The current issue and full text archive of this journal is available at
www.emeraldinsight.com/0264-0473.htm

Received 20 January 2009
Revised 4 May 2009
Accepted 12 May 2009

Contextual analysis of the e-records management requirements of Turkish Red Crescent Society

Özgür Külcü
Department of Information Studies, Hacettepe University, Ankara, Turkey, and
Hande Uzun Külcü
Communication and Archive Unit, Turkish Red Crescent Society, Ankara, Turkey

Abstract

Propose – The paper aims to identify the conditions and problems of electronic records management in the Turkish Red Crescent Society with respect to the institutional practices, international expectations, and through the records management capacity assessment system (RMCAS) with a related software program.

Design/methodology/approach – A survey method was used in this research; data were gathered through questionnaire and analysis. The analysis is carried out in order to identify the conditions and problems in institutional electronic records management through RMCAS

Findings – The analysis shows that there are issues and difficulties in defining metadata for accessing records, restrictions to access, evaluation and annihilation processes, and applying the methods among the units, along with the fact that founding an electronic base for communication and daily correspondence should be among the priorities.

Practical implications – The techniques used in this study are considered to serve as a guide to other institutions anywhere in the world encountering similar dilemma.

Originality/value – The paper provides practical information about analyzing the e-records management capacity of any institutions, considering the local and international expectations.

Keywords Records management, Turkey

Paper type Research paper

Introduction

There is a need for the systems of records and records management applications which are considered to be authentic and reliable sources of information that enable internal and external communication and that manifest where, when, by whom and how a certain activity is carried out within the institution (Hare, 1997, p. 3; Külcü, 2005; Penn *et al.*, 1994, p. 5; Smith and ve Kallaus, 1997, p. 4). Today, systems that are appropriate for the institutional needs, that are based on the analyses to be conducted and that may be integrated into the international regulations are to be designed in the field of records management. Another significant issue is the transfer of services into the electronic environment in parallel with swiftly developing communication and information technologies. These conditions today lead many studies to focus on improving e-government applications and electronic information services (Huang *et al.*, 2008; Information Management Planning, 2005; Mason, 2006; Munro, 2005, Swain and Panda, 2009).

The Electronic Library
Vol. 28 No. 2, 2010
pp. 314-333

0264-0473
DOI 10.1108/02640471011033666

A significant number of institutions in Turkey experience problems in terms of developing an e-records management program in accordance with their needs. This circumstance renders the needs for records procedures peculiar to the institutions impossible to meet and it may lead to certain problems, such as bureaucratic slowdown and problems related to access to the records. It is considered to be important to conduct analyses for defining the structure and operation of the institution and to evaluate the international conjuncture in order to overcome these problems.

The Turkish Red Crescent Society (TRCS) was founded on 11 June 1868. It still continues its activities with profound attachment to the basic principles of the International Red Crescent and Red Cross; namely, humanity, impartiality, neutrality, independence, voluntary service, unity and universality (Kizilay kizilhaç hareketi egitimi katilimci el kitabi, 2004). The mission of TRCS is "to provide relief to the vulnerable and those in need by mobilizing the power and resources of the community to protect human dignity anytime, anywhere, under any conditions and to support the enhancement of the community's capacity to cope with disasters". Materializing the services, to which the Society is deeply attached, as soon and effectively as possible is one of the most important missions of the TRCS. In terms of providing services effectively and on-time, communicative activities come into prominence. At this juncture, records procedures are indispensably significant for in-house communication, as well as for the communication with proximate and distant surroundings for which the Institution is liable to provide services.

As general information TRCS is managed by a president and director general, bound to the president, who is responsible for administrative issues. The General Directorate of TRCS is composed of 198 units, 16 different blood centers, 11 different logistic departments, one Disaster Operation Center, 89 branches and attached units, and the Afyon Mineral Water Plant. In the Turkish Red Crescent Society, in-house and inter-institutional communication is conducted by the Communication and Archive Unit (CAU). Procedures of incoming and outgoing records from all branches and blood centers are guided by means of CAU. When necessary, file numbers and records registry numbers are assigned to records in the CAU. Correspondence from units to offices, directorates and units of general directorates follows a hierarchical order. It is again CAU that guides incoming and outgoing records traffic. Records, which have gone out-of-date, are transferred to the central archive of the institution after they are disposed from units.

Routine in-house correspondence is carried out in an electronic environment by using an e-mail infrastructure. However, records procedures in the in-house and inter-institutional applications, which require original signature, are conducted in a printed environment. In-house correspondence within units is conducted in the electronic environment. Yet, in general, about 70 per cent of record procedures are still carried out in the printed environment. It is planned that, after infrastructure of the institution, has been renovated, and required orientation has been accomplished, record procedures will be completely transferred into the electronic domain.

