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## Electronic Records Management - Challenges And Issues - a Case Study - National Archives of India

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*Down the ages, various changes have taken place in the format of records. With the advancement of Electronic media the whole concept of generating the record has underwent drastic changes, not only in terms of their creation but also in their transmission, storage, preservation and retrieval. The current scenario has thrown before the world of Archivists a number of challenges and has raised a number of issues which we have to address and find solutions. There are two ways to address these issues.*

- 1. What to do with the existing record holdings with the Archives to make them digitally accessible and to preserve them electronically?*
- 2. To address the problems and issues that are emerging with the creation of records electronically as there are a number of issues associated with the creation of e-records in terms of their:*
  - Creation*
  - day to day use*
  - survival – Retention and appraisal standards*
  - preservation as a cultural record of the past*
  - retrieval*
  - to make them accessible for use in computerized form for posterity*
- 3. National Archives of India is the nodal archival authority of the Union Government of India under the Public Record Act of 1993 to take up the challenge for digital archive keeping and it need to develop a realistic long term access strategy for electronic records which it would be receiving in due course of time from Government Departments/ Offices, Public Sector Undertakings and likewise.*
- 4. The proposed presentation will be in two parts. In the first part, it is going to address in brief the Current Practices: Project of Digitalization of records 'Archival Information Management System' (AIMS), under which the record holdings in the National Archives of India are being digitalized to*

Down the ages, various changes have taken place in the format of records. With the advancement of Electronic media the whole concept of generating the record has underwent drastic changes, not only in terms of their creation but also in their transmission, storage, preservation and retrieval. The current scenario has thrown before the world of Archivists a number of challenges and has raised a number of issues which we have to address and find solutions.

National Archives of India is an attached office of the Ministry of Culture, Government of India. It was formerly known as Imperial Records Department established in March 1891 at Calcutta and shifted to Delhi in 1911 with the shifting of the Capital City. After independence in 1947, the Department was renamed as National Archives of India on 30 August, 1947.

Being the premier archival institution in the country, National Archives of India plays a key role in collection and upkeep of archival records at the national level. As per the mandate of Public Records Act of 1993, NAI is the custodian of all non-current records of the Union Government of India and its predecessor bodies as also the former British Residencies in the erstwhile Indian princely states. It has a holding of over 5 million records and are in regular series from 1748. It has a Regional Office at Bhopal and three Record Centers at Pondichery, Bhubaneswar and Jaipur.

The Vision of the Department is to help in spreading a feeling of national pride in our documentary cultural heritage and ensuring its preservation for the posterity. The Department aims to encourage the scientific management, administration and conservation of records all over the country; to foster close relations between archivists and archival institutions both at the national and international levels; to encourage greater liberalization of access to archival holdings; to help in developing greater professionalism and scientific temper among creators, custodians and users of records for proper care and use of documentary heritage.

NAI is the designated nodal agency to oversee the implementation of record management practices of the Central Government/ Ministries/ Departments/Offices, statutory bodies, public sector undertakings, committees and commissions, corporations etc, set up by the Union Government and their subsequent transfer to the Archives of records of enduring value for permanent preservation and use by the

posterity. Apart from the public records of the Government of India, the National Archives of India has a very rich collection of Private Papers of more than 130 eminent Indian personalities, families and institutions besides a sizeable number of cartographic and oriental records. Its reference archival library has a rich collection of books, proscribed literature, Government Publications, native newspaper reports' etc. In order to supplement its holdings, NAI has a regular programme to acquire microfilm copies of records of Indian interest from abroad. The School of Archival Studies conducts many regular training courses in various archival disciplines. NAI is also operating two financial assistance schemes for NGOs and State Government Organizations.

