

ECM Hurdles a Barrier: Managing document processes within ERP business suites

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Table of Contents

About the White Paper

About the White Paper	1
About AIIM	1
About the author	1

Introduction

Introduction	3
---------------------------	---

Content Silos

Content Silos	3
----------------------------	---

Addressing the Silo Issue

Addressing the Silo Issue	5
--	---

Storing Content in Transactional Systems

Storing Content in Transactional Systems	7
---	---

Ensuring Process Continuity

Ensuring Process Continuity	7
--	---

Referential Integrity

Referential Integrity	7
------------------------------------	---

Project Management

Project Management	8
---------------------------------	---

Case Management

Case Management	9
------------------------------	---

The Broader Case

The Broader Case	9
-------------------------------	---

Conclusion and Recommendations

Conclusion and Recommendations	10
Recommendations.....	10
References	10

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OpenText	11
AIIM	12

Introduction

In most large organizations, enterprise applications have been converged over many years into a single ERP suite, generally supplied by SAP or Oracle. These systems control the finance and resource management of the business, with structured transactional databases at their heart. They control the goods (produced and procured), people (employees, suppliers and partners) and the network of interactions among them that both drive and characterize the business. In parallel, the former point solutions of scanned document processing, content centric workflow, and electronic document and records management, have evolved into enterprise-wide ECM suites, organizing, storing, governing and managing the multiple content types that we consider to be unstructured data – the communication, collaboration and compliance threads of the business.

However, day-to-day business is not so neatly divided, and for most ERP transactions there are likely to be a number of important related documents – contracts, specifications, delivery notes, correspondence, claim forms, etc., and these may well end up recorded and stored in specific modules of the ERP system. Meanwhile, accounts payable processing of scanned invoices will often be driven by a workflow in the ECM or BPM system, requiring background links to the transactional data in the ERP system. Case management, contract management, and claims processing applications, to name only a few, can require a mix of ERP and ECM processes, with a final archive of records to the typically ECM-based records management system.

For users, this is likely to create a two-screen environment – assuming they have login access to both systems – with varying levels of search, revision and remote or mobile access. For records and compliance staff, discovery, retention and legal holds need to be applied to multiple repositories within and outside of the ERP system. For IT, tasked with minimizing and optimizing storage space, embedding large quantities of scanned images, stored emails, (and even videos) as binary objects alongside speed-critical transaction data in the underlying ERP database, limits flexibility and increases storage costs. This can be a particular problem with Oracle ERP systems, the most prominent being Oracle E-Business Suite. These systems typically lack the built-in document archiving links provided by SAP.

From AIIM surveys, over 50% of organizations would like to move their multiple content repositories to a single-vendor ECM suite, and nearly 20% would be likely to build around a new suite in order to achieve this¹. A fully integrated suite provides a single point of truth for enterprise information, ensuring information governance policies are applied consistently across the organization, and offering efficient, organized access to the full scope of data that drives the business forward. Obviously, this suite needs to be as comprehensive and progressive as possible, but due consideration should also be given as to how well it can be integrated or embedded within the core ERP suite.

In this report, we will look at the issues that arise from uncoupled or loosely coupled ECM and ERP systems, the potential benefits of closely coupled systems, and the factors to take into account when considering content integration between core business systems, and across the enterprise.