Records Management Capacity Assessment System (RMCAS) would be a significant tool for the definition of the electronic records management conditions in the TRCS. The RMCAS was administered as a research technique based on descriptive method in TRCS. It is composed of three parts. In the first part, comprehensive questions aimed at analyzing the current system are addressed; the RMCAS analyzes

the supplied data in accordance with the international regulations in the second part, and the system determines whether the prospective application is carried out in the Institution as per the related data in the last part.

Within this scope, the analyses based on RMCAS were conducted in the sample of this study in TRCS. RMCAS aims at evaluating the current capacity of records management applications in the institutions, based on institutional analyses and criteria.

Records Management Capacity Assessment System

RMCAS was developed as part of the International Records Management Trust (IRMT)'s *Evidence-based Governance in the Electronic Age Project,* which has been funded by the World Bank. To develop RMCAS, the IRMT drew upon previous research, which demonstrated the relationship between records management, financial management and accountability. In developing RMCAS the Trust's aim has been to provide a means not only of evaluating whether the infrastructure of laws, organisational structures, policies, procedures and facilities exist to manage records effectively, but also to provide a methodology with which to identify problems and begin to plan solutions. RMCAS has been field tested in government agencies in Botswana, Kenya, Ghana, India, Malawi, Singapore, South Africa and Yap (Federated States of Micronesia). Peer reviews were also carried out in Canada, Iceland and New Zealand (Demp, 2004).

RMCAS is a three-part tool that maps capacity levels to the principles of and statements of good practice in records management. It comprises a data-gathering element, a diagnostic model and a database of capacity building resources for records and information management. Information is gathered through structured interview questions for stakeholders and fed into the diagnostic model to produce reports representing strengths and weaknesses in records management infrastructure and systems (an assessment). Graphical representations highlight areas where capacity building is required in relation to the life cycle or continuum of records, from their creation and capture, through their active life to ultimate preservation as archives or their destruction. It also highlights areas where capacity building may be needed in relation to management environment of policies, procedures, skill and resources in which records are managed (Griffin, 2004).

RMCAS comprises three components:

(1) A data-gathering element consisting of assessment questions in structured sequences

(2) A diagnostic model which maps the data gathered against statements of good practice and capacity levels.

(3) A database of training and capacity building resources for records and information management.

RMCAS is designed to be useful in countries where resource constraints demand practical and realistic solutions. Currently, RMCAS contains assessment modules on financial, human resource, and legal and judicial records and information systems. All modules can be applied to both paper and digital records, and can be used to assess the relationship between paper and electronic record keeping systems. In particular, RMCAS can be used to determine whether the existing infrastructure, control systems,

resources and capacity are adequate to capture and preserve records that are created in the electronic environment.

In particular, RMCAS can be used to determine whether the existing infrastructure, control systems, resources and capacity are adequate to capture and preserve records that are created in the electronic environment. RMCAS measures data gathered by means of the assessment questions against requirements of good practice, as defined by recognised standards or models, including ISO 15489, MOREQ and Canada's Information Management Capacity Check. colleagues and experience in dealing with broken down records management systems and the transition from paper to electronic systems (Demp, 2004, pp. 8-13; Griffin, 2004, pp. 71-97; Records Management Capacity Assessment System: User Guide, 2005).

RMCAS organisational environment elements

The organisational environment elements comprise the larger management and user context in which business and records functions take place and are mapped to statements of good practice:

- *Laws, policies and procedures:* Rules that proscribe how records management and business functions must or should be carried out in the organisation.
- *ICT – RM integration:* how much ICT is used to support records management processes and records throughout their lifecycle.
- *Business function – RM integration:* how much records management is integrated with normal business functions.
- *Resources and training:* whether there is a sufficient budget for a records management program, enough trained staff to carry out all required tasks, proper facilities and equipment and sufficient supplies. Includes training and support for records creators and users.
- *Records management programme management:* whether there is an awareness of records management and its centrality to carrying out the business function of the organisation through planned administration of records management functions and resources.
- *Awareness and ownership:* whether there is an awareness of records management in the organisation and senior management buy-in or support for records management program and initiatives. It indicates staff willingness and ability to integrate records management activities in business functions.

Records management process elements

Each element represents a single step in the records management process. The process elements are based on the ISO 15489 standard in records management. 'Process' is also used as a separate element in its own right when an activity relates to the entire spectrum of the processes listed. Process elements include:

- *Records capture and registration:* allocation of explicit metadata embedded in, attached to or associated with the specific record regardless of format, arranged in a logical structure or sequence which facilitates subsequent use and reference and provides evidence of the existence of records in a records system. Capture and registration may occur simultaneously with records creation.

