CHALLENGES AND OPPORTUNITIES IN E-OFFICE IMPLEMENTATION: A STUDY WITH REFERENCE TO GOVERNMENT INSTITUTION

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Abstract: Efficiency and mechanism of delivery of services have been the long felt need for smooth functioning of the governmental processes in advanced societies. In this context, the Government of India has started the Mission Mode Project (MMP) under National E-governance Plan, viz., the use of Information and Communication Technology (ICT) to reduce the response time in execution of official transactions. Electronic Office (e-Office) being one of the Mission Mode Project (MMP) is well supported with necessary infrastructure to support smooth functioning of government functionalities. This study aims at determination of e-Office principles in Government Institutions. Issues such as limited storage spaces, electronic record keeping system, push for digitization etc., have been the key drivers for adoption of e-Office by many of the organisations. This paper highlights the main challenges encountered in e-Office implementation and discusses scope for investigations.

Keywords: ICT, Mission Mode Project, e-Governance, E-office.

1. INTRODUCTION

“If the true role of information technology in a world context can be fully appreciated it will provide us with a powerful tool for the development of better environment. However, if its contribution is abused and misunderstood, we could find ourselves in a technological society we do not wish to see” (Adams, 1986). e-Governance is used as a precursor to Information and Communication Technology (ICT) by the Government at all levels. It aims at providing services to the citizens, information exchange among different agencies of Government, towards speeding up the workflow, bringing out efficiency in a transparent manner [8].

With the Cabinet approval during the year, 2006 the National e-Governance Plan (NeGP) document, was brought out in the Twenty-Second Report by the Parliamentary Standing Committee on Information Technology (2005-2006).

The report brought to fore, several Mission Mode Projects (MMPs) towards implementation in Central, State, and Local Government levels for the purpose of providing quality governance to reach the common man [8].

Among the approved 31 National e-Governance Plan (NeGP) Mission Mode Projects, e-Office is a significant step, which caters to the Government Process Architecting Framework (GPAF). This document was formulated to Central Government Organisations for carrying out Business Process Reengineering (BPR). e-Office system has been able to speedup, simplify, bring in accountability and transparency and optimizing administrative processes [8].

2. REVIEW OF LITERATURE

E-government readiness has been one of the most challenging task encountered in the implementation of e-government, and to improve the delivery of services the usage of Information and Communication Technology (ICT) is integral to the service delivery activity. (Gebba et al., 2015) highlights the readiness and issues of E-governance in Egypt and the challenges faced in the implementation of E-government. Egypt a developing country, to improve the E-government services emphasized on the investment, business and public access as important attributes. It established the Information and Decision Support Center.
(IDSC) to support the IT industry of Egypt and laid out several mechanisms to the Information Society like E-Business E-Readiness, E-Health E-Learning, E-Government, E-Culture and it also developed integrated programs such as Enterprise Resource Planning, Governmental Services Development, Institutional Development, National Databases etc., to provide updated information, accurate and comprehensive processes in the private as well as the public sector. (Gebba et al., 2015) brings to fore the challenges faced and E-government services bifurcated into three categories as Legal and Regulatory Challenges, Cultural, Social and Economic Challenges and Bureaucratic Challenges and also suggests a suitable method to develop Egypt into a coherent strategic future

Midha, (2015) reviewed the e-Office implementation at Punjab Technical University. With a view to bring efficiency and better library services like circulation, accessioning, information delivery, and liaisoning with other departments, Central Library of The Punjab Technical University has gone in for introduction of e-Office. It is an office management automated system developed by NIC to reduce the procedural delays and integrate the existing subsystems to make it a complete paperless office. With e-Office automation system in place, Punjab Technical University has not only improved the smooth functioning of University library but has also achieved intra and inter departmental processes and transactions with improved and highly effective, efficient processes in a transparent manner. It has in fact become one of India’s leading University to go in for paperless office.