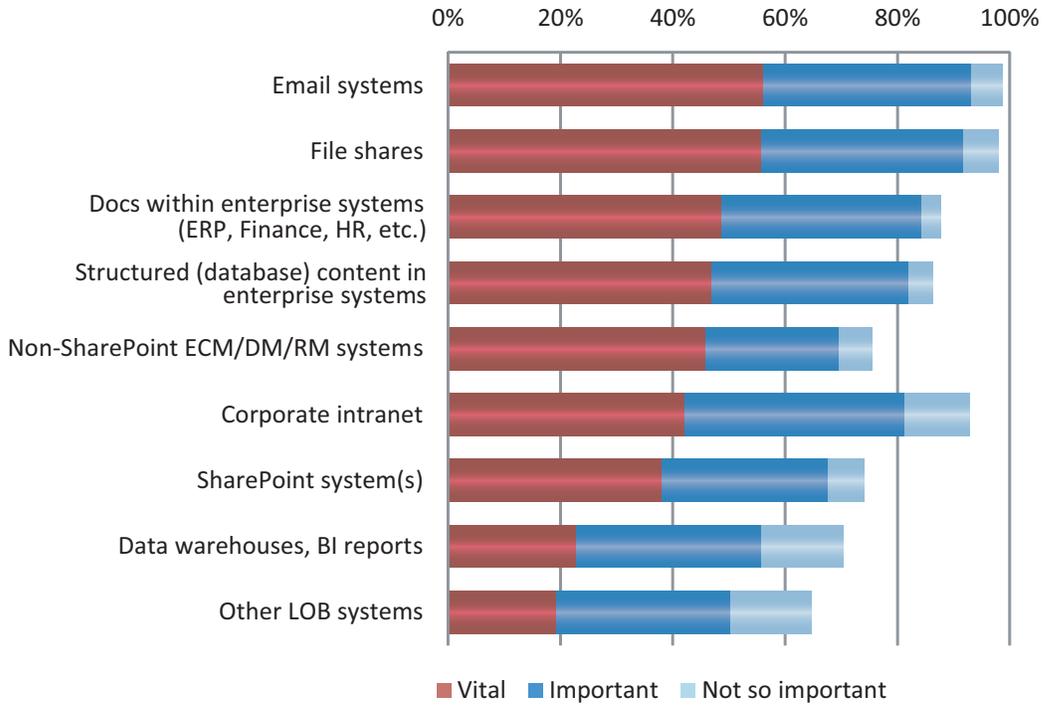
Content Silos

Many organizations have multiple ECM systems – 43% companies with over 5,000 employees have four or more¹. Where possible, most organizations (54%) would like to consolidate around a single system, including 19% preferring to build around a new ECM suite¹. There are clearly benefits to be gained, not least of which is the simplicity of searching across a single repository of unstructured content, and the fact that classifications and taxonomies will be aligned. There are also benefits to this often-described ‘single source of the truth’ when it comes to applying and aligning information governance policies such as access security, retention periods and legal holds.

However, this only solves one part of the problem. As we can see in *Figure 1*, there are many other places and systems within most enterprises where useful content is held and maintained. It manifests itself most obviously in the need for enterprise search, but as we will see later, the other alignment issues also apply.

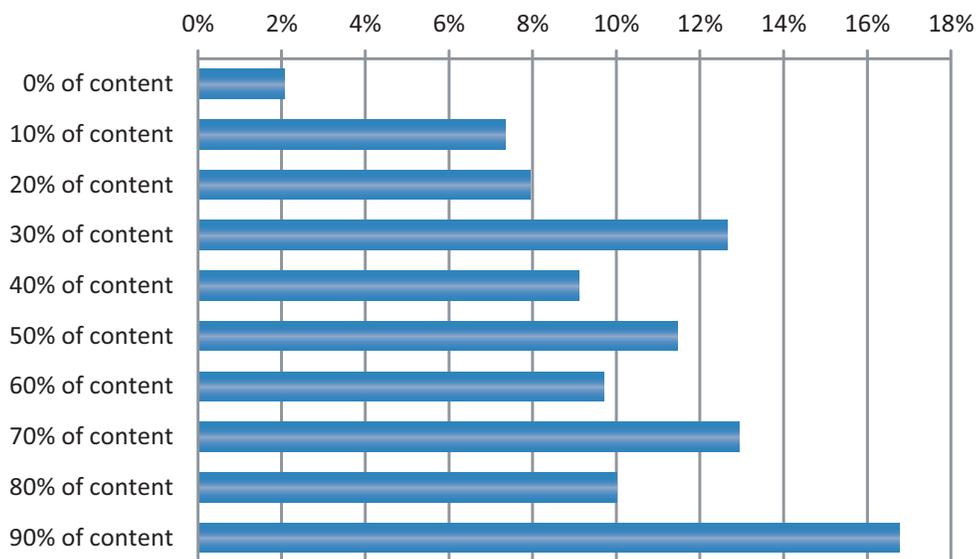
We see that after email systems and file shares, each listed as “vital” by a majority (56%), 49% also consider it vital to be able to search documents held within other enterprise systems such as ERP, Finance and HR, with a further 36% considering it “important”. This comes even higher in ranking than searching across other ECM, document management or records management systems. Note also that searching for structured or database content residing in enterprise systems is also considered to be essential.

Figure 1: Which of the following places or repositories is it important for your employees to be able to easily search? (N=304)²



It may come as a surprise to those who think of ERP and Finance systems as holding only transactional data to see just how much unstructured content is actually stored within them. When we asked in *Figure 2* what proportion of unstructured content is stored outside of the ECM system and is not accessible through it, the range is very wide, but for 61% of organizations, the estimate is that half or more of their unstructured content resides in non-ECM systems.

