Connecting ERP and ECM:
Measuring the Benefits

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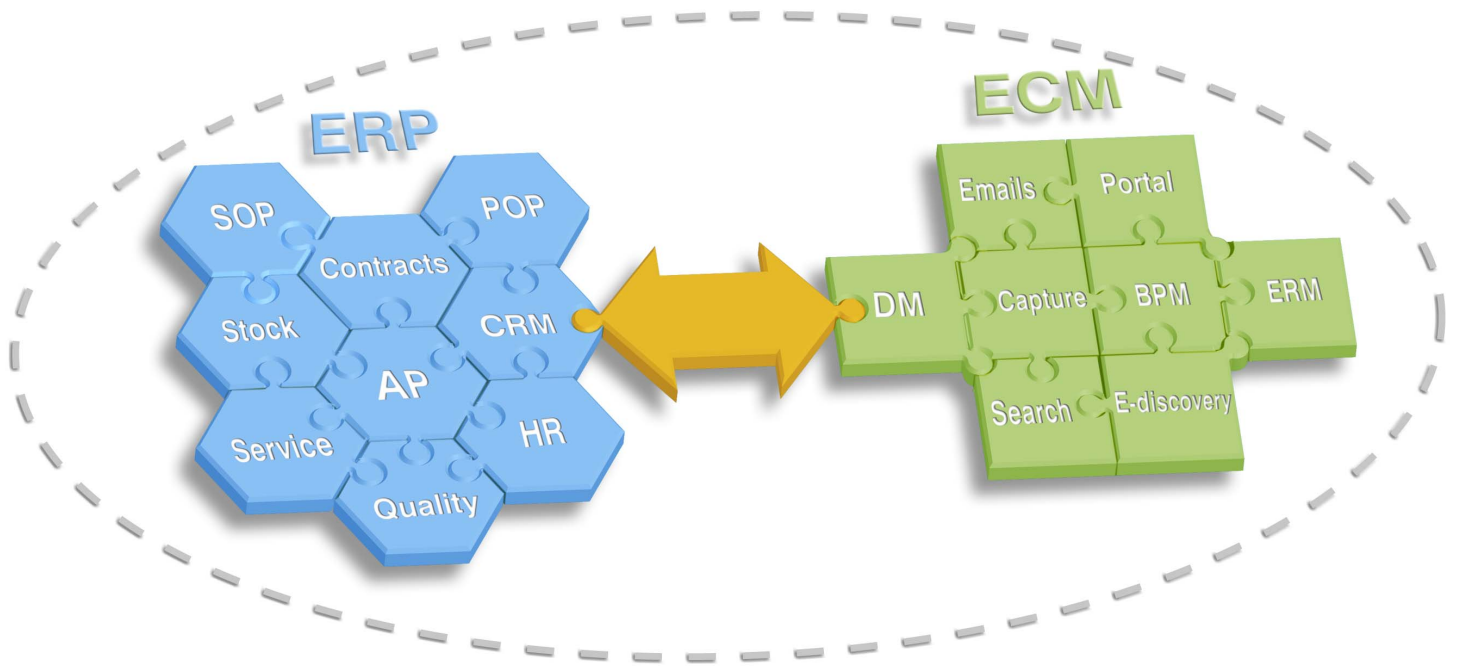
About the White Paper

As the non-profit association dedicated to nurturing, growing and supporting the ECM (Enterprise Content Management) community, AIIM is proud to provide this research at no charge. In this way the education, thought-leadership and direction provided by our work can be leveraged by the entire community. Our objective is to present the "wisdom of the crowds" based on our 65,000-strong community.

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Process used and survey demographics

The survey results quoted in this report are taken from a survey carried out between 27th January and 9th February 2010, with 479 responses from individual members of the AIIM community surveyed using a Web-based tool. Invitations to take the survey were sent via e-mail to a selection of AIIM's 65,000 registered individuals. Respondents are predominantly from North America and cover a representative spread of industry and government sectors

About AIIM

AIIM (www.aiim.org) is the community that provides education, research, and best practices to help organizations find, control and optimize their information. For more than 60 years, AIIM has been the leading non-profit organization focused on helping users to understand the challenges associated with managing documents, content, records and business processes. Today, AIIM is international in scope, independent and implementation-focused, acting as the intermediary between ECM (Enterprise Content Management) users, vendors, and the channel.