Mannan et al., (2018) reviewed the implementation of e-Office at Airlangga University. Managing and retrieving a large volume of information is an herculean task in many organisations. The Faculty of Vocational Studies, Airlangga University, Indonesia, also experiences a near similar situation. They have been facing issues in retrieval of documents and their retention. To counter this problem, utilizing the Information and Communication Technology (ICT), the University has developed an electronic management system called the Electronic Document Management System (EDMS), it is also known as e-Office, which helps in processing manual documents into digital forms. The components of EDMS are Document Repository, Auditing, Security, Classification and Indexing. The authors have brought out through research analysis about the employees adoption to e-Office using the Quantitative descriptive approach and data processed through SPSS statistical software. It was observed that handholding and training were very much needed for adoption of e-Office in the University

Singh, (2013) Sindhudurg District headquartered in a Gram Panchayat administration of Maharashtra had the primary concern to provide citizens a reliable, speedier service through a transparent manner since there was inordinate delay in providing the services to the citizens. Initiative was taken for Business Process Engineering (BPR) through the introduction of e-Office which was developed by NICNET. The e-Office components included eFile (Electronic File), KMS (Knowledge Management System), eTour (Electronic Tour) and eLeave (Electronic Leave). The Administration had a daunting task towards seamless connectivity and integration. The task was achieved in time frame of one and half years. The result towards implementation of e-Office was accountability and transparency, quick case disposal, pending cases monitoring exact location of files and receipts, single directory of employees etc. The author has highlighted the growth of e-Office usage in the District, which according to him has become a role model district for Administrative Excellence. This has also paved way towards a paperless or effectively Less Paper Office.

Based on the analysis of reports available in public domain, this study addresses the importance of e-Office and different modules offered by e-Office to businesses, citizens, government employees towards smooth functioning of government machinery. It also discusses the challenges faced, and outlines the improvement needed in E-office implementation research.

3. MISSION MODE PROJECT: CONCEPT OF E-OFFICE

Towards Change Management and Process Engineering, implementing agencies were identified for smooth execution of e-Office project like the Department of Administrative Reforms and Public Grievances (DARPG) of India and National Informatics Centre (NIC). e-Office is being developed as per the Central Secretariat Manual of Office Procedure (CSMOP) towards rendering of a transition by the Government operational efficiency to a Paper Less Office.

In line with the current trend of globalization and to provide quick services to customers, ease of information accessibility and to increase productivity through cost reduction, taking cue from the Mission Mode Projects under execution, the concept of e-Office was adopted in Central Power Research Institute (CPRI), an Autonomous Society under Ministry of Power, Government of India. CPRI a world-renowned Institute is engaged in providing testing facilities of all characteristics of power equipments as per National / International specifications. Headquartered in Bengaluru, CPRI units are located at Hyderabad, Noida, Bhopal, Nagpur, Guwahati and Kolkata.

Several obstacles were encountered earlier before venturing into the concept of Electronic Office (e-Office); like missing of letter files, stacking, and difficulty in monitoring of files, letters etc., through conventional file tracking methodology was in force.

For smooth functioning, CPRI has implemented e-Office software developed by NIC for 250 users. The requisite hardware and infrastructure is hired through MeghRaj National Cloud Services maintained by National Informatics Centre (NIC). A Storage Area Network (SAN) of 240 GB was installed for e-Office software on CPRI servers.
The Modules of e-Office Premium Product Suite are File Management System (eFile), Knowledge Management System (KMS), Collaboration and Management Services (CAMS), Leave Management System (eLeave), Tour Management System (eTour), Personnel Information Management System (PIMS), Smart Performance Appraisal Report Recording Online Window (SPARROW). E-office has proven to be a game changer in administrative functioning on its introduction in CPRI.

Necessary procurement and installation of Digital Signature Certificate (DSC) as a USB Dongle was issued to all the e-Office users to carry out the official activities on e-Office through their respective Nodal Co-coordinators who were identified in each department of the organisation.