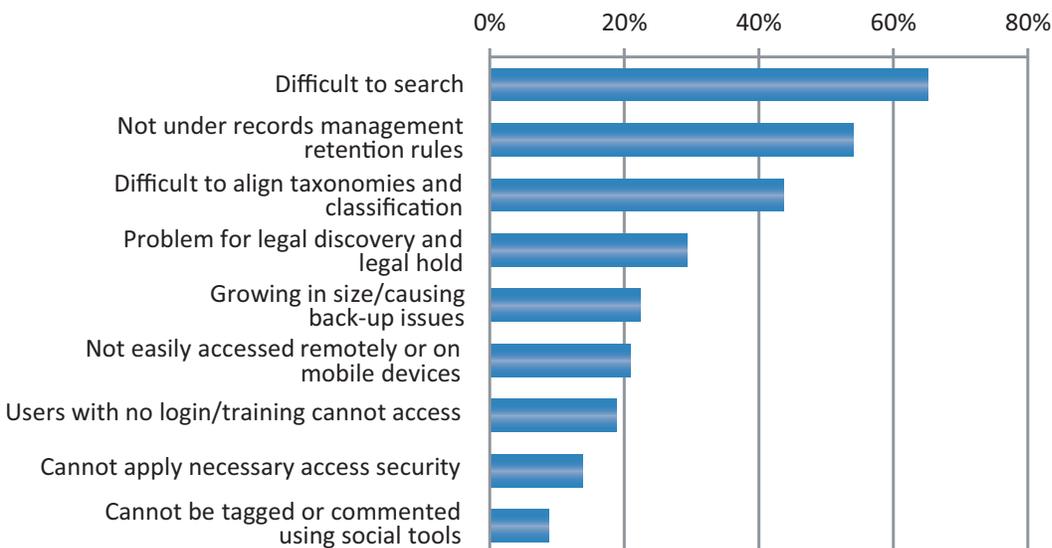
Figure 2: What proportion of your unstructured content and documents (excluding emails) would you say is stored in other enterprise systems (ERP, HR, Finance, CRM, Project Management, LOB, etc.) rather than in your ECM/DM system(s), and is not accessible through your ECM/DM system(s)? (N=390)¹



Following that up, we asked (*Figure 3*) what problems arise with content that is stored in non-ECM enterprise systems. Difficulty of searching and not being under records management retention rules are the biggest issues, along with the alignment problem we described earlier for taxonomy and classification. The next issue is that all Electronically Stored Information (ESI) is eligible for litigation discovery, and therefore is potentially subject to legal hold, but most repositories outside of ECM/RM have no facilities for this.

Beyond the fact that unstructured content can create access permission, search, and storage issues when combined with transactional databases, there is the issue of remote access and collaboration. Remote and travelling staff need to be able to access key unstructured content on mobile devices, and most modern ECM systems are now able to share content with collaboration partners through hybrid cloud connections. It is much less likely that ERP and Finance systems will have this functionality in a readily usable way, and they are likely to rely heavily on VPN and remote access connections, which can be troublesome, especially for external partners.

Figure 3: What would you say are the three main problems with content that is stored within your other non-ECM enterprise systems? (Max THREE)¹ (N=392)



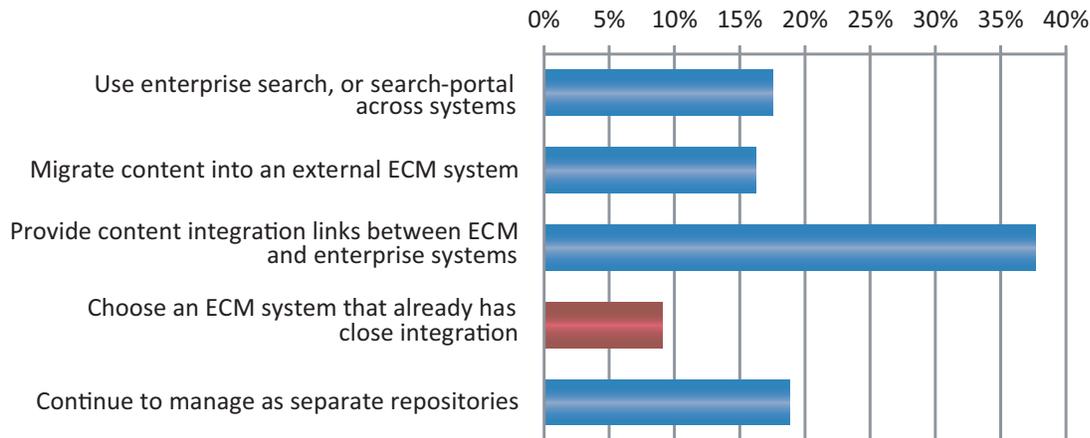
Addressing the Silo Issue

Solving the problem of universal (but controlled) content access regardless of its location is the great barrier that most organizations need to overcome. There are a number of possible strategies. One is to provide an enterprise search capability, and connect it across multiple repositories. This can be a very useful mechanism, but as we reported in our Search and Discovery survey³, the biggest issue reported (40%) was a continued difficulty in accessing content in other systems due to mismatched taxonomies and inadequate connectors. There is also a huge concern over security (72%), and mapping this across different systems can prove to be very difficult. In strategy terms (*Figure 4*), 18% of organizations have adopted enterprise search as their primary strategy to provide universal access.

