Opportunities and Challenges in Implementing Electronic Document Management Systems

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ABSTRACT— ***Information communication technology (ICT) has revolutionized the way we work, play and learn. Traditional methods and approaches of communication, media, information processing and dissemination are being challenged in every facet of life. This has led to the emergence of new ways of governance known as electronic government or simply put e-Government. E-Government services require electronic document management systems (EDMS), which is akin to the bloodstream of e-Government. EDMS is one such tool powered by ICT and utilized by e-Government implementations for managing valuable information resources from documents in any government or business setting. This paper reviews the concept of current electronic document management systems with opportunities and challenges of EDMS.***

Keywords-- electronic document management system, electronic government, content management, document.

1. INTRODUCTION

Information communication technology (ICT) has revolutionized the way we work, play and learn. Traditional methods and approaches of communication, media, information processing and dissemination are being challenged in every facet of life. This has led to the emergence of new ways of governance known as electronic government or simply put e-Government. E-Government, according to [1], is the latest ICT revolution in public governments. [2] defined it as the use of ICT to enhance public government effectiveness, efficiency, responsibility and transparency. It is seen as a radical transformation process that cannot be avoided due to the pressures of the new information society [3] E-Government implementation comes with several benefits and challenges mostly due to the social, organizational and technological changes associated with its implementation and has attracted several research interests particularly in the area of technological and organizational change. [1] posit that for a successful e-Government implementation, certain principles or building blocks must be considered before an information society concept can evolve.

Thus, a successful e-Government strategy must be channeled towards organizational structure development, easy-flow communication channels, cost reduction and bureaucratic bottlenecks elimination in the government process such that information is made easily available and accessible to the citizenry in various forms and through various media including the Internet [4]. However, the primary objective of e-Government is not just limited to providing information services to its citizens but also includes the development of strategic links among various government departments, communications at various levels of government (Federal, State and Local Governments), facilitation of government policies, operations, transactions and strategy implementations, etc.[5],[6]. All these require that government' daily transactions, procurements, operations, and resources be digitized for better cost effective and convenient service quality [4]. Unlike the traditional methods of governance where paper-based documents were dominant, e-Government services require electronic document management systems (EDMS), which is akin to the bloodstream of e-Government.

Electronic document management system (EDMS) is one such tool powered by ICT and utilized by e-Government implementations for managing valuable information resources from documents in any government or business setting [7]. EDMS determines the document flow and dictates the operations and business processes within and outside the organization. EDMS employs new ICTs to process documents in such a way that public service performance and productivity is greatly enhanced. New advances in this field has led to the development of more powerful EDMS with greater capabilities that transcend beyond the traditional text-based document generation, printing and distribution, to a more sophisticated and advanced computer-based or knowledge-based information systems capable of eliciting, processing, analyzing, saving and disseminating information in high communication speeds and presenting them in knowledgeable contexts useful to the user and policy makers [8].

2. THE CONCEPT OF EDMS

Content management has been defined as a process to create, storage, modify, retrieval and display of data or content [27], in its early days before the advent of Internet, intranet and network technologies, had a totally different concept from document management. The advances in these technologies have challenged the traditional definitions and uses of documents. [9] noted that the shift from paper-based documents to electronic web content redefined the way users document content were managed, extending to the management of not just the web content but also how to manage the users responsible for generating the web content. This led to the development of early content management systems capable of managing and controlling content repositories, delegating administrative tasks, creating and authoring templates, processing file transfers and search functions as well as controlling the process of workflow [10], [11]. The emergence of the information society powered by highly advanced ICTs led to the evolution of the enterprise content management in a bid to meet the challenges of the information revolution. Enhanced features such as automated email capability support, record generation, powerful analytical tools, record classification, sorting and storage became common place [9], thereby challenging the traditional definitions and uses of documents in business or government offices.

A document, according to [8], is any information that is recorded and structured into a unit for the purpose of human consumption. [7] describes it as a record and storage of information which may be in the form of clay tablet inscriptions or recorded conversation or speech into transcripts. [12] argues that document processing by the use of technology has greatly transformed the role played by documents in an organization from the very traditional paper-based record keeping in majorly texts to a more sophisticated and complex content information processing and management that entail a wide variety of graphical, video, audio, animations, images, processed for different organizational uses such as reports, contracts, handbooks, correspondences, memos, email, etc. in such a way that is can be electronically generated, processed, stored, disseminated and displayed.