The advanced developments in the field of Information and Communication Technology (ICT), has overtaken us in an unprecedented pace which all the Archives and Record Managers are trying to cope with. Electronic Record is a new phenomenon in the world of Archives, particularly those getting generated or born digitally in Government Departments/Offices where National Archives has its stake from an Archival point of view. E-mails are sent out by all but are not being made part of Government Files where particular decision process is taking place barring critical e-mails. Many of them contain contents important as part of decision making process and having posterity value but are missing from the main relevant files. There is no such system so far which may compel an officer to keep all such e-mails as part of the file. Besides, there are a number of preservation issues attached with electronic records as the longevity and life span of an electronic record is not much. They need to be preserved, managed and recycled electronically for which we need basic infrastructure to be kept updated, trained human resource and the finances, which is available in scarcity. Instruments and tools of preserving the information are limited and our Public Records Act is also silent regarding the manner, the methodology as to how these records should be managed, preserved and to be made accessible to future generations. We are in a transitional stage and need to address procedural and legislative changes and biggest of them all, need to change the attitude, behaviour and the mindset. Another puzzling issue is if we need only an e-form or also to keep them in printed form in view of the record of pre-digital era. Planning process also requires to address the scenario which is likely to emerge may be after 20 years. Much will depend how Government Departments will function, generate, assess and manage records and shape the future Archives will take. What to keep and what not to keep and when to transfer them to Archives, may be after 25 years or 5 years, another debatable question. Another area which needs to be addressed is modernizing of our record management practices i.e. moving from paper to electronic records management.

There are two ways to address these issues in reference to National Archives of India.

- (a) What to do with the existing record holdings with the Archives to make them digitally accessible and to preserve them electronically?
- (b) To address the problems and issues that are emerging with the creation of records electronically as there are a number of issues associated with the creation of e-records in terms of content and the medium.

*make them accessible on line, the problems being faced and their solutions.*

5. In the second part of the presentation, it is proposed to address the challenges and the issues before us in terms of 'Concepts and Current Practices of Electronic Records' which are born digitally, being dealt digitally and are being preserved digitally, currently in various Government of India departments/ offices and Records Information Management System (RIMS).

6. In an electronic environment, it is necessary to treat content and medium separately. Hence, an attempt will be made to address the increased responsibilities of the Archivists and how they can be increasingly involved in the process of e-records creation, their use and maintenance and their subsequent storage and preservation by the Archives.

7. The paper will also address management issues from Archival point of view as:

- Record Keeping is becoming more complex. Electronic records may be needed for longer than the expected life of the systems that created them
- It is dangerous to rely solely on electronic information unless there is fully developed electronic records management capacity
- Managing information is not just a technology issue; it is also a policy issue, a business issue and a training issue
- Reliable information, not technology is essential to accountability
- Collaboration between all the stakeholders is essential for the successful implementation of an integrated system

8. National Archives of India has to play a proactive role in the entire life cycle of e-records with the model of Digital Archives as per attachment.

9. Technology has facilitated in providing access to information globally, in communication i.e. writing of letters through e-mails, internet and likewise, but in no way it has hastened decision making process. This issue will also be addressed in Archival Context.

**GAUTAM, Meena, Il trattamento dei documenti elettronici: sfide e problematiche. Il caso dell'Archivio Nazionale dell'India. Atlanti, Vol. 17, N. 1-2, Trieste 2007, pp. 63-73.**

*Nel corso degli anni, vari cambiamenti hanno avuto luogo nel formato dei documenti. Con l'avanzare delle risorse informatiche, tutto il concetto della genesi di un documento è stato sottoposto a drastici cambiamenti, non solo per ciò che concerne la creazione stessa del documento, ma anche per ciò che attiene alla trasmissione, conservazione e ricerca. La situazione attuale ha portato agli archivisti una serie di sfide ed ha sollevato una serie di problematiche cui è necessario accostarsi ed alle quali bisogna dare soluzione. Ci sono due modi di affrontare tali questioni.*

*Che fare con gli archivi esistenti, in modo da renderli accessibili in maniera informatica e conservarli elettronicamente?*

*Affrontare le problematiche emergenti dalla creazione di documenti digitali comporta una serie di questioni associate alla creazione di documenti elet-*

tronici in termini di:

- creazione
- uso quotidiano
- curabilità – standard di conservazione e valutazione
- conservazione come testimonianza culturale del passato
- recupero
- accessibilità in forma computerizzata per la posterità.

