



Large Scale Document System:

Effective Public Sector Knowledge Management System

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1. Definitions

2. The Problem & Issues

3. Methodology

4. National Development Issues

5. Challenges & Discussions



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Definitions

Document Management System



A computer system (or set of computer programs) used to **track** and **store** electronic documents and/or images of paper documents

Definitions

Content Management System



A collection of **procedures** used to manage **work flow** in a **collaborative** environment.

Definitions

Knowledge Management System



A range of **strategies** and practices used in an organisation to identify, create, represent, distribute, and enable adoption of **insights** and experiences.



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The Problem

Academic Institution



Faculties, Institutes & Centres – Intellectual Properties
Personnel Services – Human Capital Mgt Records
Registry – Student Life Cycle Records
Bursary – Financial Management Records
Physical Planning – CAD/CAE Drawings, Designs
Works Services – Product Literature, Service Manuals
Academic Planning - Curricula
Medical Services – Health Services Records, Reports
Student Affairs – Hostel Records, Students Relations
Library- Books, Journals, Publications
Internal Audit – Financial Analysis documents
Legal Department – Agreements, MOUs
Central Stores – Logistics Records
General Administration – Correspondences
Public Relations - Presentations

The Problem

National Documents



Rule of law - legislative records, court records, police and prison records.

Accountability to its citizens, - policy files, budget papers, accounting records, procurement records, personnel records, tax records, customs records, and electoral registers, property and fixed assets registers

Protection entitlements - pension records, social security records, land registration records, and birth/death records.

Services provisions for its citizens - hospital records, school records, and environmental protection monitoring records.

Government's relationship with other countries - foreign relations and international obligations, treaties, correspondence with national and international bodies, loan agreements, etc

The Issues

Business Process



How do documents fit into the overall business process?

What is the Business Process Flow?

- ☐ Are documents created or required at certain steps in the process?
- ☐ Which business objects are documents associated with?
- ☐ What are the documents and what are their significance?

The Issues

Search Methodology



How do we want to search for documents?

What are the attributes of the document?

- ☐ Standard attributes – Description, Owner, Responsible Lab/Office
- ☐ Additional Attributes – Application, Release
- ☐ Full Text Search

The Issues

Lifecycle

Define Lifecycle of Documents

What are the steps in the lifecycle of the document?

- ☐ In Work
- ☐ Pending Approval
- ☐ Approved
- ☐ Released –No more change-Released version remain as history



The Issues

Change Control



What is the change control process?

Are updates controlled through a change control process?

- ☐ Capture reason for change, element of workflow, and digital signature for release
- ☐ Provides a complete history of when and why a document was updated
- ☐ Important for documents that are critical, such as Personnel Records – Date of Birth, Promotions

The Issues

Approval Process



Is there a formal approval process?

Before a document is officially released, does it go through a formal approval process?

- ☐ Example – Change of Student Fees
- ☐ Facilitated through a workflow process
- ☐ Might require digital signature
- ☐ Formal approval results to a released version of document with record of the approver
- ☐ Further change to document must be by a new version

The Issues

Security



What are the security requirements?

What roles in the business are allowed to change each document?

- ☐ Consider status for changes – In Work seen by select group and Release seen by all.
- ☐ SAP provides complex set of conditions used to control access – document type, status, authorisation group

The Issues

Application Files



What type of application files will be stored?

What output file of a specific application is stored?

- ☐ Microsoft Word, Adobe Acrobat, Autodesk AutoCAD
- ☐ Application configured to behave in a certain manner when associated file is launched for display or change

The Issues

Versions & Revisions



How are versions and revisions used in the business?

What do the term Version and Revision mean to the Business

- ☐ Version is a separate instance of a document that has its own status such as In Work or Released. It is a snapshot in time
- ☐ Revision level is assigned to a document version and is associated with a release state. Represents a major change
- ☐ For each document you can store multiple versions. With each version, you can assign a revision identifier

The Issues

Multi-Languages



Do you need to support searching and maintenance in multiple languages?

Maintain some attributes in multiple languages?

- ☐ Attribute Description could be maintained in English and French
- ☐ Capability to maintain entry, display and search attributes in multiple languages

The Issues

Size



What is the volume and size of documents to be stored?

How large is document to be stored?

- ☐ Infrastructure requirements to be considered
- ☐ Size Content Server appropriately, say 10 TB
- ☐ Size of each file help in Network Sizing, say 2Mbps
- ☐ Document consumers may be in a number of different geographic locations – Require Cache Server

The Issues

Location of Users



Location of Creators vs Consumers

What are the different locations of creators and Consumers?

- ☐ Creator is someone who generates and stores document in the system
- ☐ Consumer is someone who searches and displays documents
- ☐ For large number of Creators install Content Server at that location
- ☐ For large number of Consumers install a Cache Server
- ☐ This helps reduce the impact on the performance of WAN

The Issues

Retention



Are there document retention requirements?

How long should document be stored or made available based on business and legal requirement?

- ☐ Physical Planning CAD, building design retained for life
- ☐ How to handle document when retention period expires, say archived or deleted
- ☐ What does the national & international law require?

The Issues

Neural Format



Do documents need to be converted to a neutral format for long term retention?

What neutral format should be used?

- ☐ Neutral formats such as PDF or TIF
- ☐ Applications have life, eg doc and docx
- ☐ Conversion is carried out automatically by SAP DMS when the status of released is reached
- ☐ Conversion Server can be installed



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Methodology

1. Identification & Analysis



Document	Quantity
Human Capital	3 million
Student Life Cycle	5 million
Intellectual Properties	3 million
CAD & Logistics	1 million
TOTAL	12 million

Methodology

2. Digitisation



- ❑ **Fast Scanning**
- ❑ ***'rasterises'*** the records to become searchable
- ❑ **Book Marking**

Methodology

3. Content & Knowledge Management



- ❑ **Search and Classification/taxonomy**

- ❑ **Content Servers – Document generation**

- Cache Servers** - improving search performance by consumers

Methodology

4. Data Warehousing



- ☐ Vault Secure Storage
- ☐ Backup & Recovery



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National Development

National Development Issues



- ☐ **Good Governance**
- ☐ **Equitable Judicial System & Enforcement of Human Rights**
- ☐
- ☐ **Accountable Financial System**
- ☐ **Effective and Transparent National Development Process**

National Development

Benefits

- ☐ Secure storage
- ☐ Easy retrieval
- ☐ Excellent search capabilities
- ☐ A controlled environment for updates
- ☐ Complex security rules to control access
- ☐ Increased visibility of key documents
- ☐ One source and one set of rules for managing documents
- ☐ Reduced time and effort
- ☐ Ability to maintain document history to meet legal requirements





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Discussions

Challenges



- ❑ There is a **low awareness** of the role of records management in supporting organizational efficiency and accountability.
- ❑ There is an absence of **legislation** to enable modern records management practice.
- ❑ There is an absence of core **competencies**.
- ❑ Overcrowded and unsuitable **storage** of paper and electronic records;
- ❑ Absence of purpose built record centres such as Content and Cache Servers
- ❑ Absence of a dedicated **budget** for records management
- ❑ Poor security and **confidentiality** controls
- ❑ Absence of vital records, **disaster recovery** and preparedness plans
- ❑ Limited **capacity** to manage electronic records.

Discussions

Actions

Capacity Building

**Legislative Structures &
Budgets**

ICT & Power Infrastructure



Thank You!