About the author

Doug Miles is Director of the AIIM Market Intelligence Division. He has over 25 years experience of working with users and vendors across a broad spectrum of IT applications. An early pioneer of document management systems, Doug has been involved in their evolution from technical solution to enterprise infrastructure platform. Most recently, Doug has produced a number of the AIIM survey reports on user issues and drivers for ECM, Email Management, Records Management, SharePoint and Enterprise 2.0. He has also worked closely with other enterprise-level IT systems such as ERP, CRM and BI, has an MSc in Communications Engineering and is a member in the UK of the Institute of Engineering and Technology.

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Introduction

ECM (Enterprise Content Management) systems have evolved to take control of more and more of the unstructured content within the enterprise – scanned documents, physical & electronic records, faxes, emails, web pages, messages, images, etc. Some systems are installed as a single enterprise-wide repository; others take a more evolutionary approach, linking existing document and content repositories through information-access portals. Key drivers for the adoption of ECM are: productivity in document-centric processes, improved knowledge-sharing, coordinated customer service, reduced compliance risk and unified legal discovery.

Meanwhile, ERP (Enterprise Resource Planning) systems have taken control of the structured data content within the enterprise, from finance to service, from CRM to HR. However, within each of the application processes in ERP, there are often textual documents supporting the purely transactional data. Product data sheets, customer correspondence, quality reports, contract proposals, asset drawings and appraisement reports are important parts of their related business processes. Indeed, some paper items such as invoices, remittance notes, delivery notes and claim forms are integral to otherwise heavily transactional processes.

The challenge, therefore, is to align these document-centric business processes with the ERP transaction data, whilst at the same time integrating the ERP-stored repositories of document information into the overall enterprise content management strategy. Users who have integrated their systems are reaping a strong return on investment from gains in productivity, customer service and knowledge access.

In this report, we set out to explore the business drivers for integrating ERP and ECM systems, the issues faced and the returns being achieved. We measure the current levels of integration, the connection strategies adopted and the preferred choice of supplier-type.

Key Findings

■ 27% of respondents who ranked themselves at a mature Level 4 or 5 for the completeness of their ERP installation only reached maturity Level 1 or 2 for their ECM practices.

■ The biggest business benefit given by our respondents for linking ERP and ECM is the productivity gained by linking document and process workflows, followed by improved customer service and then knowledge sharing.

■ Accounts payable is the best performing integration, followed by HR, Project Management and CRM.

■ Invoice Number, Customer Number and Purchase Order Number are the most popular process integration links between ERP and ECM, with Contract Number as an important document integration link.

■ 68% considered that linking ERP and ECM gave a better or much better return on investment than other IT integration projects.

■ The biggest issue encountered by users was deciding which systems or portals to consolidate around, followed by the difficulty of convincing process owners. Mismatch of metadata standards came next.

■ Amongst non-users, technical complexity and maintenance of links were the biggest concerns, followed by the political issue that ERP and ECM do not have the same project managers or sponsors. Increased licensing cost for wider client rollout was also an issue, as was divergence of ECM systems across the enterprise.

■ 31% of respondents are using standard, vendor-supplied connectors to integrate ERP and ECM systems, but a total of 38% are using custom developed links - 24% in-house developed and 14% custom-developed by the vendor.

■ 53% have a portal to provide single point of access to ERP and ECM content or plan to have one in the next 12 months.

■ An ERP portal linking to ECM content (27%) is much more popular than an ECM portal picking up ERP content (7%), although 24% have chosen SharePoint as their portal, and may consider it to also be their ECM system.

- Within our sample, 47% have business process links and 34% have document access links, but only 12% can declare a record within ERP for migration to, or management by, a dedicated records management system and only 5% are able to implement a single-point legal hold across records in both ERP and ECM.

- SAP is the primary ERP supplier for 48% of our respondents, with 24% Oracle and 12% Microsoft.

- As regards ECM supplier, 23% are using SharePoint, with EMC/Documentum, Open Text, IBM/Filenet and Oracle/Stellent all taking around a 10-12% share.

- Asked "How would you feel about sourcing your ERP and ECM from the same supplier?" 13% already source from the same supplier and 42% agree that it could have benefits and they might consider it. 20% are committed to their existing supplier and 24% prefer the flexibility of different suppliers.

- In terms of more specific content management elements, ECM suppliers are preferred in most cases, although BPM is the most likely to be sourced from the ERP supplier, and email management from a best-of-breed supplier.