The next option (16%) is to migrate content from the enterprise business systems into an external ECM system, which can be done on a one-off, or a continuous basis. This can be effective and provides the opportunity for metadata mapping along the way, unifying content types, classification terms, and security levels, etc., but a big drawback is that very often, ERP users will no longer be able to access the content from their own ERP screens. As we will see later, the ideal scenario is that users of the ERP system can access content held in the ECM system within their transaction process, and ECM users can see related content and transactions held in the ERP, preferably without needing to negotiate the idiosyncrasies of the system it resides in.

The most popular strategy (38%) is to provide content integration links between the ECM system and the ERP systems. This way, users of either system can access the content, assuming that the link is bilateral. However, in many cases, the connection will have been originally set up to handle only invoice processing for accounts payable (AP), and may be quite limited in scope. The reverse issue of authorized ECM users readily viewing relevant, related transaction data in ERP is frequently overlooked.

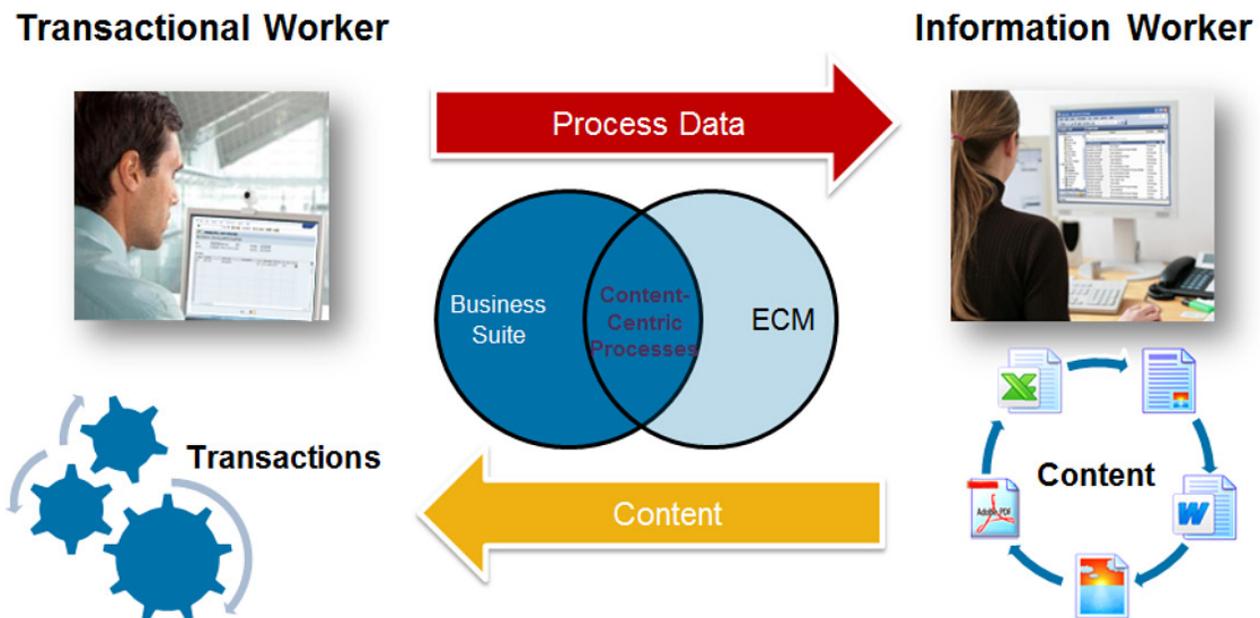
Figure 4: What is your strategy to address the issues of content stored within other enterprise systems? (N=308, excl. 70 Don't Know)¹



The CMIS (Content Management Interoperability Services) standard can assist with creating more versatile interconnections, but does not yet extend to the more subtle issues of metadata mapping and information governance (IG) policy alignment. Many organizations develop connectors between their systems in-house or as custom developments, raising issues of on-going maintenance as the ERP system and the ECM system undergo successive revisions. Maintaining integration when some content is extended to a hybrid cloud or to mobile devices will also need to be addressed.