- *Records classification:* records classification systems reflect business activities and provide linkages between individual documents to provide continuous documentation of activity. Classification is consistent, assists in records retrieval, security and access and with determining retention periods and disposition actions for records. May occur at the time of records capture.
- *Records storage and preservation:* records are stored on media that ensures their reliability, authenticity and usability for as long as they are needed in proper storage conditions which protect against unauthorised access, loss or destruction, and theft and disaster.
- *Records access:* there are formal guidelines to regulate who are permitted access to what records and in what circumstances. The access environment may include privacy, security, freedom of information and archival legislation. Access may relate to monitoring of user permissions and functional job responsibilities.
- *Records tracking:* tracking of movements and use of records is required to identify outstanding action, enable records retrieval, prevent loss of records, monitor records use, maintain an auditable trail of records transactions and identify the operational origins of individual records where systems may have been amalgamated or migrated.
- *Records disposition:* disposition authorities (such as records retention schedules) govern the removal of records from operational systems in a systematic and routine basis in the course of normal business activity. Disposition may encompass physical destruction, retention for a further period within the business unit, transfer to an appropriate storage area or medium under organisational control, transfer to a third party storage facility, or transfer to an organisational or external archives (Demp, 2004, pp. 8-13; Griffin, 2004, pp. 71-97; Records Management Capacity Assessment System: User Guide, 2005).

This study only includes the result of the ICT – RM Integration Element as part of the organizational element of the RMCAS analysis that was realized in TRCS. In this study, the ICT-RM Integration Element has been compared with records management process elements.

Methodology

The sample questionnaires and analyses provided by RMCAS were conducted on the administrators and staff members of the Directorate of Human Resources and the Directorate of Communications and Archives in TRCS. The scope of the study is comprised of 22 units providing administrative and coordinative services that are attached to the Directorate General of the TRCS, its branches all over the country, its blood centers, logistics department, Disaster Operation Center (DOC) and Afyon Mineral Water Plant. Out of the total number of staff members employed in the TRCS (2,454), 861 questionnaires were distributed with a total of 679 being were returned and answered. Therefore, the response rate of the questionnaire was 78.8 per cent. Within the scope of this questionnaire, the questionnaire forms gathered from the departments and units that may be classified under five groups, namely 198 units of the directorate-general, 16 blood centers, 11 logistics departments and disaster operation centers, 89 branches and attached units, and Afyon Mineral Water Plant definitively,

were evaluated. This study includes only results of electronic records management analysis of the applied questionnaire in TRCS (see Table I).

As a second evaluation techniques RMCAS analysis software program (includes 174 analysis questions) applied in three TRCS units. The aim of RMCAS application is to define the conditions for records management applications within the Turkish Red Crescent Society. It is considered to be important for the institution, which do not have enough experience in the field, to analyze its system within the scope of national and international expectations. RMCAS is a significant tool for the definition of the records management conditions of the TRCS. RMCAS was administered as a research technique based on descriptive methods in the TRCS. It is composed of three parts. In the first part, comprehensive questions aimed at analyzing the current system are addressed. RMCAS analyzes the supplied data in accordance with the international regulations in the second part, and the system determines whether the prospective application is carried out in the institution as per the related data in the final part. This study includes only results of electronic records management analysis of RMCAS in TRCS.

The sample analyses provided by RMCAS were provided to the administrators and staff members of the TRCS's Directorate of Human Resources and the Directorate of Communications and Archives (RMCAS electronic analysis forms completed with five administrators and 11 staff of previously mentioned units). The preliminary study

Unit name	Total person	Records/archive person
Directorate of general units		
Press and publicity	10	1
Education	16	3
ERP coordination	10	1
Real estate management	11	1
Youthful and volunteering	10	1
Communication and archive	12	5
Human resource	99	10
Blood centers	22	1
Organizational improvement	22	1
Fiscal issues	22	0
Financial control	14	1
Medical services management	14	10
Purchases	11	1
Defense expertness	2	1
Unit services	9	2
Board of supervision	26	3
International relations	7	2
Structural and techniques	18	1
Management service	24	1
Total	335	45
Branches	924	67
Disaster operations center	164	80
Blood centers	705	42
Logistics	195	22
Afyon Mineral Water Plant	107	1
Sum of total	2,454	258

Table I.
TRCS branches and staff numbers

demonstrated that the samples of the analyses, which were prepared by taking legal conditions, financial issues, and units of human resources into consideration, might be used effectively for evaluating the current condition of the records procedures in the Directorate of Human Resources of the TRCS. The Directorate of Communications and Archives, which is the second unit upon which RMCAS analyses were conducted directs the correspondence within all the units and departments of the general-directorates attached to the TRCS and with the public, as well as the records traffic in the TRCS. This directorate was chosen as the sample for RMCAS due to the scope and content of its work. Table II shows the descriptive data about directors and the records management person of the all units of TRCS.

As demonstrated in Table II, approximately 34 per cent of the evaluated questionnaire forms were collected from Blood Centers, 29 per cent from the branches and attached units, 24 per cent from the units of the Directorate-General, 12 per cent from the units and departments of logistics and DOC, and approximately 1 per cent from Afyon Mineral Water Plant.