3. A seguito del Public Record Act del 1993, l'Archivio Nazionale dell'India è l'autorità principale del Governo indiano preposta a raccogliere la sfida della tenuta di archivi digitali, e deve sviluppare una strategia a lungo termine riguardante i documenti elettronici che avrà a ricevere nel tempo da parte di dipartimenti ed uffici governativi, imprese, eccetera.

4. La relazione proposta si sviluppa in due parti. Nella prima si elencheranno in breve le pratiche correnti: il progetto di digitalizzazione documentale AIMS (Archival Information Management System), con il quale i fondi dell'Archivio Nazionale dell'India vengono digitalizzati per esser resi accessibili on line, le problematiche afferenti e le loro soluzioni.

5. Nella seconda parte della relazione si propone di affrontare le sfide e le problematiche nei termini di "Concezione e pratica dei documenti elettronici" che attualmente nascono in forma digitale, vengono trattati in forma digitale ed in forma digitale vengono conservati nei vari dipartimenti ed uffici governativi e nel RIMS (Records Information Management System).

6. In ambiente elettronico è necessario trattare separatamente il contenuto ed il medium. Da qui lo sforzo per far fronte alle accresciute responsabilità degli archivisti ed il loro progressivo sempre maggior coinvolgimento nel processo di creazione dei documenti digitali, il loro uso e la loro conseguente archiviazione e conservazione negli archivi.

7. La relazione farà inoltre fronte al problema della gestione da un punto di vista archivistico, quale:

- La conservazione documentale è diventata sempre più complessa. I documenti elettronici possono essere necessari per un tempo più lungo che non la durata del sistema che li ha prodotti.

- E' rischioso fare affidamento solamente sui dati

1. I am thankful to Shri N.S.Mani, Microphotographer, NAI, who gave me free access to the information available with him regarding undergoing programmes and activities in National Archives of India.

As the nodal archival authority of the Union Government of India under the Public Record Act of 1993, NAI has taken up the challenge in right earnest for digitizing holdings in its custody as the first priority<sup>1</sup>.

By 1998, NAI considered the question of the creation of a data base for reference media of Public Records to enable the quick retrieval of information as a viable alternative to save time. It was considered to be economical for the research and reference purposes of scholars and other users of archives. However, many issues were involved and needed to be resolved before the creation of the database. As the storage of electronic documents is vulnerable to loss by decay of the medium in which information is stored, they become inaccessible and unreadable especially when the software needed to interpret them or the hardware on which the software runs becomes obsolete. The advancement in information technology requires the frequent migration of data to the latest medium. Most digital documents exist only in encoded form, which require specific software to translate the bit streams and make them usable. The medium itself disappears from the market; drivers capable of controlling the drivers and deciphering the encoding used on the medium are no longer incorporated in new computers. Upgrading of new computer systems, therefore, requires abandoning the old storage medium, provided an institution still has in its custody documents stored on that medium. The problems of short lifespan of the medium and rapid obsolescence have necessitated copying of the digital information onto new medium. Although copying is a viable solution, it is likely to corrupt documents due to compression, encryption or ever changing data formats.

Considering all these aspects, the NAI's first priority was to computerize data of reference media to records for easy retrieval and access for the benefit of scholars and other users of archives. Accordingly, a tailor made software "AIMS" (Archival Information Management System) was developed by NAI in Visual Basic Backend and MS Office frontend.

The data entry is now being created from the following formats:

- Index to press lists and transfer lists
- Printed (typewritten) calligraphy from (handwritten) and manuscripts in various sizes and styles
- Languages - Hindi, English, Persian, Urdu and Sanskrit

Initially however, this was not an easy task due to a number of problems faced, viz, diverse forms and formats of records; no fixed data structure; cross linking of records; no existing standards for computerization; multiple keywords within the subject field, etc.