The next option highlighted in *Figure 4* is to choose an ECM system that already has close integration with the ERP or other enterprise systems, along the lines shown conceptually in *Figure 5*. This could be something of a luxury reserved for those who are in a position to replace their existing ECM system(s), or are implementing for the first time, but 9% of the survey sample are opting for this as a strategy. There is no doubt that the need to update many legacy systems, providing modern cloud and mobile capabilities – or even instituting a genuine records management capability – is driving a replacement cycle. A primary factor for these decision-makers to consider is the ease of integration with other core systems, in particular the ERP system, which in the majority of larger organizations will either be from SAP or Oracle.

Figure 5: Solving the dual-screen dilemma.



Storing Content in Transactional Systems

There has been a long debate about the wisdom of storing large, unstructured content files inside transactional databases as Binary Large Objects (BLOBS). Historically, this applied to scanned image files, but increasingly these days would include MS-Word documents, Excel files and the like, and even video files or voice recordings. Although in theory there is no need to separate these objects and store them in a dedicated file store or content library under the operating system, there can be a number of advantages in doing so. As the frequency of access to these files and records diminishes over time, the use of tiered storage for this content element could lead to storage rationalization and cost savings. Also, if they are stored as BLOB files inside the transactional database itself, they are likely to end up on high-availability, premium storage media. Even though the largest volumes may represent archival and possibly redundant content, premium price ‘transaction speed’ storage media will be required – and these days that might well include more costly solid state devices (SSDs). This will also have follow-on effects in back up and in disaster recovery. It may also limit the ability to de-duplicate and compress, and could also have an effect on overall transaction performance.

This issue can be addressed at the business solution level by splitting out the large content files and retaining stubs or links in the transactional database. This is the approach generally taken by SAP in ERP (ECC) and other SAP ArchiveLink-enabled modules for archival content, although loosely coupled ECM systems may not be able to ensure that full use is made of it. Oracle E-Business Suite, on the other hand, continues to pursue the “store it all in one pot” approach, relying on specific tuning to maintain database performance. Close integration of the ECM system with the ERP system can allow for off-loading of content files to dedicated archive storage on an appropriate choice of storage media, suitably de-duped, compressed and secured. In well-designed systems, ECM-managed optional or dedicated archive storage provides built-in support for protected storage devices such as Centera or SnapLock, as well as tiered options for lifecycle management and archiving in general. This can produce a major reduction in storage costs compared to high-end transactional database storage of between 10 and 30 times.

Ensuring Process Continuity

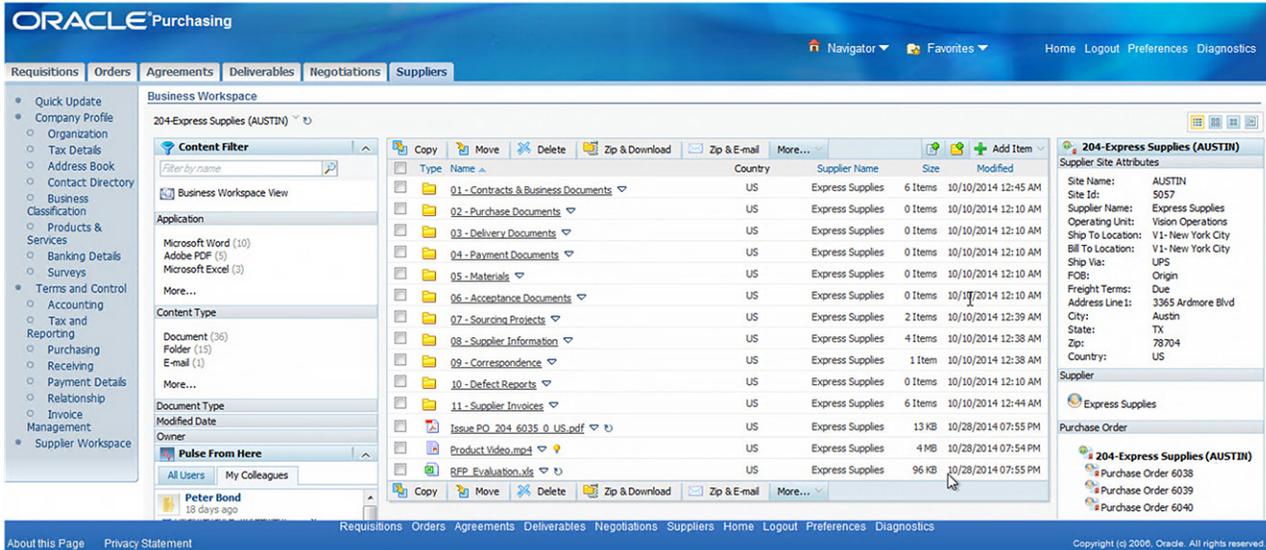
The first level of this issue is that for any end-to-end transactional business process, some related content may live within the ERP system and some may live outside – either in ECM, or more often in file shares, or perhaps in a capture system for inbound paper forms and documents. For other, more document-centric processes, such as invoice processing in AP, the process workflow itself may actually live outside of the ERP, in the capture system, in ECM, or in a separate BPM system, but requiring transactional details to be accessed from ERP to facilitate, for example, 3-way matching to successfully complete processing of a purchase order. As a result, those involved in the process operation have to go into more than one system in order to get their job done.

