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DIGITAL IMAGING INC

Finding the Promised ECM Return on Investment

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Mike Clarke is a Solution Architect with West Canadian—specializing in ECM, imaging and cloud software application and technologies. For over twenty years he has worked as administrator, developer, project manager, and solution architect on major international projects. His career has included data and content migration, integration, database and Web application design and programming as well as enterprise architecture and records management.

Over the past ten years ECM—Electronic Content Management—has become ubiquitous in large organizations. Every IT department supports some sort of ECM solution and perhaps several different ECM solutions from different vendors. One can view these installations as a foundation for managing unstructured content. However, recent surveys have found that only limited degrees of applications have been implemented that offer the return on investment (ROI) that were promised in the initial sales sessions and subsequent business case documents. In fact, many projects have failed. The Challenge of Information Chaos¹ report claims that roughly 65% of IT projects fail to reach their objectives either in scope, functionality or budget. We suspect that ECM projects have a higher failure rate due to the complexity of managing unstructured information.

The reality is that projects for the analysis of enterprise-wide information and attempts at one-size-fits-all global ECM customizations are complex, expensive and time consuming. It usually involves the automation of unstructured document creation and flow in support of various business units. Very few

organizations have the budget and/or stomach for the effort required to bring ECM into the business process automation world unless a large and painful business process problem exists and is localized to a specific business unit and budget.

As a result what has been observed is that ECM solutions have been reduced in scope to “buckets” where documents and records go to die, for various reasons. Not much seems to have been done with ECM solutions in most organizations other than minor customizations or “out of the box” functionality. End users do not like generic and complex ECM user interfaces and taxonomies (folder structures). IT departments find that the development cycles required to implement new requests for ECM support for a business unit or process are “hard sells” due to the project time lines and budget requirements.

We see stagnation in the ECM world and wonder why it has not been addressed. The answer lies in the expense and project timelines for the incremental implementation of ECM across an enterprise. So, while there is promise in ECM to solve real world business problems, there is a lack of willingness to implement the features and functionality that would address it. The budget required to keep ECM instep with changes in business structures, processes, information types, external interactions and regulations is a huge barrier to adoption of ECM and Records Management across the enterprise.

The past ten years have produced some remarkable progress in IT and ECM related technologies. These changes provide solutions that were not viable only four years ago. ECM projects and requirements can be re-evaluated in light of these new opportunities to enhance productivity and compliance.

The main, and self-evident, technologies that impact ECM are as follows:

Virtualization—Makes ECM environments highly scalable and more cost effective

Cheaper and Faster Storage—Storage capacity and speed is vastly improved

Cloud ECM—Multi-tenant ECM solutions with simple setup are becoming popular

Content Migration and Ingestion—Automated and simplified ECM migration tools help reduce maintenance and integration costs and timelines.

Imaging and Optical Character Recognition (OCR)—OCR technologies and smart indexing help dramatically reduce indexing effort and improve “findability” of content.

Full Text Indexing—Search engines, included with ECM repositories, offer vastly improved search capabilities over earlier versions such as older Verity and FAST search technologies.

Replacement of Folder-based Taxonomies with Search—Folder structures present one of the biggest obstacles to ECM deployment projects and the move to search pages saves time and cost on deployments.

Auto-classification—Smart migration tools are enabling the business to ingest previously unclassified content from “Share Drives” into repositories.

These technological advancements offer many opportunities for improvement. Business strategy for improvement of ECM adoption and ROI across the enterprise can fall under the following types of initiatives:

1. Search and Retrieval

Metadata and Taxonomy: Metadata, taxonomy and indexing are really classification for unstructured data files like documents. It is data that describes content files that are stored as records. The data can help to do the following:

- Find specific documents
- Find sets or groups of documents related to a specific topic, file or project

- Manage security or access levels to documents
- Manage records retention or other compliance or regulatory requirements
- Provide record locking and hold features for legal matters
- Assist with internal research, finding document templates, learning, knowledge transfer, onboarding
- In support of business process steps and automation
- Integration to other systems

This data is best captured in context of capture, or in the case of scanning physical files, at scan time when operators and SME resources are available to interpret the document context and apply indexing data.

OCR and Full Text Indexing: Some files do not easily lend themselves to the automated extraction of text during the scanning process. Optical Character Recognition (OCR) is the process of interpreting text from scanned images. This technology has been greatly enhanced over the past decade and provides valuable information. This information can be captured on a form basis and can automatically populate metadata fields. Another that extracts data is a process called “Full Text Indexing” (FTI) where all of the document’s text is captured and embedded within the file so it can be later read by FTI search engines in ECM repositories.

The uses for OCR and FTI can be listed here:

- Full Text Indexing: Files that are either text based, such as Word documents, or image files and PDFs—which have embedded or associated metadata field text data—can provide a way for repository users to search for related topics or ad-hoc searching.
- Auto-population of index fields at scan time: This process can be very reliable, and when combined with indexing operator review and QA, the basis for compliant records management processes and procedures.
- Workflow automation: Workflows can be automatically initiated during scan-time based

on OCR results which can be used to review, ingest, classify and integrate unstructured information such as documents. Combined with ECM or other system integrations this can be a trigger point for business processes such as voucher creation or RFP response reviews.