Simultaneously the NAI designed an integrated system, the Archival Information and Management System (AIMS) software on intranet ware. The software was developed with web browser based access and having facility to upgrade to web/intranet and WAN deployment. The software had a flexible modular design and a package

was developed to facilitate computerization of indexes to records. AIMS software was also customized to access the information related to an important historical event, chronological span and activities of a personality, political leaders and much more.

The AIMS software has an integrated system - LAN implementation, six modules and ten sub modules and three levels of security, online processing and retrieval besides report generation and web/internet compatibility. The software was developed with a SQL search engine to locate the file details on the basis of catchwords, Records browsing in departments, branch, year, month and file details, alongwith subject and keywords as well as tree and flat view retrieval.

There are around 52,00,000 records for which database of reference media are to be created. So far reference media/database has been created for 12,00,000 records and are available for retrieval through AIMS software primarily for the benefit of scholars and users of Archives on the NAI intranet. A database of the entire collection of the NAI library has also been created in LIBSYS software and is available for retrieval on the NAI intranet.

Since the Department has a huge collection of microfilms of documents available for use by scholars, a pilot project to convert the analogue microfilm images to digital medium was undertaken in 2000. Around 2,00,000 images have been created and the AIMS software is being updated in order to make available digital images of the documents on the network, so that frequent use of any document is minimized and multiple viewers are able to have easy access to the original files in digital form on the NAI intranet.

It is significant to note that microfilms are still being getting preferences as medium of storage of information. Even in countries where e-records or digital documents are being created and transferred to their national archival repositories, the records are "future proofed" by transferring the digital image data into microfilm though involves a notable reduction in quality. Microfilm produced in this way cannot be used for digitization with any guarantee of an acceptable result in comparison to the master negative prepared from the original documents. Analogue and digital storage forms are thus not fully compatible at present.

The National Archives of India also initiated a pilot project for digitization of rare manuscripts with a skeletal unit comprising Sony Digital Camera (2.1 mega pixel) and a designated personal computer in July 2000 in collaboration with Department of Science and Technology and National Institute of Advanced Studies, Bangalore. Rare manuscripts, viz Bhagwadgita, Ramayana, Mahabharata, etc., were digitized and stored in CD medium. A total of 6000 images have since been created. Simultaneously a pilot project was undertaken to convert the analog microfilm images of documents to digital medium. In pursuance of this project, 200,000 images have so far been created. "AIMS" is being updated with a view to facilitate display of digital images of documents in the monitors on the network. This would greatly reduce the dependence on the frequent use of documents and also facilitate multiple accesses to the original files in the National Archives of India in digital format in the intranet. Once this

*elettronici fino a che non venga completamente sviluppata una capacità di gestione degli stessi.*

*- Gestire informazioni non è solo una problematica tecnologica; è anche una problematica politica, economica e di formazione.*

*- Ciò che è essenziale per la responsabilità è l'informazione attendibile, non la tecnologia.*

*- Una collaborazione di tutti gli addetti è essenziale per il successo della crescita di un sistema integrato.*

*8. L'Archivio Nazionale dell'India deve recitare un ruolo attivo nell'intero ciclo di vita dei documenti elettronici avendo come modello quello degli archivi digitali.*

*9. La tecnologia facilita l'accesso all'informazione nella sua interezza, nella comunicazione (ossia nella redazione di lettere tramite e-mail, internet, eccetera), ma non accelera la presa di decisioni. Tale problematica a deve anch'essa venir affrontata in un contesto archivistico.*

project is implemented in the LAN of NAI, the same would be hosted in a server for wider access with facility to make payment online for obtaining copies of the requisite pages from anywhere.

The project is further being customized to provide online access to other areas of record holdings besides Public Records. It is proposed to digitize the reference media of all the Private Papers, Oriental and Cartography Archival Records and Reprography collections. It is being customized as an intranet application for the research scholars/Archivists/Users of Archives to encourage greater liberalization of access to archival holding. It is being developed with ASP.NET, C# as front end and MS SQL Server 2000 as backend.