ERP and ECM maturity

Given the range of business types and sizes in our survey, it is no surprise that we see a wide range of maturity in both the ERP installations and the ECM installations. In general, however, we can see that ERP is more complete, with 32% judging themselves to be at Level 5, indicating "integration of, eg, finance, orders, stock, primary line of business, CRM, HR, contracts and service". As might be expected, manufacturing and construction companies tend to have more extensive integrations than the financial sector. ECM, on the other hand, shows only 19% at Level 5, "eg, integrated access to multiple content types across multiple departments". This is surprisingly consistent across the different sectors, but here the financial sector shows a slight edge.

Figure 1: On a scale of 1-5, how extensive is your ERP integrated applications suite/ECM implementation? (N=376, >100 employees)
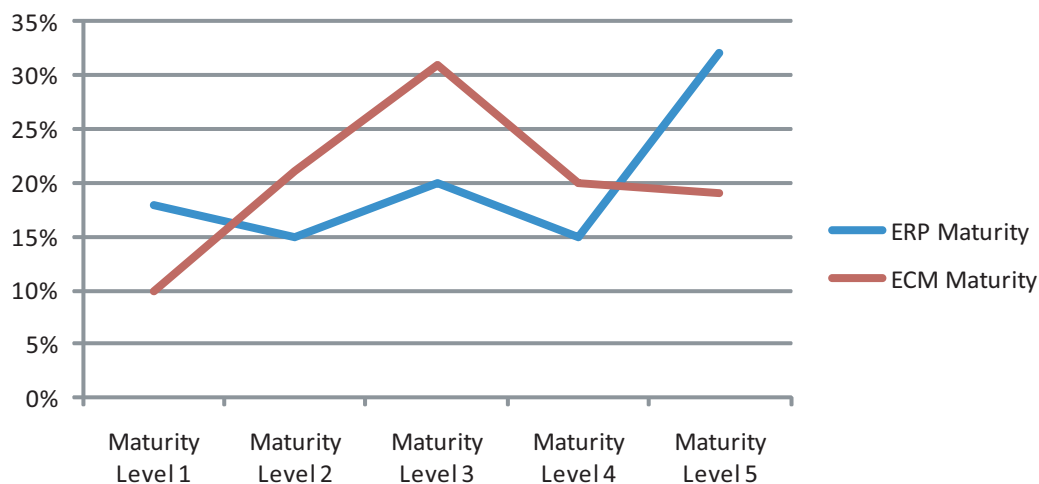
Looking at the correlation between ERP and ECM maturity within organizations, we found that 27% of respondents who ranked themselves as Level 4 or 5 for ERP maturity only reached Level 1 or 2 for ECM maturity, reflecting the higher levels of ERP integration in manufacturing compared to government or finance, but with less historical interest in ECM due to a lower level of compliance and regulatory requirement.

Business Drivers

There are two major aspects of linking ERP and ECM, one as part of a business process and the other as a document search and management link. For example, an accounts payable application may scan the invoice in ECM and workflow its sign-off path, whilst correlating the order number in ERP and checking the item stock codes and order quantities. On the other hand, as a document-only link, a customer service ticket in ERP or CRM may link to a scanned letter from the customer stored in ECM.

Figure 2: Which of the following would you say are the TWO biggest benefits of linking ERP and ECM?
(N=296, linked systems, >100 employees)
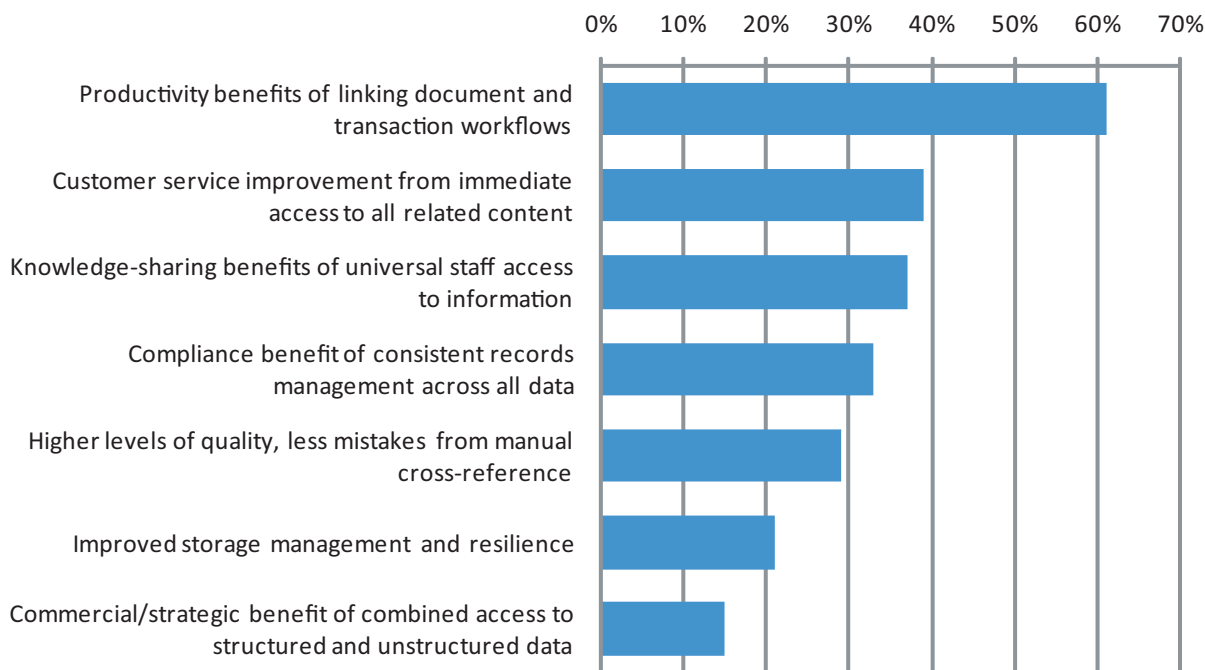
As we can see in Figure 2, the most valued links are those involving transaction workflows, with the resultant improvements in productivity. Interestingly, improved customer service and knowledge-sharing are rated more highly than consistency of compliance. We also see that the longer-term strategic vision of a joint infrastructure between structured and unstructured data has yet to resonate with users – at least at the practitioner level.