2. Ingestion into ECM

Auto-classification: A big problem with adoption of ECM systems is the classification and ingestion of previous digital content typically stored on Share Drives. Typically much effort is expended on creating taxonomies and folder structures and then analysts have to compile extensive spreadsheets listing each document with their source location, attributes to be assigned and their target folder location in the intended repository. This process can take months, depending on the numbers involved. New generation smart migration tools can auto classify large portions of the “free range” content leaving an exception queue for operators to complete the indexing, reducing the process from months to weeks or days— enabling the business to adopt ECM on time and within reasonable budgets.

Compliance and CGSB: To be compliant scanned or ingested documents/records must show a clear chain of custody. This includes the process of physical records handling to the hand-over between the scanning vendors and their subsequent ingestion into the ECM. Patchwork integrations with scripted ingestion and FTP site file transfers introduce multiple points of failure and subsequent reconciliation and validation bottlenecks. Seamless integration with end-to end reporting and exception handling is key to proper transfers and easy compliance.

- **Seamless Integration:** Ingestion, either from a scanning solution, another ECM or from a Share Drive into an ECM (inside or outside the corporate network) can be configured using standard protocols such as HTTPS or sFTP to work seamlessly. This can avoid gaps in the chain of command evidence, errors and rework and manual scripting ingestion cycles. It can also work to provide better reporting, compliance, reliability and performance.

- Reporting, Metrics and Intelligence

Reporting for the ingestion, scanning, indexing, ingestion, storage and subsequent heat analysis (cold content can be moved to cheap disk) on repository content can provide invaluable evidence in legal matters and also provide information for smart management of files and storage. By establishing metrics, capturing relevant data and enabling timely and relevant reporting and dashboards the ECM performance and associated costs can be better managed.

3. Public Collaboration

- **eDiscovery**

During legal matters, holds and discovery, files may need to be shared with external parties. Secure and specifically local-hosted cloud solutions can provide quick solutions to costly one-off external hosting of repositories. If automated and seamless file transfer mechanisms are in place this can be setup and used quickly and efficiently.

- **Submissions and Forms**

Document and forms submissions processes can be designed and automated to provide elegant ingestion of forms submissions such as RFP responses and employment applications. Automated workflows and ECM integration can be accomplished with astonishing efficiency and low implementation and maintenance costs.

- **Transmittals and Submittals**

The process of engineering document and drawing submission, review, rejection, approval and ingestion can be accomplished in secure and locally hosted applications to drastically reduce turnaround time and document handling cost.

- **QA and Review**

External resources often need access to documents, records and drawings in order to review, check and collaborate on documents/drawings on short notice. The process of VPN access allocation for external resources can be slow and frustrating, slowing the document processing process and elevating associated IT and process

costs. Locally hosted and highly secure cloud systems with secure and seamless integration to ECM and other systems can save project time and costs.

4. Temporary Storage

- **Shared Drive Replacements**

Considering the risks and inefficiencies of “free range” content on shared drives, a surprising number of large organizations still use them for record storage. The automated ingestion of shared drives into temporary cloud solutions, enabling proper indexing and classification, can be a low cost first step in getting your content under control.

- **Interim Storage Solution**

For migrations or phased projects where content and metadata need to be migrated, sometimes there needs to be intermediate storage of content where indexing and metadata can be preserved, a chain of custody can be proven and a seamless integration can provide smooth migration to target systems. Until recently this has not been possible or feasible because of associated costs and the painstaking and labour intensive migration processes. This is no longer that case with West Canadian.

- **Indexing Solutions**

During large scale scanning processes there are needs to QA and re-index content after the fact. Temporary cloud storage and ECM systems can be provided to take the pain away from physical records transformation and the conversion to the digital office.

5. Business Process Automation

- **Create/Review/Approve/Declare**

Typical process automation, so common with Enterprise Resource Planning— or ERP—and engineering systems has not been realized with ECM systems. There are a variety of reasons, the most obvious being the issue of long time lines and high costs associated with typical ECM business pro-

cess management projects. Well-designed solutions, using the right technologies, can be implemented that finally realize the long promised ROI of ECMs.

- **Transmittals**

Review and approval workflows can be implemented in West Canadian cloud based ECM solutions that can make the transmittals process much shorter and cheaper. Document control can be better managed between parties with a well designed and implemented cloud/hosted solution.

- **Forms and Submissions**

Many workflows that result in documents or records actually start with fragments of text, sentences and paragraphs which can be easily managed in online forms. Cloud based forms management solutions, hosted by West Canadian can dramatically reduce the cycle time and reliability of forms submissions while avoiding the vendor “stickiness” and subsequent compatibility issues of single-vendor hosted solutions.

In light of the potential improvements to legacy ECM installations, it is still a challenge to introduce change to existing and embedded business processes and enabling technologies. The key to improvements is an incremental and business unit driven approach akin to the latest “bring your own device” issue around mobile phones. If governance models are established and documented, outlining required and recommended or supported solutions and processes then a business unit can determine the utility of new approaches and the acceptance criteria can be negotiated with the IT and application groups.

Living and co-existing with existing centralized services and technologies is the key to new approaches. Replacing the incumbent and established technologies is usually not possible, but complimenting them can be relatively easy.

1. Sacramento State. (1995). The Chaos Report. Retrieved from <http://www.csus.edu/indiv/v/velianitis/161/ChaosReport.pdf>