## II

Now we will discuss about issues and challenges how to preserve it? Are we prepared for it? Do we have tools and means?

E-records must be controlled and managed from the point of creation and application. Application support a range of functions. Records are created and used by applications in terms of their creation, day to day use, survival - retention and appraisal standards, preservation as a cultural record of the past, retrieval, to make them accessible for use in computerized form for posterity, managing financial and human resources, processing applications for licences and preparing reports and correspondence, etc.

To take up the challenge for digital archive keeping, Government Departments and NAI are in the process to plan and develop a realistic long term access strategy for electronic records which it would be receiving in due course of time from Government Departments/Offices, Public Sector Undertakings and likewise.

Current challenges and the issues needs to be discussed in terms of concepts and current practices of electronic records which are born digitally, being dealt digitally and are being preserved digitally currently in various Government of India offices/departments and are being managed as per Records Information Management System (RIMS).

The move from paper to electronic records management is in a hybrid situation. It can be divided into three categories

- a. Completely Manual - The system entails maintenance of register, proformas, reports, etc., manually and most of the Ministries and departments systems functioning fall in this category.
- b. Semi-electronic - This system facilitate electronic management of records and automation of many processes are involved
- c. Fully Electronic - These are extensions of the semi-electronic systems and are fully automated. These systems cater to the both paper based and electronically generated records

Automated Systems are being used to track receipts and files, and office computers are used to create records only to save them in the hard disk and the policy is to print on paper and file. Mainframe applications are creating records and it is the websites being used for

capturing records from the citizens wherever it is applicable. Documents and records are being created as part of the day to day business of Government of India in order to support these transactions and decision making and to ensure that these are preserved and can be accessed and retrieved by Departmental staff and the citizens as required.

The framework for records management within the Government of India is based on standards and practices as laid down by Department of Administrative Reforms and Public Grievances, National Archives of India, (Public Record Act and Rules, 1993/1997) standards derived from legislation (RTI 2005), ISO Records Management Standards 15489, Metadata standards and likewise.

These standards and practices help in establishing criteria about proper documentation practices, what to keep and what not to keep, defining custody and authenticity, facilitate management of e-mail and other electronic documents and different forms of records. There has been unprecedented growth of records in Government of India offices and their management has posed great challenge before the Record Managers and the Archivists and as well as the Records Management Systems existing in the country. Still majority of the records are paper based and it is more a semi-electronic situation and their maintenance has become increasingly a complex voluminous and time consuming job. Information and Communication Technology has provided a number of tools to have solutions to such problems but their application is broadly confined to the areas of direct government - people interface.

Automation has taken place but it has only facilitated more in office functioning and have not sufficiently contributed in decision making process. Nothing much is happening in core areas of governance. Has facilitated in providing access to information globally and has enabled faster communication through e-mail, internet, etc., Areas like academics, has fully made use of the system for Reference and Research purposes and in preparing digital version of existing records

Record Room is a place which is not getting due attention that it deserves. They are not being exposed to the functionaries and at times, they are not aware of the information available in the records and their value which is very much against the purpose of maintaining the record. The survey of many of departmental record rooms have revealed that many of the provisions of the Manual of Office Procedure laid down standard guidelines on Record Management Practices, particularly periodic recording of files, review of recorded files and the weeding of the files who have outlived their utility are not being followed in totality. The system is found cumbersome and is not user friendly as most of the records are paper based. Information Technology tools do have solutions but their applications are largely confined to the areas of direct government people interface and has yet to percolate down to the core function of the Ministries and Departments of Government of India and preservation of records and their use in policy and planning is yet to utilize the full potential of IT applications.