4. CHALLENGES FACED WITH THE INTRODUCTION OF E-OFFICE

Serious difficulty in “going paperless” is the use of electronic communication between the individual and businesses, than it being conventionally just internal. The receiver and the sender need easy access to the right software, infrastructure and hardware. For its fulfillment, temporary losses in costs and productivity are encountered towards moving to e-Office platform like digital document’s longevity, stability of the existing system, lack of technological skills of the clients as well the employees. Hence due care is to be taken for providing the necessary infrastructure like as [5]: Workflow Architecture [4], Intranet Platform, Technology Enablers, Management of files and Document Database, Collaboration and Sharing, Information Delivery, Repository Information, Cloud Storage System [5], Resistance to Change towards Electronic ways, Support from Top Management, Simplification and Standardization of Process.

4.1 Workflow Architecture

Since information has to be passed on to the authority at different levels for processing of folders or documents, e-Office has been helpful in automating the workflow electronically, and it ensures routing the document to the right person to seek approval. This ensures that every process is monitored and it leads to auto escalation since the workflow is designed for both monitoring and feedback mechanism. Through workflow system tracing and tracking of files, monitoring processes have become relatively easy. This helps towards improvement of business process.

4.2 Intranet Platform

One of the successful factors in the organisation is to create within a digital web enabled environment for all the departments, which include services like search engines, email, which enables users to access information both internally and externally [5].

4.3 Technology Enablers

Technology enablers have been supportive in the conversion of stored documents into a readable computer setup. Enabling technologies assist in managing electronically and these include the fax, email, printers, digital copiers, video conferencing etc. In tune with coping up with the technology and smooth functioning of e-Office implementation CPRI has procured the necessary pre-requisites infrastructure such as:

4.3.1 Hardware infrastructure:

- For installing e-Office software in CPRI servers, hardware infrastructure hired through MeghRaj Cloud Services maintained by NIC, New Delhi
- Issue of Digital Signature Certificate (DSC) in the form as USB dongle
- Procurement of Canon DRC 130 L Document Scanner

4.3.2 Software Infrastructure:

- 240 GB of SAN storage for e-Office software
- Facilitation charges for Data Centre Services to National Informatics Centre Services Inc. (NICSI), New Delhi for Virtual Machine (VM) of 8 VCPU, 2 GB RAM, 60 GB storage (4 servers) for 250 users.
- Usage of Server Colocation Services at National Data Centre (NDC), New Delhi

4.3.3 Network Infrastructure:

- Providing LAN connectivity to each identified user
- Network link availed from National Knowledge Network (KNN), a product of National Informatics Centre, in the case of network failure
- Bandwidth utilization for e-Office Premium suite functioning – 10mbps

4.4 Management of Files and Document Database

CPRI produces and manages large volumes of files and documents that are an integral part in decision making. As the manual system prevalent in the Institute has many limitations like limited tracking, difficulty in searching, and retrieving of documents. Even storage, has become a big challenge due to space constraints. To counter these problems, e-Office system has a module namely File Management System (e-File), which helps in the replacement of existing manual file handling with an efficient software system, which includes inward receipts diarisation, file’s creation, file’s movement and receipt and lastly records archival [7].
4.5 Collaboration and Sharing

A centralized document’s information repository on the intranet or internet ensures information sharing leading to efficiency in processing information. Through Collaboration, users are able to communicate to departments over locations distributed geographically. Collaboration and Messaging Service (CAMS) one of the e-Office module that helps in the minimal usage of email, able to send instant messages through the e-Messenger, scheduler of reports, meetings/events updation through SMS alerts, creation of schedules/appointments.