Figure 3: In your organization, which business process is currently the most in need of integration with content/document management? (N=120, non-linked, >100 employees)
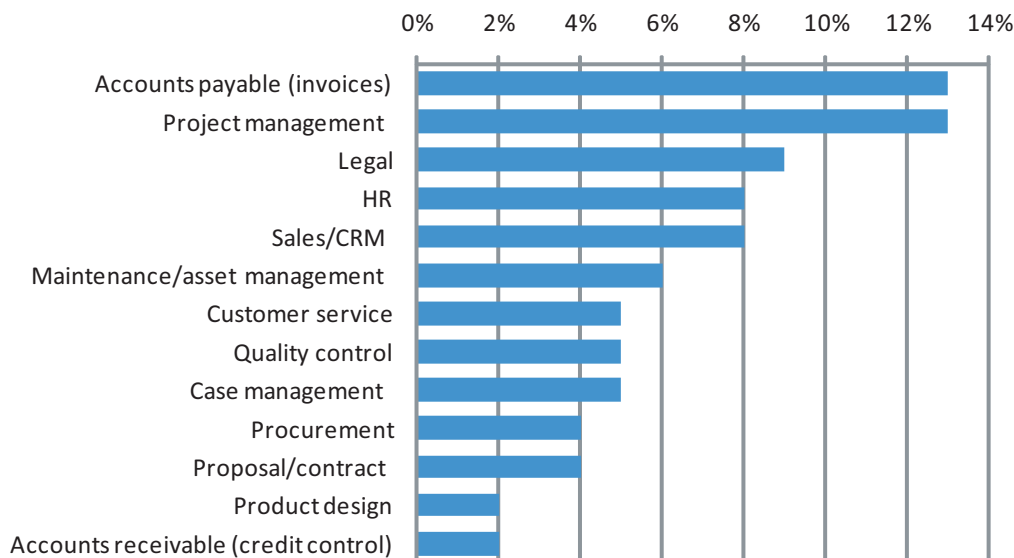
When we asked those users who do not have linked systems where their priorities lay, Accounts Payable was the most sought after link – probably because it is known to provide good business process returns – followed by Project Management, Legal and HR, which are all related to document findability. Next is Sales/CRM, which highlights an issue for all document linkage schemes. Most CRM systems would already have a document attachment mechanism for recording inbound and outbound customer correspondence. However, the provision of search, archive and legal hold may well be lacking compared to the functions available in a dedicated ECM or RM system. The decision then needs to be made as whether to manage these documents in place as regards e-discovery, records management and retention, or whether to migrate them to the ECM/RM system. A similar issue may well arise with Project Management and HR systems, which may already have a degree of access control and version control in their in-built document management, but these in themselves present obstacles to wider access of information by non-ERP users.

Additional points of integration can also arise from this scenario. For example, a supplier contract to a project may relate to a vendor approval process in QA and a client negotiation in CRM. For a construction project, these relationships may need to be maintained as part of the record for many years.