It's a transitional phase in which paper based records related

activities like physical arrangement and weeding out of files are being performed manually whereas other functions of maintenance of data/registers, recording, generation of reports and returns alerting all concerned about the maturity of files, dissemination of information and processing of requests of files from the record rooms, etc., is being automated by Records Management Information System (RMIS). It provides three levels of privileges.

i) **Administrator** - He would invariably be the Departmental Records Officer who would have 'read/write' access to the fields of his domain. He would be competent to create, add or edit the list of Users Level-I. The system would operate only under his control.

ii) **User Level-I** - It would comprise the Divisions/Sections which create the records and decide the retention period of such records. The users of this level would be in constant touch with the Administrator. They would be able to get the requisite reports/returns on all records preserved in the Records Room.

iii) **User Level-II** - The users of this level will have 'read' access only. Provision for this level of users has been made for dissemination of information. The users can search and see the list of files and all other relevant data available in the Records Room without any permission or password.

The system has helped in automating a number of processes:

a) Movement of Data (list of files, etc.)

i) Once the details are fed into the system, the DRO gets an alert. All communications and data are then transferred online and are available to all concerned.

ii) Communication of decisions taken with regard to the retention of files is conveyed through the system. After maturity of files both the DRO and the concerned sections get an alert for review of the files to decide its retention or to weed out. List of such files can then be forwarded to the system merely with the marking of the files on line.

iii) The system facilitates supervision of records management at the section level as well in the Ministries/Department. It generates detailed report about the action taken and action pending.

iv) The system is capable of generating requisite returns and reports as well thereby helps in obviating the need to maintain registers/figures manually.

v) The system also caters to the needs of both DRO and the sections/ divisions as the data is available to both of them

vi) The system also helps efficient retrieval mechanism. There is an inbuilt facility which can retrieve the desired records very fast and also gives an option to generate the reports, etc., according to ones need.

vii) This system has provision for feeding of important details of files which would then be available to the users. This would not only help in doing away with the need to take out the files physically from RR but also is helpful in disseminating the information.

viii) There is no need under the system to index the files and prepare the index slips as the system is capable of searching the files with the search facility.

ix) There is mechanism of user management also.

**(b) RMIS - Steps involved in electronic management of records**

**Step I**

Section is the main record creating agency in the office and plays a very active role in the whole system. It has to ensure that activities are performed timely and regularly with continuous attention towards the records management.

i) Section will record the files and decide the retention period as per laid down guidelines in the Retention Schedule both for common office services and substantive functions of the Department/Organization.

ii) Prepare summary of important files narrating in brief the decisions taken

iii) Enter the details of the recorded files in the system including the summary and the retention period.

iv) Also to mark the option to retain the files in case it is decided to keep those files in the sectional records

v) It will then send the files to Administrator/DRO

vi) They will check the system to find out the files `not accepted' by the administrator and also the files which are due for review

vii) It will take remedial action in case of files `not accepted'.

viii) As per CSMOP will initiate action to review the files transferred from DRR

ix) As per review will feed the decision taken in regard to the files marked for review against relevant column.

x) Will further forward the files marked for further retention to DRR.

xi) At least once in a day, the section will log on to the system at least once in a day to get the updated position of the files

xii) It will take out the requisite reports generated by the system and send them to Organization and Management (O&M) Section

## Step-II

**DRO** is an important link between the users and the system and also the sections and the DRRs. It is he who has to ensure that the files whose data is available in the system are physically available in the record rooms. He will keep updating the details continuously.

- i) He has to log on the system thrice in a day to check if new files are transferred to DRR.
- ii) He will further check the files sent by the section in order to ensure that these are according to the details fed and in case of discrepancy, will not 'accept' the files
- iii) He will further mark location of each files 'accepted'.
- iv) He will 'accept' the files sent according to the details furnished.
- v) The files would then be arranged according to the location marked.
- vi) He will further send back the files 'not accepted'.
- vii) He will further check the files which are due for review and mark them to the concerned sections
- viii) Similarly he will mark the files transferred by the Section after review.