Findings of the RMCAS and survey administered on e-records management in TRCS

RMCAS was conducted with the authorized staff in the Directorate of Human Resources and the Directorate of Communications and Archives in TRCS. The findings related to the electronic records management applications in TRCS are shown in Table III, where the first column represents the RM Process Element set by the RMCAS, the second column represents the prospective application, the third column represents the standard which included the related application, and the final column shows whether the prospective application was used successfully according to the RMCAS conducted in TRCS.

Results of the RMCAS application in TRCS

The situations identified after the e-records management capacity of the TRCS is evaluated generally according to RMCAS are as follows:

- Personnel and infrastructure facilities of TRCS are sufficient in the effort of the personnel to cope with software and hardware problems in electronic information systems.
- However, technological facilities, which would enable inter-institutional communication in broader terms, are insufficient. Although legal conditions, defining function of electronic records as documents, have been arranged, details related to practice could not have been developed yet. All legal conditions on

Table II. Distribution of the questionnaire administered in the TRCS by groups

	n	%
Directorate-general	165	24,2
Blood centers	228	33,6
Logistics and DOC	78	11,5
Branches and attached units	198	29,2
Afyon Mineral Water Plant	10	1,5
Total	679	100,0

RM process element	Capacity statement	Citation	Result
Records management processes	A formal user support help desk for IM technologies and information resources is available and widely utilised by users	Information management capacity check, 6. User perspective, user training and support: Level 3	Achieved
	System administrators are trained and competent in the use and maintenance of the hardware and software for which they are responsible	Model requirements for the management of electronic records, 6.1.6 – Capturing records, p. 40	Achieved
	The organisation has a defined technology integration architecture for supporting IM initiatives	Information management capacity check, 2. Organizational capabilities, technology integration: Level 3	Unachieved
	The organisation has determined whether digital documents are admissible in legal proceedings and, if this is not the case, maintains the original manual documents for accountability purposes	Capacity check, 3. Management of IM, Program integration: Level 3	Unachieved
	IM principles, policies and standards are included in project, programme and system design and management, for example: records creation and capture requirements – metadata requirements – records storage environment and media, physical protective materials, handling procedures and storage systems – retention periods – disposition actions – privacy and access issues	Information management capacity check, 4. Compliance and quality, Privacy: Level 4	Unachieved
	The organisation has prepared a sound business plan and cost/benefit analysis to determine whether there are significant improvements in productivity, efficiency and quality of service that justify the significant investment in hardware, software and human resources required to implement and manage scanning or digitising processes	Recordkeeping in brief no. 11: Digital imaging and recordkeeping	Achieved

(*continued*)

Table III.
E-records management capacity of the TRCS according to RMCAS

Table III.

RM process element	Capacity statement	Citation	Result
	The organisation's technology architecture facilitates inter-operability and rapid adaptive integration across internal platforms and across enterprise boundaries with clients, suppliers, and business partners	Information management capacity check, 2. Organizational capabilities, technology ıntegration: Level 5	Achieved
Capture and registration	Scanning or imaging systems used to digitise and capture records support open system standards such as TWAIN and ISIS to allow for integration with existing business and records management systems	Revised digital ımaging guidelines	Unachived
	Digital documents are converted to a file format such as TIFF or PDF-Archival, that meets the following criteria for long-term access and preservation: – it is an open, public-domain standard, – it is interoperable across systems and platforms, – it is ubiquitous with wide support from the vendor community, – it is stable and has been in use for at least 5 years, – it supports the embedding of metadata within the file bitstream, – it uses a 'lossless' compression algorithm	Recordkeeping in brief no. 11: Digital ımaging and recordkeeping	Unachieved
	Documented rules and procedures are in place to identify what records should be created or captured in information, business, communication and computer systems	ISO 15489-2 International standard – Information and documentation – Records management (part 2: guidelines), 4.2.4 Records disposition authority, p. 8	Achieved
	The organisation has appropriate procedures and staffing resources to support pre-scanning document preparation and post-scanning quality assurance	Revised digital ımaging guidelines	Unachieved
	The ERMS warns if an attempt is made to capture a record which is incomplete or inconsistent in a way which will compromise its future authenticity	Model requirements for the management of electronic records, 4.5.2 Authenticity, p. 28	Unachieved

(*continued*)

RM process element	Capacity statement	Citation	Result
Capture and registration	When scanning or imaging systems are used to digitise and capture records, audit trails are created to certify the integrity of the digital document and the scanning process	Recordkeeping in brief no. 11: Digital imaging and recordkeeping	Unachieved
Classification	The organisation uses appropriate procedures and has the staff resources to enter document metadata and index and classify documents when scanning or imagining systems are used to digitise and capture records. These processes use tools that are compliant and integrated with the organisation's existing metadata and classification schemes and systems	Electronic records management guidelines-digital imaging	Unachieved
Storage and preservation	Strategies for storing and handling all formats of records ensure that the records and their associated metadata are accessible, retrievable and useable for their entire retention period when they have been moved from one storage location to another location, or through any kind of system change	ISO 15489-2 International standard – Information and documentation – Records management (part 2: guidelines), 4.3.9.2 Continuing retention, p. 20	Achieved
	The ERMS allows users to indicate that selected records are 'vital' records	Model requirements for the management of electronic records, 4.3.6 Back-up and recovery, p. 27	Unachieved
	To ensure the preservation of records, there are policies, guidelines and procedures for: – converting records from one format to another – migrating records, regardless of their format, from one system to another – copying records – emulation of otherwise obsolete records – creating back-up copies to be held in dispersed locations – maintenance of storage media, such as cleaning	ISO 15489-1 International standard – Information and documentation – Records management (part 1: general), 9.6 Storage and handling, p. 14	Unachieved

(*continued*)

Table III.

