

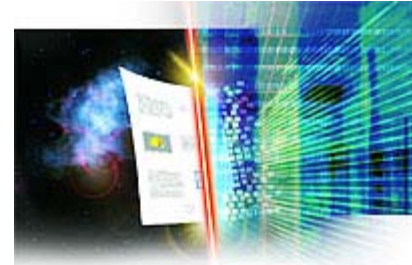
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Beyond paper

*Paper is a fact of life in every organisation. Although the dream of a paperless office has crumbled, it cannot be denied that paper trails have been trimmed, with organisations implementing electronic document management systems. **Rishiraj Verma** takes a look*

Electronic Document Management Systems (EDMS) are proving to be an effective mechanism in facilitating workflows at India Inc. Organisations, be they in the BFSI sector, government or retail, have to deal with a huge number of documents every single day. These may be printouts, or they may be photocopies or faxes. What's common is that they can't be ignored or wished away. This makes it essential for organisations to digitise their documents so that they can manage them in a better way and save time and money in the process.



The origin of EDMS

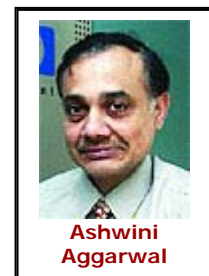


**Som
Gangopadhyay**

It all began with the advent of PCs, that instead of cutting down the use of paper increased it. Notes Som Gangopadhyay, Assistant Director, Marketing, Business Imaging Solutions, Canon India, "Managing documents has always been important. And since PCs became popular, it has become even more significant."

This would go to explain the need for digitising the printed documents produced by computers. Challenges such as bottlenecks have long been associated with information retrieval from physical documents.

It is essential to look beyond generic objectives while implementing this technology. There may be objectives that are more important than merely printing and scanning documents. Comments Ashwini Aggarwal, Country Marketing Manager, Business Imaging and Printing, HP India, "It is essential to manage and make the digitised documents available at all times to all authorised people."



**Ashwini
Aggarwal**



Barney Dunne

According to Barney Dunne, Director, Collaborative Document Management Solutions, Interwoven Asia Pacific, "Earlier the need was to secure documents. Next up was the requirement to add different kinds of files such as e-mail, and finally arose the need to manage documents—which has made EDMS essential."

EDMS may have originated as a concept simply to reduce paper usage, but it has slowly moved on to become one of the most important management tools around. Ram Sundar, Business Manager, EMC Content Management, India says that "the need arose from unmanaged information." He adds that information on paper wasn't easily available, and that globally EDMS has existed for about 15 years while in India it has been active for only four to five years.

Getting things right

As in any IT implementation, it is imperative for a CIO to undertake certain evaluations before implementing an EDMS. The organisation needs to keep in mind that all or at least a majority of its documents will be processed using the proposed system. In the long run costs should reduce and profits rise, depending on how efficiently documents are managed.

According to Diwakar Nigam, Managing Director, **Newgen Software Technologies**, consistency of the whole implementation is one of the major aspects of the EDMS to be evaluated.

Aggarwal points out that it is not a simple decision for a technology head to make. One has to do a cost-benefit analysis of what you want for your organisation from the system and how much it will cost to do just that. There are also issues pertaining to the integration of the system with the present infrastructure.

Any EDMS system is going to be a combination of hardware (scanners and printers) and software which will be the platform required to run the system, document management software, and optical character recognition (OCR) engine.

But, as Aggarwal says, "the range of hardware available for document management can be confusing." Even in terms of scanners there are various types such as flatbed scanners, simple document scanners and duplex scanners. There are also output devices for certain documents that the organisations may want to keep paper records of. Laser printers therefore form an important part of any such implementation.

Moving on to the software components, there is the basic software that must be part of the system. We are talking about databases to archive digitised documents along with a robust search facility. To increase productivity there must be other software such as that for indexing and watermarking documents (for security), plus a reliable operating environment and management software. Dunne comments here, "All these software pieces have different functions, and they must be installed and put to use accordingly so that smooth functioning is ensured." Sundar adds to this the view that while the common hardware is essential, organisations also need to have a good database and application server that will help them work faster.

It is clear that while investing in a holistic EDMS care has to be taken to ensure that every hardware and software component fits organisational requirements. The scalability and modularity aspect of the system is one of the most important points for the CIO to consider before he flags off the implementation.

CIO Take

Rajiv Gerela
GM, Technology
Wipro Spectramind Services



According to Gerela, his sector, BPO, is dependent on voice for its communications. There is however the need to process the large number of documents that come in through outsourcers everyday. Documents have always been a large chunk of the outsourced work, despite voice being the primary medium.

"We need to do all sorts of scanning, printing and archival for documents that come to us," informs Gerela. He says that this helps in controlling the amount of documents that his organisation has to deal

with on a daily basis.

Commenting on the evaluations that CIOs need to make before implementing the system he says, "There are always the standard check-lists. You need to figure out the pros and cons of the system and its utility to your organisation." The implementation cost must be a high priority while evaluating it. According to him, the key issues that CIOs need to focus on are scalability and security, without which the implementation wouldn't be a complete success.

Talking on security he says, "Not all vendors are looking deep enough into the security aspect." He thinks that it is of prime importance to control and regulate the flow of documents.

His conclusion? "It will probably be a little more time before we get a system that is simultaneously robust, secure and fast."