The system can be enabled with little more input and designing capable of measuring reference value, categorization of records and to decide the retention period also. With the time, the new system with these features will definitely facilitate the management of records more smooth and easy. Department of Personnel & Training and National Informatics Center has developed an electronic management of files/records which has automated the entire process of records management as laid down in Central Secretariat Manual of Office Procedure and other guidelines applicable to both situations i.e. paper based and electronically generated records. Supporting guidelines have also been developed for operationalising the system.

The RMIS<sup>2</sup>, the way it has been working within the Government of India Ministries/Departments also need to be networked with the National Archives and a connectivity needs to be extended between the Government of India Offices and the NAI likewise for further appraisal and transfer of files as provided in the system. It will further facilitate online transfer of files to the National Archives in both the situation of paper based records and the electronic records. As per its hardware and software requirements.

In the hybrid environment, in some of the offices paper documents are being digitized by means of scanner, disk drives, e-mailing through internet, records being captured through web technology and likewise. Such informations are being stored, retrieved and displayed and are being transmitted electronically by digital imaging. But for successful implementation, policies and procedures needs to

2. **Hardware** - One Pentium based Server with the minimum of 256 MB RAM is required to host the Records Management Information System. In addition, one client system to the Departmental Records Officer and one client system at each source of file entry in RMIS would be required.

**Software** - The RMIS is a Web Enabled System developed on Windows 2000/2003 Server platform having SQL Server 7/2000 as back-end Database. To implement RMIS, one Server with Windows 2000/2003 server as operative system with SQL Server 7/2000 is required. Since it is Web Enabled System, no software is required to be installed at the client end, where a browser is required to access RMIS.

be standardized with proper back-up systems. Equally important is the retention of information through electronic mediums which is accessible and compatible to other systems.

## The environment in Government offices is changing

Paper to e-records due to greater application of ICT has necessitated modernization of RM practices. As an outcome of the implementation of the Right to Information Act 2005 and E-governance plan of Government of India, a number of digital records are getting generated because of interface between the Government and the people. Hence, more management issues. There is need of collaborative partnership amongst record managers, Archivists, IT Experts and trained human workforce with the process of records creation, use and maintenance.

The need to address emerging records management issues are due to lack of standards and rules for managing information stored on PCs, inadequate back up procedures, vulnerability of the storage media, incompatibility of some software applications and likewise. At the same time, with these areas of concern, there is a positive side too. It has made scheduling for retention and disposal of records quicker, easier as every such document is possible to be indexed. The scanning of documents at filing stage helps in the appraisal process which can be formalized as soon as the concerned file becomes non current. Before realizing the dream for complete automation, the process of office Automation should be fully realized. Integration of computing and telecommunications into networks has important management implications for how records are created, stored and used.

Networking has enabled combining the autonomy of a PC with some of the central controls of a mainframe, enabling technical feasibility to process and communicate all of the information needed to conduct business activities in modern organisations

It is an expensive method. Financial constraints are sometime major hurdle in this work. There is a sea change in office situation. Levels of efficiency has been enhanced and has brought speedy disposal, transparency and accountability in the system. People's participation has increased. Automation is capable of controlling files under any system and is capable to perform the jobs of check listing, transfer listing and indexing with relative ease.

## Need to address the changes from archival point of view

From an archival point of view issues of concern are legal or legislative changes for how to manage, preserve and make e-records accessible. As organizations develop new systems, the requirements for creating, capturing, preserving and making available electronic

records should be incorporated from the very beginning at the planning and design stage as in case of paper records management.

So far no electronic records of Government of India offices are being transferred to National Archives of India and are being preserved in hard disks, CD Rome, DVDs as a standby arrangement. There is need to formulate a policy and take decision for transfer of e-records after their appraisal as per procedure, what this procedure is going to be, migration systems to accommodate and adopting of frequent technologies, what should be digitized and storage systems with ability for adaptation to fast changing technologies.

Strategies are being evolved and our e-records are still in an infant stage. Role of creating agency is much greater than that of Archives. But Archives association has to be there from the very conceptual stage when e-records are going to be under any programme.

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