Table III.

RM process element	Capacity statement	Citation	Result
Access	Scanning or imaging systems used to digitise and capture records support open system standards such as TWAIN and ISIS to allow for integration with existing business and records management systems	Revised digital imaging guidelines	Unachieved
	Systems which store records ensure the timely and efficient access to, and retrieval of, records needed in the conduct of business and to satisfy accountability requirements	ISO 15489-1 International standard – Information and documentation – Records management (part 1: General), 8.3.6 Access, retrieval and use, p. 10	Achieved
Tracking	An unalterable audit trail is kept, capable of automatically capturing and storing information about: – all the actions that are taken upon an electronic record, electronic file or classification scheme – the user initiating and/or carrying out the action – the date and time of the event	Model requirements for the management of electronic records, 4.2.1 Audit trails, p. 24	Unachieved
Disposition	All copies of records that are authorised for destruction including security copies, preservation copies and backup copies are destroyed	ISO 15489-1 International standard – Information and documentation – Records management (part 1: General), 9.9 Implementing disposition, p.16	Achieved
	Electronic files are deleted only in accordance with a destruction schedule or, through the system administrator, as part of an audited procedure	Model requirements for the management of electronic records, 3.4.6 Maintaining the classification scheme, p. 19	Unachieved

printed records are sufficient. An integrated program for the management of records in electronic environment within the life cycle from creation to disposition does not exist in TRCS. Only communication facilities based on internet infrastructure have been identified. Analysis studies are regularly conducted in order to identify the fields, which require productivity, efficiency and quality within the institution. These analyses also include the human resources required in services, which are conducted in electronic environment. Technological architecture of the institution was improved for further requirements. Yet, scanning and imaging standards such as TWAIN and ISIS have not been used within the institution. Also, standards for electronic storage conditions have not been developed yet.

- Arrangements determining which records should be produced in printed or electronic environment within TRCS have been completed. However, despite of sufficient personnel, there are no attempts in these arrangements to convert printed records into electronic form. The Electronic Records Management System (ERMS) in use cannot show which records are incomplete or inconsistent. Scanning procedure of crucial printed records is done but the applications do not include audit trail. Another important problem in TRCS is in developing metadata or index of scanned records. The institution still has no index or metadata standard for records transferred into electronic environment. Archive system of the institution has sufficient facilities for storage, handling, migration and retrieval of both printed and electronic records. On the other hand TRCS does not define which records are vital.
- Arrangements designed for transferring and converting records into different forms do not exist within TRCS. Also, there are not separate arrangements for maintenance of records in different forms. Backups of e-records, on the other hand, are regularly retrieved. There is not any problem in accessing to the records stored in TRCS. However, the fact that there is not any system that would observe the changes in electronic records may lead to serious problems (such as corruption or unwanted changes). The applications identified for disposition of records are sufficient. Electronic files, on the other hand, are not always disposed as envisaged in schedules.

The positive and negative conditions within TRCS, in particular on electronic records, are described above. It is understood from these findings that, despite its efficiency in certain fields, TRCS faces some serious problems in ERM.

Results of the survey on electronic records management (ERM) in TRCS

By means of the questionnaire administered on 679 employees (directors, unit administrators, experts, assistants, secretaries, translators, engineers, architects, technicians, controllers, medical secretaries, heads of the branch, attendants) to evaluate the conditions of e-records management practices in TRCS, the following results were reached.

Need for ERM applications in TRCS

The findings of the study shows that on average, more than 50 per cent of the subjects of the questionnaire stated that the procedures slowed down as the institutional

communication traffic did not operate in the electronic environment. This rate increases to 60.9 per cent, in the units of Directorate-General. 53.4 per cent of the answers from the blood centers are in the same vein. Judging by these results, it is considered that primarily the routine traffic of in-house correspondence and directives should be transferred into the electronic environment (see Table IV).

The research findings indicates that among the priority areas of the transfer of institutional records procedures into the electronic environment, transfer of in-house correspondence into the electronic environment by certain means, such as Intranet, ranks first by 59.1 per cent, which constitutes another datum in support of this assertion. This rate amounts to 64.6 per cent in the units of the Directorate-General (see Table V).

