so far, related to the record-keeping aspects of web sites. The Records Management Association of Australia provided practical training on all aspects of managing electronic records including designing and implementing record-keeping among the records, archives and information management community through seminars and short courses.

Of the seven associations surveyed, all of them admitted that there was lack of a unified training programme specially designed for the record keepers. Indeed, training was provided mainly on requests. This was because the associations had no specific policies on education and training on ERM. However, the Society of Archivists in UK cited their general policy in terms of promoting the care and preservation of archives, and in terms of advancing the training of members with regard to all types of records. By comparison the Association of Administrators has a policy on accredited graduate programmes in the area of public administration. The policy guidelines call for training in IT. The UK Records Management Society responded to the question by indicating that it adopted EG policy framework, and therefore, its training aims and objectives were tailored to support the EG policy. When asked whether the associations surveyed produced or published any guides for record keepers in the area of ERM, surprisingly it was found that the majority

did not produce guidelines, which were expected to be issued by the central government agencies.

The response to the question on standards or benchmark on ERM education and training was significantly very low. It was not surprising that only the Association of Records Managers from Canada and UK responded to the question. The Canadian Association of Records Managers reported on the Core Competencies Profiles Standards developed by the National Archives of Canada (and adopted by the Treasury Board of Canada), as well as on the policy and position papers by the National Archives of Canada. The UK Records Management Society referred to the Standard for the management of public records developed by the UK National Archives in 1999.

Lack of Collaborative Effort in Providing ERM Education and Training
The data indicated that the majority of the surveyed associations were not involved in supporting any education and training programmes, either with academic institutions or existing professional associations in the respective countries. Out of 31 professional associations surveyed, only two records associations, i.e. from Canada and UK were involved in supporting the tertiary records management programmes organised by universities in their respective countries.   As the former reported, "we provide advertisement of records management courses and we encouraged our members to take part". The members of the records association in UK often participated in the training programmes organised by LU, NU, Aberystwyth University and UCL.

Six professional associations (one association of administrators, two associations of archivists and three associations of records management) reported collaborating with other existing professional associations.   The association of administrators worked in collaboration with ARMA. ARMA provided the association with guest speakers for the seminars and workshops. The two associations of archivists established links with records management associations from their respective countries to coordinate training programmes and avoid duplication of efforts. Two records management associations in Canada indicated that they worked with ARMA, Data Processing Institute, Canadian Libraries Associations and the Association of Canadian Archivists.   One of the associations justified such collaboration by saying that "records management, library management and archival activities are all part of information management".   The Australian Society of Archivists reported that it worked with the Records Management of Australia to deliver training activities.

Responses to question on partnership with archival institutions were not encouraging either.   The findings revealed that only one society of archivists and one records

association from UK and two records association from Canada were involved. The former explained, "Society of Archivists (SoA) has key contacts within the UK National Archives in providing a two way flow of information. This allows events to be coordinated." One association of records management in Canada has established close relationship with the National Archives of Canada and the Treasury Board as these institutions were charged with developing and administering information management policies, procedures, guidelines and best business practices for the federal government. The association provided information on upcoming events and policies to the community. Another association indicated that, "we have the support of the National Archives of Canada which allows staff times to manage the professional organization. It also makes available facilities such as meeting places and supplies".

It appears logical to expect that those national archives which have been most active in developing standards such as the National Archives of Canada and the UK National Archives tend to be well integrated and networked with other agencies both local and international, including professional associations.

Lack of Practical Training
The majority of the associations surveyed viewed the lack of practical training in ERM as an issue to be considered when designing and developing training programmes for the record keepers. One of the respondents indicated that presently training in ERM was still at the level of raising awareness of the issues with the relevant government bodies. Another respondent recommended the transition from a theory-based training to practical training, with increased use of case reports. One society of archivists in UK cited the society's views on this matter, "as the majority of SoA members have traditionally been only involved with paper records and have had only limited exposure to electronic records, but with an increasing amount of contact with electronic records, more practical training will be needed". According to an information management society, "understanding current best practices for ERM, storage, formats and preservation would be the single most helpful kind of practical training we could have, but we lack people with practical skills to deliver the skill". Yet another stated that, "the key issues for us are getting staff that have the skills to provide the training – linking technical training with broad conceptual understanding of policy issues". In the words of the Records Management Association of Australia, "a mix of principles and 'real-life' examples, such as government agency case studies is important with hands-on practical, testing and adapting". The UK Society of Archivists favoured, "introductory training sessions for those new to the subject with practical examples/case reports. More advanced training sessions/master classes/workshops detailing specific areas relating to electronic records such as metadata requirements". The association of records from Canada suggested the

use of ISO 15489 and core competency standards as reference for developing education and training programmes in ERM.