While this could be considered an inconvenience, it is not necessarily a showstopper. But the next level of the problem is that if documents involved in the workflow need to be approved, revised or signed-off, or if the next step of a BPM-driven process needs a check that a particular verification document has been received, or if a number of documents need to be shared with external project members, things get more complicated. Added to this is the fact that relatively few people will have a login and appropriate rights in both the ERP system and the ECM or capture system. The likelihood is that documents will end up being attached to emails for multiple recipients, that governance and compliance steps will be missed, or that workflows will be held up until a key approver returns to their office. Those in the ERP workflow will not be able to monitor this hold up until the off-site documents are returned.

Referential Integrity

Most integrations between ERP and ECM rely on index keys such as supplier IDs, invoice numbers, asset numbers, part numbers, etc. to make the reference link between the two systems. So if, for example, we are purchasing an item for inventory, the part number in ERP will give us the link in ECM to related data sheets, supplier correspondence, or health and safety instructions. As part of the procurement process, we may need to get sign off from the design department for use of an alternative part, which comes from a different approved supplier. The designer may be working remotely as part of a multi-company design team, and will receive a workflow instruction through ECM to sign-off the substitution. They may need to look at the delivery record of the new supplier, which involves a cross-reference back into ERP, which the designer working in ECM does not have login access to. If the integration with ERP has been undertaken in a closely coupled way, there will be strong cross-reference links to related and viewable records and data within the ERP for key “need to know” ECM users, which will also update if the preferred supplier is subsequently changed.

Figure 6: Example of a close-coupled system showing document folders, documents and content search from ECM together with ERP-provided Supplier attributes, directly within the ECM Supplier Business Workspace, integrated in an Oracle ERP. Links to corresponding PO Workspaces for the supplier shown at lower right.

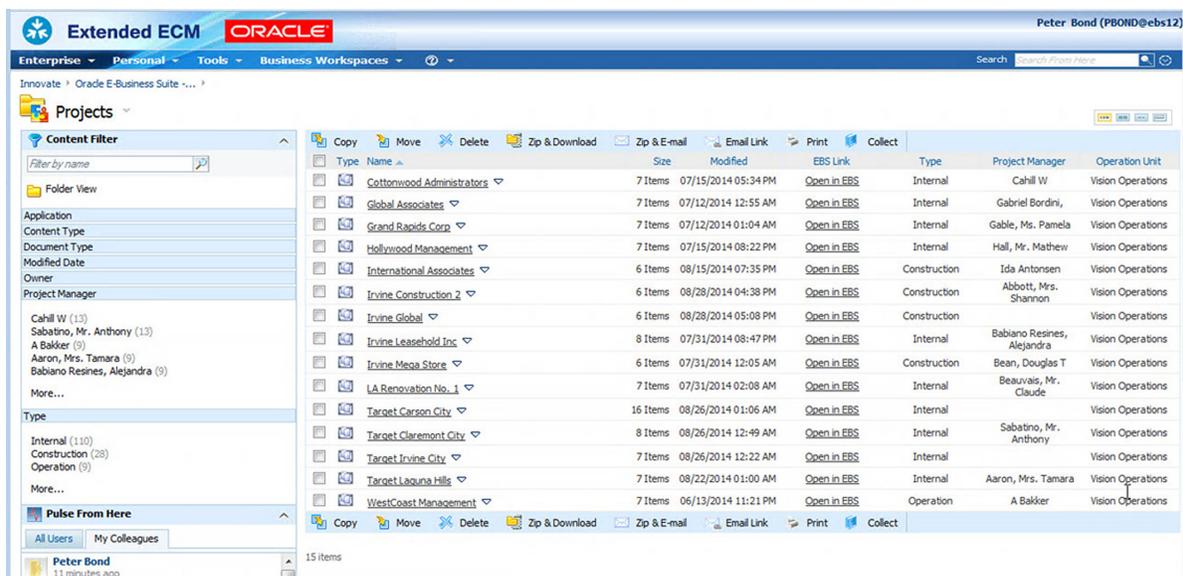


Project Management

Financial management of large projects, or even the bidding process in advance of large projects, demands specialist capabilities from the business system to manage the predicted costs, actual costs, and carried-forward outcomes into the next project bid. Such a system will also amass a considerable amount of documentation in support of the bid, and during the project itself. Much of this will be of a financial or contractual nature. Meanwhile, there will be many other documents, schedules, work instructions, etc., raised as part of the project management and coordination. If these two sets of documentation are held on different systems, cross-referencing will become difficult, particularly as teams form and disperse, as dates and delivery items change, and the project moves through its different stages.