The results of the study illustrates that 67.8 per cent of the staff members consider the electronic environment to be a suitable area for record retention and preservation. Still, the units of the Directorate-General are the most aspirant group by 74.4 per cent about the transfer to records retention and preservation in the electronic environment as part of the electronic records management applications. This rate decreases to 53 per cent for the branches, while it is above 70 per cent in other groups (see Table VI).

It is found that 51.2 per cent of the answers from units of The Directorate-General indicate that bibliographic descriptions of the records to be formulated in the electronic environment for the transition to electronic records applications are significant, this rate remains lower than 50 per cent in other units and departments (see Table VII).

The findings indicate that the transfer of printed records into the electronic environment is considered to be the fourth significant option in the transition to electronic records management applications after the three previous statements (40.2 per cent). By the same token, it is deemed necessary not to attach priority to the

	Indicated	Blank	Total
Directorate-general			
n	98	63	161
%	60.9	39.1	100.0
Blood centers			
n	119	104	223
%	53.4	46.6	100.0
Logistics and DOC			
n	40	34	74
%	54.1	45.9	100.0
Branches and units			
n	69	102	171
%	40.4	59.6	100.0
Afyon Plant			
n	1	9	10
%	10.0	90.0	100.0
Total			
n	327	312	639
%	51.2	48.8	100

Table IV.
Need for ERM: the institutional transmission activities

	Indicated	Blank	Total
Directorate-general			
n	106	58	164
%	64.6	35.4	100.0
Blood centers			
n	127	96	223
%	57.0	43.0	100.0
Logistics and DOC			
n	43	29	72
%	59.7	40.3	100.0
Branches and units			
n	107	75	182
%	58.8	41.2	100.0
Afyon Plant			
n	2	8	10
%	20.0	80.0	100.0
Total			
n	385	266	651
%	59.1	40.9	100.0

Table V.
Need for ERM: transferring in-house correspondences into the electronic environment

	Indicated	Blank	Total
Directorate-general			
n	122	42	164
%	74.4	25.6	100.0
Blood centers			
n	161	62	223
%	72.2	27.8	100.0
Logistics and DOC			
n	52	20	72
%	72.2	27.8	100.0
Branches and units			
n	97	85	182
%	53	46.7	100.0
Afyon Plant			
n	9	1	10
%	90.0	10.0	100.0
Total			
n	441	210	651
%	67.8	32.2	100.0

Table VI.
Need for ERM: retention and preservation of the records

transfer of the records that are already created and kept into the electronic environment, which will add to the cost burden in practice. However, the retention and preservation of the records of great importance whose loss would bring institutional applications to a halt should be primarily performed in the electronic environment (see Table VIII).

	Indicated	Blank	Total
Directorate-general			
n	84	80	164
%	51.2	48.8	100.0
Blood centers			
n	93	130	223
%	41.7	58.3	100.0
Logistics and DOC			
n	26	46	72
%	36.1	63.9	100.0
Branches and units			
n	37	145	182
%	20.3	79.7	100.0
Afyon Plant			
n	2	8	10
%	20.0	80.0	100.0
Total			
n	242	409	651
%	37.2	62.8	100

Table VII.
Need for ERM: bibliographic descriptions of the records

	Indicated	Blank	Total
Directorate-general			
n	73	91	164
%	44.5	55.5	100.0
Blood centers			
n	112	111	223
%	50.2	49.8	100.0
Logistics and DOC			
n	18	54	72
%	25.0	75.0	100.0
Branches and units			
n	57	125	182
%	31.3	68.7	100.0
Afyon Plant			
n	2	8	10
%	20.0	80.0	100.0
Total			
n	262	389	651
%	40.2	59.8	100.0

Table VIII.
Need for ERM: transferring the printed records into the electronic environment

Another significant issue in the transition to electronic records management applications is the description of records management programs in a single management information system together with other software. The integration of the software that is currently used within the Institution in the fields of administrative and financial affairs, as well as in personnel or technical services, with the electronic

records management application is considered to be a priority issue by 32.1 per cent of the staff members (see Table IX).

General results of the analysis of e-records management conditions in TRCS

As a consequence of the analyses carried out to define the current condition of the e-records management applications within the TRCS, the following conclusions were reached:

- Transfer of the records procedures into the electronic environment in TRCS is one of the fields to which the staff members, particularly the units of the Directorate-General, attach priority.
- The units to support the in-house and external users of the electronic records procedures have already been organized in TRCS. In this respect, the criteria determined in the RMCAS are considered to be reached within TRCS.
- The units, which are responsible for records management applications in TRCS are trained and competent in the use and maintenance of the hardware and software for which they are responsible.
- TRCS is seen have problems about the defined technology integration architecture for supporting IM initiatives.
- TRCS finds it troublesome to determined whether digital documents are admissible in legal proceedings. According to the RMCAS IM principles, policies and standards should be included in project, programme and system design and management, for example: – records creation and capture requirements – metadata requirements – records storage environment and media, physical protective materials, handling procedures and storage systems – retention

	Indicated	Blank	Total
Directorate-general			
n	61	103	164
%	37.2	62.8	100.0
Blood centers			
n	80	143	223
%	35.9	64.1	100.0
Logistics and DOC			
n	13	59	72
%	18.1	81.9	100.0
Branches and units			
n	52	130	182
%	28.6	71.4	100.0
Afyon Plant			
n	3	7	10
%	30.0	70.0	100.0
Total			
n	209	442	651
%	32.1	67.9	100.0

Table IX.
Need for ERM: integrating of the institutional information programs into the singe system

periods – disposition actions – privacy and access issues. Unfortunately TRCS does not have a such system in the institutional information architecture.