Another issue that needs to be considered in this study is the provision of professional qualifications in ERM and the way it should be delivered. It is not surprising that this idea came mostly from the records and archives associations. One of them expressed, "the need to have a professional qualification in ERM by offering a mix of face to face and distance learning; by combining the theory with practical examples". Another said that "professional qualification validated by professional associations is appropriate". An association from US opined that, "to make training attractive to the community and meaningful, a professional qualification programme based on syllabus and measured by examination needs to be developed". One US-based records management association suggested, "Graduate school should teach the basic theory and principles, and professional organisations can provide continuing/advanced education and networking opportunities". Others suggested that general courses could be followed by in-house workshops, seminars, lectures by policy makers, product vendors and subject experts which address specific needs of the agency.

CONTENT ANALYSIS FROM BOTH SURVEYS

The content analysis of data from the selected archival institutions and the selected professional organisations surveyed revealed that a theme consistent with the aims of the study was emerging. The factual data collected revealed that the selected archival institutions and the records and archives professional organisations were aware that even though there were training programmes provided for the record keepers, in the form of seminars, short courses, and conferences, through archival schools, and on a smaller scale through consultants, mentors, working groups, and vendors, the record keepers in question still lacked the requisite skills in ERM, as most of the time the training content did not match the need. Most of the training programmes delivered in the form of workshops, seminars, talks and briefings, were still at the awareness level and emphasised general concepts and theory. In most cases, records practitioners were trained mainly through IT and computer courses. There was no training in ERM. There was a lack of coordinated skills training in ERM for the different record keepers, who were educated and trained separately. There was an absence of clear and consistently applied policy on education and training in ERM. As a result, in the majority of cases, there was no concept of shared roles and responsibilities in drawing the different record keepers together in the pursuit of a common agenda in the area of ERM.

The respondents from both the surveys highlighted the absence of a corpus of knowledge required by the respective record keepers defined in this survey. Standardised model

programmes were lacking. The curricula for both education and training were not unified, as they were designed and developed based on requests. The data suggests that the technical aspects of ERM needed to be incorporated into the training curriculum, which embraced the design, development and implementation of a complete record-keeping system from creation to preservation. Even though the literature review on this issue suggested that the international archival communities are addressing the matter directly and comprehensively, there was not the same level of understanding and cohesion amongst records managers, administrators and the IT community.

A significant finding of the survey is that professional associations did not collaborate in providing education and training in ERM. By comparison, academic institutions and archival institutions were more actively and productively involved in developing specific education and training programmes. Three pragmatic examples in Europe and UK were identified through the survey of the national archival institutions- the Dutch FDSC, the e-TERM and the rm3 programme as the products of collaborative efforts of academic institutions in the UK and Europe.

Through this survey the selected archival institutions and the records and archives professional organisations expressed their interest in education and training in electronic records by suggesting that the core content of a serious training programme should be based on the ISO 15489 and the Canadian Competency Profile, and lead to a professional qualification. The data suggests that the technical aspects of ERM should be incorporated into the training curriculum with the inclusion of a complete record-keeping systems design, development and implementation from creation to preservation. To cater for the working staff a mix and match mode of delivery to allow flexibility of learning was also recommended. However, interest and activities in this area was very much lacking among the professional associations that were surveyed.

CONCLUSION
This paper is devoted to a discussion of the different types of education and training programmes available for key players in ERM across selected archival institutions and professional organisations in Australia, Canada, Europe, New Zealand, the UK and USA. The data did not reveal the existence of a universal model which embraced the various groups of record keepers defined in this study. Indeed little had been done in terms of education and training specifically for ERM, despite the push for EG in many of the countries surveyed. What exists is merely a combination of in-house, 'on-the-job' training programmes combined with specialised courses. With regard to the education and training required to manage electronic records in government, there was no clear defined and accepted body of knowledge or an agreed training curriculum, except for the

pragmatic examples developed in Europe and UK. They are the e-TERM, the FDSC and the rm3 programmes. In addition one more programme - IMU in UK was identified by the latest literature review. An analysis of the pragmatic examples identified through this survey need to be undertaken in order to provide a basis for the development of a suitable model of education and training in ERM for the Malaysian record keepers.

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