Even if the documentation is all stored in an ECM system, with appropriate links via key index numbers and other metadata fields to the financial or ERP system, carry-forward to future bids and projects is likely to be difficult. Once again, close-coupling of the ECM system, and the ability for those working in either system to pull up the relevant cost information, contract terms, delivery times, etc., is a major contributor to the informed decision-making which is so essential to profitable contract work.

Figure 7: Example of the same close-coupled system from an ECM user's view showing document folders in ECM - and content search by both ECM and ERP attributes - with cross-referenced columns from Project Management in ERP, and direct links to view further project data in ERP, for this ERP-licensed ECM user.



Case Management

Many business processes have struggled to fit into conventional workflows because the outcome may not be known at the start of the process, or the workflow may need to be re-configured during the process. Based on the traditional case-file, many case-based processes utilize an ECM system to provide a document wrapper or folder that is utilized by the case workers involved in order to build up a “dossier” of information related to the procedure, claim, investigation, or application being processed. More advanced ECM systems will also provide flexible and intelligent workflow management (BPM) that can be invoked as appropriate during the case or project.

However, most cases will also have a transactional element – a purchase history, an admissions record, a credit score, consultation fees, etc. which are stored on the financial system or ERP-based line-of-business system. For example, an insurance claim for a major loss may be initiated in the claims process, be followed up for investigation using a case management workflow in the ECM system, and then revert to the finance system for payment and future premium adjustment. At each stage in this process, cross-referencing may be required between the two systems, and various levels of sign-off or approval may be needed both for report submissions and for payment transactions. In a close-coupled integration, the hand-offs between these two workflows can be readily handled and monitored in one place. A loosely coupled integration, or no integration at all, may well result in delays and errors.

The Broader Case

This drive for process integration presents a powerful argument for close coupling between ECM and ERP, but what should we expect of the ECM system itself? There are a number of capture and workflow systems that present themselves as a module within the ERP system. They will generally take care of inbound documents (frequently scanned paper forms and invoices), populate the business system database, and workflow the process, to a transactional conclusion.

However, most organizations have a much wider view of content management, information governance, and collaboration. Quite rightly, they would prefer to take a holistic view of their requirements. While they are looking to make a good match between the established business system and ECM, they also need advanced functionality within the ECM system itself. It is all too easy to end up with a dedicated capture system for transactional processes, SharePoint for document management and project collaboration, and a further distinct system for records management – and possibly a dedicated case management or asset management system too. Alternatively, they may choose a document management and collaboration hub aligned with the ERP system itself, which is mismatched to existing capture systems, and has limited records management capability to match the needs of specific industry sectors or compliance regimes. Best-of-breed solutions should always be tempered with the need to reduce complexity and maintain secure and robust interconnection, preferably through productized and maintained integration connectors.

Conclusion and Recommendations

We are all familiar with twin-screen users, or window-switchers, who need simultaneous access to several corporate systems in order to do their job. Frequently it involves marrying inbound documents to transactional processes, or project documents to bid-management, or field reporting to asset maintenance, or assessment reports to claims management. It generally involves duplicate searches or cut-and-paste of index numbers, but the job gets done. Unfortunately, these situations frequently represent a disconnect in the process workflow, or a risk to compliance, or a delay in approval loops, or a resort to document sharing via “out-of-process” email. It also contributes to the user adoption issues that many organizations have with their ECM and RM systems.

The solution is to integrate financial and ERP systems to content-based ECM systems, with the objective of combining access to both types of information onto a single screen, such that a user is not disadvantaged by logging into the ERP system or the ECM system: they can interact with both content and process from either. The goal is to achieve as close an integration as possible, with single point content access, seamless workflows, and mirrored permissions matching. This seamless, single-screen access to multiple systems may also be extended to SharePoint, where it can bridge the gap⁴ between the familiar content-sharing screen, and the robust records management that will have been provided as an underlay to both ERP and ECM.

Of course, this is not to suggest that the ECM system becomes subservient to the ERP. The ECM system should also provide modern functions such as extended access through cloud and mobile, local and federated search, distributed and multi-channel capture, robust records management, efficient archiving, and flexible case management.