Thus, from a technological perspective, a document may be defined as a group of information snapshots comprising of various information types which may exist in different places within a network with the ability to relate the information of other documents within the network, support multiple access in different data types, update and modification simultaneously and automatically [12], [13], [14], [15] and [16]. Other perspectives describe a document as a unit of conceptual information record [17]; a record of data with certain features like employees entity as part of an inventory or in a personal system containing the required information needed to represent a given concept [14].

3. OPPORTUNITIES AND BENEFITS OF EDMS

One of the major benefits of EDMS is information management; providing timely and accurate information at the least cost possible. For instance, [13] acknowledged that EDMS can save both time and cost by improving the speed of records retrieval and removing the need to maintain separate content infrastructure. Supporting this view, [18],[28] and [29] claimed that the time savings is the reason for the primary cost benefit.

Some other derivable benefits range from supporting decision making, maintaining regulations and legislations, providing organizational memory, litigation prevention and attaining organizational efficiency.[10],[19], [27] and [30] listed some benefits of EDMS to include work process and forms publication, easier search of organizational records, cost saving from low use of materials such as paper. Faster and easier information accessibility, enhanced information currency and accuracy, higher employee turnover or productivity and improved customer satisfaction and relations management.

EDMS implementations yields different types of benefits for governments, businesses and individuals, etc. depending on the type and extent of use it is put to. [20] observed that most employees have the liberty of generating and maintaining content of their own, which enables users of information gain quick, updated and accurate snapshots of the current activities of the organization. This according to [20] promotes productivity and efficiency, enhances the interactions among customers, business executives, partners, employees, and serves the overall of the customers through enhanced collaboration supervised by standard operating procedures. [21] stated that paper work processing such as filling and completion, submission and access, were made easier and more efficient when converted to electronic or web-based formats. He further enumerated the benefits enjoyed by the United States Air Force from the implementation of paper to electronic document conversion citing that it has now empowered the personnel of the US Air Force and also cut down saving by 10% and 30% in used and anticipated forms respectively.

4. CHALLENGES OF EDMS IMPLEMENTATION

One of the challenges of information management in this fast-paced technologically hungry world is management, easy retrieval and filtering. Every information system (IS) manager faces the challenges of managing the new technologies cropping up daily and how they can be incorporated into the changing needs of the organization. This is one of the reasons why EDMS is crucial in every organization. EDMS is not new, nor a novel idea. It has been used in several organizations across sectors and countries. The main objective is to save time and the organization cost of sending communications across different departments. This is also connected to improving work efficiency by having easy access and retrieval of information.

As early as 1990, there are already studies conducted by [22], [23] and [24] on the impact of EDMS on overall organizational efficiency and staff efficiency in terms of knowledge management. One of the challenges that they found is the fragmented way of managing data across departments. Instead of taking this rapid change in technology and information exchange, research shows that they are often disconnected from each other. Integrating these technological advantages became a challenge to information managers and even to the staff themselves who will be the supposed users of the system for overall performance improvement. The responsibility therefore lies on organizational designated IS managers to come up with a plan on integrating and linking-up these disintegrated data with their consecutive different processing system. EDMS hopes to take on the challenges in linking up the data across departments, across industries and such that it can be managed for external and internal uses. This knowledge management of data development and maintenance are crucial in the sustainability of any organization [25].

Also, for most IS executives, EDMS is viewed as a system meant for document archival purposes rather than one whole complex yet integrated organizational knowledge management system. There is need for IS executives to see beyond this view. EDMS and its applications is not just for bookkeeping or archiving, instead the data play a crucial part in the strategic planning and market trend-making where the organization treads. In a highly competitive world, organizations need to manage data efficiently and effectively to be able to generate updated reports as well as trends across time and sectors [26]. Instead of thinking on the framework of information archiving, executives must also look at the overall long term benefits of knowledge and information management system. These should not only include the data and documents, but foremost coordination of these information in the organization for us a through coordination across departments in the context of proper safety protocols. It is not just having the latest technology but also based on the needs of the organization and the roles and responsibility of the person in managing the whole system. This is not just about the sophistication of the technology being implemented but how it will be used by every staff and how the IS department is able to manage and sustain it.

5. CONCLUSION

EDMS can be used by organizations to automate processes which make them efficient and reduce the costs. It promotes productivity and efficiency, enhances the interactions among customers, business executives, partners, employees, and serves the overall of the customers through enhanced collaboration supervised by standard operating procedures. The other reason for EDMS deployment is to reduce the data redundancy and duplication of information. Although the implementation of EDMS achieved a lot of benefits, EDMS implementation like any other information system comes with several challenges mostly due to the organizational and technological changes.

6. REFERENCES

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