Early 80s	Mid 80s	Mid 90s	Today
Only bitmaps managed, limited indexing, very expensive	Workflow added, storage requirements went up	Better hardware components added, newer file types managed	Focus on security, organisations trying balance physical and digitised documents

Process by process

It is important that the processes affected and transformed by an implementation be identified before the deployment starts. When it comes to paper usage, most organisations deal with a mix of structured and unstructured information. It could be in the form of a bank account opening request form (structured), a training document (unstructured), or even invoices to outsiders.

With regards to EDMS there are a few key processes that need to be focussed on. Capturing a document, processing it, and archiving it to make it accessible are the most important functions which an EDMS must fulfil. It needs to enable an organisation to create, control, transmit, review, assemble, retain and publish documents of various types. For these functions and processes to be fulfilled, certain sub-processes need to be undertaken. Informs Nigam, "There are six major processes to an EDMS—capturing, indexing, retrieving, distributing and publishing, archival and destruction."

States Gangopadhyay, "An important thing to be decided is differentiating between the attributes (metadata) and content (graphics and text) of documents so that the processes of archiving and accessing become easier in the future." Meanwhile, Sundar is of the opinion that processes too depend on individual organisations. "But archiving and storing centrally are essential processes that must be part of the system."

Dunne makes an interesting observation: "There are so many [processes] that one of the more difficult issues is to prioritise which gets addressed first." This would mean some sort of added pressure on the IT team to make sure that they address the right process at the right time.



Processes involved in EDMS

- The first step deals with capturing or creating a document. In this step, a physical document may be scanned using a document scanner with an OCR engine.
- The second process in an EDMS helps in storing the document. This should not be confused with archiving. In this stage, the document is stored for review, monitoring and editing instead of being archived for much later use.
- Stage three of EDMS helps the organisation control or provide access to documents based on their sensitivity. Most security policies and their implementations come into effect during this process.
- After access rules have been laid down, the document may start getting used by more than just one employee. Thus comes into picture the transmission process of an EDMS. Here, various pieces of software related to document workflow may be used to ensure that there are no hurdles in transmitting documents.
- The next process deals with reviewing the document. This can be compared to signature verification in a bank. Only here, the documents are digitised and may be sent back to the original user immediately if any errors are found.
- Documents get indexed as soon as they come into the EDMS. Thus, after reviewing, if there is need to search and edit them further, the next step, that of retrieval, comes in. A standard EDMS comes with a document search engine installed, and this helps users locate documents over a network.
- One of the last processes in an EDMS is that of assembling and publishing the document. Here help may be taken from the earlier process. This is also the process where the output devices of the EDMS come into the picture.
- Finally, as is the case with physical documents, digitised documents also need to be archived. The organisation may want to archive documents with an eye towards compliance, or even to ward off legal issues that may arise in the absence of these documents.

Protection: a must

Digitising documents may help an organisation cut the paper trail, but it may have some side-effects as well. The biggest negative repercussion is going to be a lack of security. While passing through the organisation, digitised documents may fall into unauthorised hands.

Gangopadhyay says that it is not just about printers and scanners; he warns that the servers on which the documents get saved must be secured before even thinking about devices in the office. And Dunne insists that organisations become more focussed on the security side of things because of "staff coming and going, and even performing multiple roles."

CIOs also need to assign responsibility vis-à-vis security to individuals across the organisation. After rolling out a security policy, it must be ensured that all authorised personnel in the organisation are aware of their accountability with regard to the security of internal confidential documents.

On the subject of ensuring technical security Gangopadhyay has this to say, "These days you can set up the system so that users attach a password to their files, and only then send them across a network." He says that the original file may then be erased from the system so that it cannot be misused. Adds Sundar, "Gone are the days of user IDs and passwords.

Organisations are looking for single sign-on authentication and secure workflows now.”



An EDMS, just like any other concept or technology in the IT world, cannot function on its own. What it needs is skillful operation to get maximum throughput, hence it becomes necessary that the human element in an EDMS be handled with great care.

P G Kamath, General Manager, Lexmark International (India), says that once the application is designed, skilled personnel are required to ensure that it works 24x7. Adds Aggarwal, “The human element must not stop simply at designing the hardware and software.”

EDMS tomorrow

Aggarwal is enthusiastic about the concept of EDMS. “Gauging by market reactions, its time has come. EDMS will take off very well, and is probably only a year away from mainstream adoption.”

Nigam lists some likely trends. According to him, storage capabilities will increase and newer formats will evolve. “Government rules will also dictate the concept’s development, compliance being an important factor.”

One thing is for sure. If organisations were given a choice between ‘something’ and ‘nothing’ they would definitely want to go in for something, which in this case means cutting down the paper trail rather than waiting for some other concept to help them come closer to attaining the dream of a paperless office.

CIO Take

Chittaranjan Kajwadkar
Senior VP, IT
NSE

According to Kajwadkar, demat has already brought about a revolution by eradicating shares in their physical form. “Such initiatives have reduced the generation of paper documents. More effective management tools would be welcome.” Even so, he insists that there is still a need for more sophisticated technology in that area.

When it comes to the issues related to document management he remarks, “One of the problems is lack of clarity about the authentic life-span of documents. As a result, one ends up managing them almost forever.”

He also points out other problems—the existence of a variety of documents, the difficulty in deciding how to classify them, and the integration of different workflow systems.

Kajwadkar feels that organisations must be absolutely clear about the results they want, therefore a thorough evaluation must be conducted before coming to a conclusion. “Ease of use, ‘other’ user reference and feedback are also important during an evaluation.”

About the future Kajwadkar believes that “EDMS is bound to rise.” However, he is also of the opinion that the concept needs to evolve in terms of products and services.