- TRCS has prepared a sound business plan and cost/benefit analysis to determine whether there are significant improvements in productivity, efficiency and quality of service that justify the significant investment in hardware, software and human resources required to implement and manage scanning or digitising processes. Also the organisation's technology architecture facilitates inter-operability and rapid adaptive integration across internal platforms and across enterprise boundaries with clients, suppliers, and business partners. Thus TRCS meet the requirement of RMCS at this point.
- TRCS scanning or imaging systems used to digitise and capture records are not support open system standards such as TWAIN and ISIS to allow for integration with existing business and records management systems as expected at RMCS. Also digital documents are not convertable to a file format such as TIFF or PDF and so seem problematic for long-term access and preservation of the documents in TRCS
- Documented rules and procedures are in place to identify what records should be created or captured in information, business, communication and computer systems in TRCS acording to RMCAS.
- The ERMS in TRCS not have a function to warns if an attempt is made to capture a record which is incomplete or inconsistent in a way which will compromise its future authenticity. Also audit trails aren't created to certify the integrity of the digital document and the scanning process.
- The TRCS ERMS do not allow document metadata to be entered and index and classify documents when scanning or imagining systems are used to digitise and capture records is so big handicape. Hovever TRCS has been managed to prepare strategies for storing and handling all formats of records ensure that the records and their associated metadata are accessible, retrievable and useable for their entire retention period when they have been moved from one storage location to another location, or through any kind of system change.
- The ERMS in TRCS does not allow users to indicate that selected records are 'vital' records, and TRCS has some troubles about converting records from one format to another – migrating records, regardless of their format, from one system to another – copying records – emulation of otherwise obsolete records – creating back-up copies to be held in dispersed locations – maintenance of storage media, such as cleaning.
- Accessing and retrievaling the records when needed in the conduct of business and to satisfy accountability requirements is efficent and timely according to the analysis. But an audit trail is not organized for capturing and storing information in the ERMS and this is a serious problem.
- According to the analysis all copies of the records that are authorised for destruction including security copies, preservation copies and backup copies are destroyed in TRCS. But no electronic data has been destroyed so far and this is not in accordance with the principles described in RMCAS.

Suggestions and recommendations based on the analyses

According to the results acquired through analyses, in order to develop an electronic information and record system in TRCS, the following suggestions should be beneficial.

(1) Electronic communication should immediately replace printed communication, which slows down in-house communication and hinders the availability of required information on time.

(2) Technological facilities should be enhanced in order to conduct record procedures effectively within TRCS.

(3) Retention and preservation schedules should be determined for records produced or used in electronic environment and applied just as in printed records.

(4) Standards should be developed for index information and metadata of records produced or used in electronic environment within TRCS.

(5) A system, which enables to monitor the changes in electronic records, should be developed.

(6) Preservation conditions and access restrictions should be determined for electronic records within current, semi-current, and non-current periods.

(7) Studies should be carried out in order to enable the authenticity, reliability, and long- term preservation of records in ERMS used within TRCS. Security measures should be taken, so as to prevent unauthorized persons access to the records.

(8) Monthly and annual performance data of electronic systems should be kept, and required improvements should be realized in the fields in which the system fails.

(9) Institutional information systems should be defined technology integration architecture for supporting IM initiatives as a whole.

(10) The electronic records management programs should be suitable for modular use, versatile and structured to enable access at defined levels for meeting future needs in TRCS. It is important to transfer all of the information and records procedures within the institution into the electronic environment, and in this respect, to meet the requirements for the necessary digital certificates and signatures.

Conclusion

The analyses carried out show that TRCS faces problems in orientation of personnel, defining metadata in the context of accessing to records, access restrictions, recycling and disposition procedures, developing supervision mechanism, as well as distribution of applications in units. Thus transition to an electronic environment in communication and routine correspondences is one of the issues of top priority.

It is found out in the analysis carried out in the TRCS Directorate of Communication and Archive that not clearly defining restrictions for access to records, not using electronic access tools, not determining separately the recordkeeping conditions and access restrictions for records within current, semi-current and non-current periods, and not taking measures adequately to prevent unauthorized persons to access to the

records within the unit are among the most crucial problems. Using electronic forms in record procedures in the unit is seen as one of the first issues to be addressed.