4.6 Information Delivery

Documents which are converted into electronic form can be stored and delivered in various formats, forms and retrieved by the employee and customers when in need. Knowledge Management System (KMS) one of the e-Office Module is an easy, simple document based browser transforming documents of both electronic and paper into knowledgeable assets progressively used by organizational work force varying in categories from Circulars, Acts & Regulations, Office Orders, Manuals and Standards, Guidelines by which the users of e-Office can manage, search, view, and share documents [6]. A single central documents repository has been maintained in CPRI towards reducing workload of Administrative Department. The KMS has features of storage and retrieval, workflow architecture, catalogs indexing, metadata system helping in segregating documents as per author, title, description etc.

4.7 Repository Information

Repository information provides for a single access point to employees information, enabling users to access and update the information of employee’s in an organization. With the introduction of e-Office in CPRI, a module of e-Office - Personnel Information Management System (PIMS), a system workflow architecture is designed on the lines of Service Book provisions of Central Secretariat Manual of Office Procedure (CSMOP) which maintains the employee identification number, location and posting, details of salary, loans, CGHS, contact details, CGHS nominations etc.,

4.8 Cloud Storage

The major issue in e-Office is its accessibility, availability, security, and storage of Data. Data safeguarding has become the prime factor for smooth functioning of the government process as the users, customers tend to get the need information from the centralized data stored. To mitigate the risks CPRI has gone in for Cloud computing a service technology provider by which data are stored in a remote database protecting from a loss of data through technical snag. Due Care has been taken towards setting up of CPRI website Disaster Recovery Service; server Colocation with Bandwidth & DNS Hosting.

4.9 Resistance to Change towards Electronic Systems
E-Office is a new office automated management system that helps in the transformation of manual work methods to electronic form. With the implementation of e-Office in CPRI, many employees were finding it difficult in adapting to the new office management system. However, to bring down the level of resistance, CPRI highlighted the significance and importance of e-Office and brought them the confidence about its usage by providing necessary handholding and training its employees at different levels in the hierarchy.

4.10 Support from Top Management

The implementation of e-Office needs the support from the top management of the Institute to adopt and support the e-Office systems. Therefore, support of the management plays a vital role in e-Office adoption and implementation. The vital support from the Management of CPRI in the form of providing training, cooperation and resources required has been successful in near total implementation.

4.11 Simplification and Standardization of processes

Reluctance to change from the existing manual process environment has always been a threat for optimal use of computers with various features in the electronic environment and should be utilized for the existing government processes in the form of Business Process Re-engineering (BPR) to transform from manual existing environment to automated, optimized electronic system.

5. OPPORTUNITIES

E-office modules are role based web applications which cover areas of computer-human interaction, security, access of information and management, transparency, software technology, large scale computing etc. though e-Office involves many phases or stages of development but still has many advantages to all government sectors, business, and citizens. The modules would help to improve the R&D ecosystem in India by improving the Enterprise Resource Planning (ERP) system and its link to organizations performance for sustenance and growth.

6. Future Research

Areas for future research can be measures on capacity building, development of infrastructure, re-engineering process, domain development etc.. To extend the future further work, applicable statistical methods can be used to study the impact of e-Office modules on various fronts, as this study primarily demonstrates e-Office adoption and for preparing employees to the adoption of procedures and principles involved in e-Office governance. Future research possibly can explore drawing up e-Office module software of Project Management, Customer Relationship, Accounts functions. Lastly, the study suggests that e-Office has technological capabilities for the achievement of organizational goals.

CONCLUSION

E-Office as an open source software, it is a technology which has emerged in India and National Informatics Centre (NIC) provides a wide range of Information and Communication Technologies (ICT) for ease of practice and implementation of e-Office. It is the backbone in networking and has rendered commendable services throughout India to all major government organizations. E-office modules can be used in research settings to test the relationships between various aspects of technology, its integration and rendering of service to the society. E-office needs to strengthen the link to organizational performance and commitment to academia, through this interface will bring the manufacturers, academia, and government research institutions on a common platform.

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