Broad, deep and unobtrusive integration between ERP and ECM systems is a tall order, and one that goes well beyond technical connections to demand real-world experience across a range of line-of-business requirements. Despite the flexibility required, the integration solution is best sourced from the ECM supplier and should be productized and maintained across multiple platform variants and releases by them, avoiding the need for user organizations to recruit and retain deep in-house expertise. For those looking to consolidate and modernize across multiple content systems, collaboration, inbound capture, BPM and records archive, the level at which a potential replacement ECM system integrates with the established ERP system, and the degree of expertise and experience embodied in that integration, is a vital part of the requirements specification.

Recommendations

- Audit the content repositories that reside within your ERP system, paying particular attention to ease of search, governance and retention, and storage requirements.
- If you are storing large amounts of archived content in high availability database storage (as BLOBs), consider how (and whether) the business system might make better use of external tiered storage to reduce data center costs.
- Audit who currently has access to these repositories and who could make good use of the content if they had simpler access. Include the remote/mobile workforce and external partners.
- Look at the processes that call up content from these repositories, or archive content to them, but also the other repositories and systems that are accessed during the process. Pay particular attention to those references needed to deal with exceptions, or to support approvals, or where documents are widely shared.
- Look at workflows that cross over between systems or that involve hand-offs between one system and the other. Include those involving inbound capture and database pre-population.
- Above all, take a look at your current content management systems and their applicability to modern needs. If you have a consolidation strategy, be sure to include the ease and level of integration that can be achieved between the preferred ECM system and the ERP system, and the robust records management that may be needed under both to meet your compliance requirements.
- Be wary of in-house developed integration. A pre-integrated vendor-supplied product will not take up internal resource to maintain through upgrades and extensions. The vendor’s intimacy with the internal mechanisms of both systems is also likely to pay rewards both in levels of functionality, and support of issues.

References

- 1 AIIM Industry Watch “ECM at the Crossroads” May 2013. www.aiim.org/research
- 2 AIIM Industry Watch “Search and Discovery – exploiting knowledge, minimizing risk” Sept 2014. www.aiim.org/research
- 3 AIIM Industry Watch “Paper Wars 2014 – an update from the battlefield” Nov 2014. www.aiim.org/research
- 4 AIIM Industry Watch “Connecting and Optimizing SharePoint – important strategy decisions” Feb 2015. www.aiim.org/research

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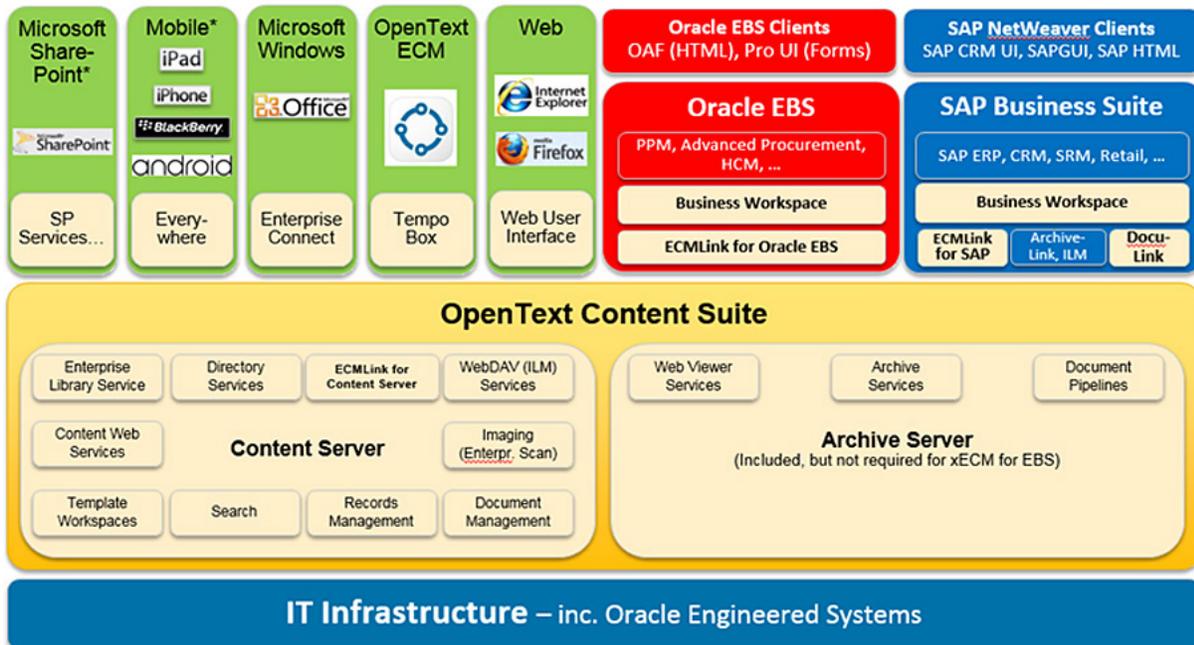
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