It was found that there was need to enable all staff to have access to documentation related to record procedures within the unit, and to make performance assessment guides documented, current and accessible within the TRCS Directorate of Human Resources. Forms, which would guide records creation, are needed to be available in places where the related personnel could access them. It is necessary to conduct supervision mechanism in the unit within the framework of record procedures. Problems are observed in enabling the related personnel to access to the legal and administrative documents on time. There are also defects in the managerial information system.

It was also discovered that in the analysis carried out with record users that the conditions determining on what terms and by whom the records would be accessible have not been defined; that roles and responsibilities of those working within information system have not been determined clearly; and that hierarchical responsibilities in record procedures have not been identified in a clear way were among important problems in TRCS Directorate of Human Resources. The necessity to define effective storing conditions and records and to redefine the metadata in the access of these records therefore comes into prominence.

It is hoped that the suggestions and recommendations mentioned above are implemented as soon as possible in order to permit the Turkish Red Crescent Society to function more efficiently and effectively in carrying out its important role in society.

References

Demp, S. (2004), "An introduction to Records Management Capacity Assessment System (RMCAS)", *Esarbicas Newsletter*, October, pp. 8-13.

Griffin, A. (2004), "Records management capacity assessment system (RMCAS)", *Archival Science*, Vol. 4, pp. 71-97.

Hare, C.E. (1997), *Developing a Record Management Programme*, Aslib, London.

Huang, J.-H., Huey, S. and Shyu, P. (2008), "E-government web site enhancement opportunities: a learning perspective", *The Electronic Library*, Vol. 26 No. 4, pp. 545-60.

Information Management Planning (2005), *Government of Alberta Information Management Branch*, available at: www.im.gov.ab.ca/publications/pdf/IMPlanningGuide.pdf

Külcü, Ö. (2005), "Kamu Üniversitelerinde Kalite Yönetimi ve Kalite Sistem Dokümantasyonu Çerçevesinde Belge Yönetimi" ("Records management through quality management and quality system documentation in the public universities of Turkey"), unpublished PhD thesis, Hacettepe University, Ankara.

Kızılay kızılhaç hareketi eğitimi katılımcı el kitabı (2004), *Türkiye Kızılay Derneği. 3.bs*, TKD, Ankara.

Mason, D.D.M. (2006), "Comparative perspectives on e-government: serving today and building for tomorrow", *The Electronic Library*, Vol. 24 No. 6, pp. 864-5.

Munro, K.D.M. (2005), "Electronic records as a corporate risk: internet service providers, personal information and lawful access", doctoral degree, University of Toronto Graduate Department of Faculty of Law, Toronto.

Penn, I.A., Mordel, A. and ve Pennix, G. (1994), *Record Management Handbook*, Kelvin Smith: Gower.

Records Management Capacity Assessment System: User Guide (2005), *International Records Management Trust. Version 1,4*, available at: www.nationalarchives.gov.uk/rmcas/documentation/rmcas_user_guide.pdf

Smith, R.J. and ve Kallaus, N.F. (1997), *Records Management*, South Western Education Publishing, Cincinnati, OH.

Swain, D.K. and Panda, K.C. (2009), "Use of electronic resources in business school libraries of an Indian state: a study of librarians' opinion", *The Electronic Library*, Vol. 27 No. 1, pp. 74-85.

Further reading

Baş, T. (2001), *Anket: Anket nasıl hazırlanır, anket nasıl uygulanır, anket nasıl değerlendirilir*, Seçkin, Ankara.

Records Management Capacity Assessment System (2004), *International Records Management Trust*, available at: www.irmt.org;http://www.nationalarchives.gov.uk/RMCAS

Records Management Capacity Assessment System (2007), *National Archives of England*, available at: www.nationalarchives.gov.uk/RMCAS/

Türkiye Kızılay Derneği (2006), *Hizmetlerimiz (Our Services)*, available at: www.kizilay.org.tr/index.php?menu1=2

About the authors

Özgur Külcü is an Assistant Professor at Hacettepe University, Department of Information Management, in Ankara, Turkey. He received an MS degree in Library and Information Science from Hacettepe University and a PhD degree in Records Management from Hacettepe University in 2005, and prepared a post doctorial study at University of British Colombia. He has participated to InterPARES 3 Project as the director of Team Turkey in 2007. He currently teaches graduate and undergraduate courses on institutional information and records management at Hacettepe University. His research interests include records management, intuitional information management, e-government applications, and quality management, particularly the analysis of institutional administrative systems. Özgür Külcü is the corresponding author and can be contacted at ozgurkulcu@gmail.com

Hande Uzun Külcü is a Communication and Records Management Specialist in the Turkish Red Crescent Society, Ankara, Turkey since 2005. She has a Master of Science degree from Hacettepe University about instructional information and records management. She has been involved in various scholarly studies and consultant activities on information system design and information capacity assessment. Her special interests are organizing civil society activities, designing information system architecture, records and archival system planning.