Adoption Levels

Given the wide range of maturity levels in ERP and ECM themselves, it is no surprise that the extent of integration between them varies widely. What we see is that 47% of respondents to this survey have implemented one or more business process links between systems. Beyond that 34% have a document link to view ECM-stored documents in ERP and 20% can pick up ERP-stored documents from ECM. One fifth of the survey have opted to automatically migrate documents from ERP into an ECM or Records Management system with 12% providing users with the ability to declare records in ERP for management by the RM system.

Given the availability of enterprise search engines able to work across both structured and unstructured data, a fairly low 17% are able to achieve a combined search across both ERP and ECM. Crucially, however, only 4% would be able to apply legal hold into both systems from a single point.

Figure 4: Which of the following integration functions have you achieved between ERP and ECM?
*(N=339)*
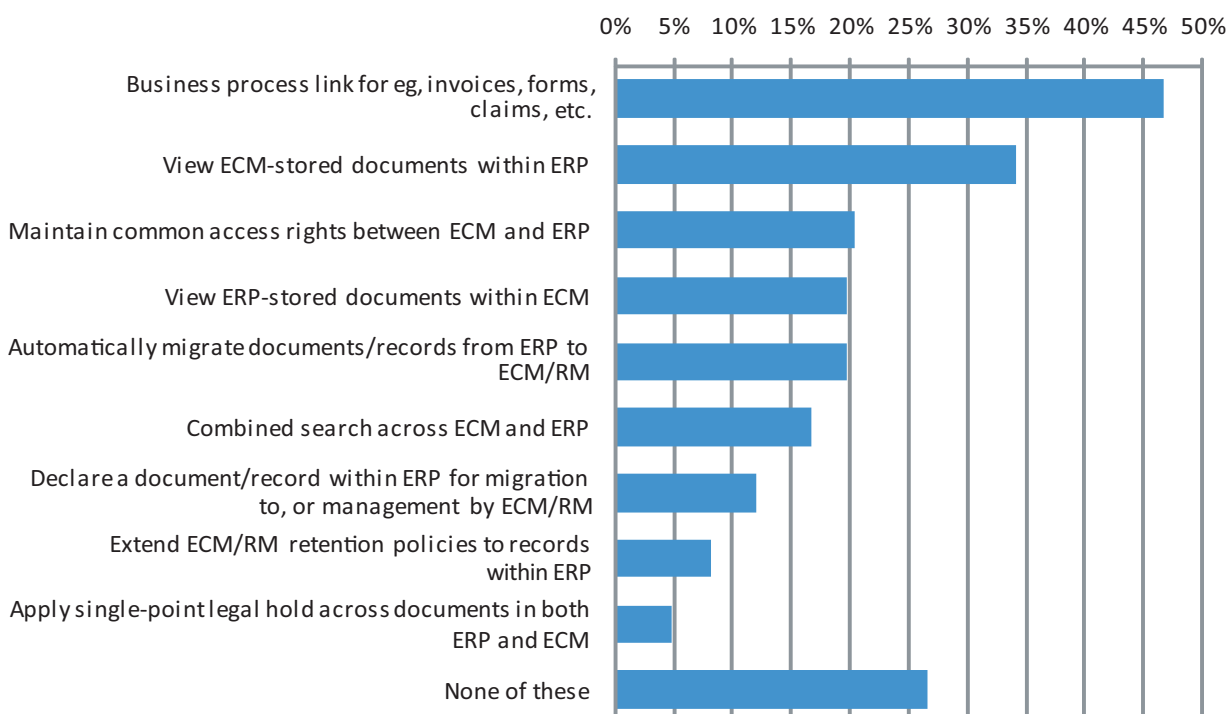
Barriers to adoption

We asked those without linked systems about the factors inhibiting them from integrating their ERP and ECM systems. Technical complexity was the highest concern, and for many the diversity of both ERP systems and ECM systems across the enterprise was an issue. Political factors are also at play with 23% indicating that "ownership" of ERP and ECM resides with different sponsors or project managers, inhibiting initiatives to link the two.

One potentially limiting factor, particularly with single-sign on portals, is the increase in client licences required to roll out concurrent access to all employees. This will be related to the maturity of both systems in terms of the percentage of staff who already have access. It is possible that the choice of migration strategies, where data is physically moved or copied between systems, is a response to this limitation. It is interesting to note, however, that even non-users feel that financial justification for the project would not be an issue.

Figure 5: Which of the following factors have influenced your strategy for linking ERP and ECM?
*(Check all that apply   (N=120, non-linked)*
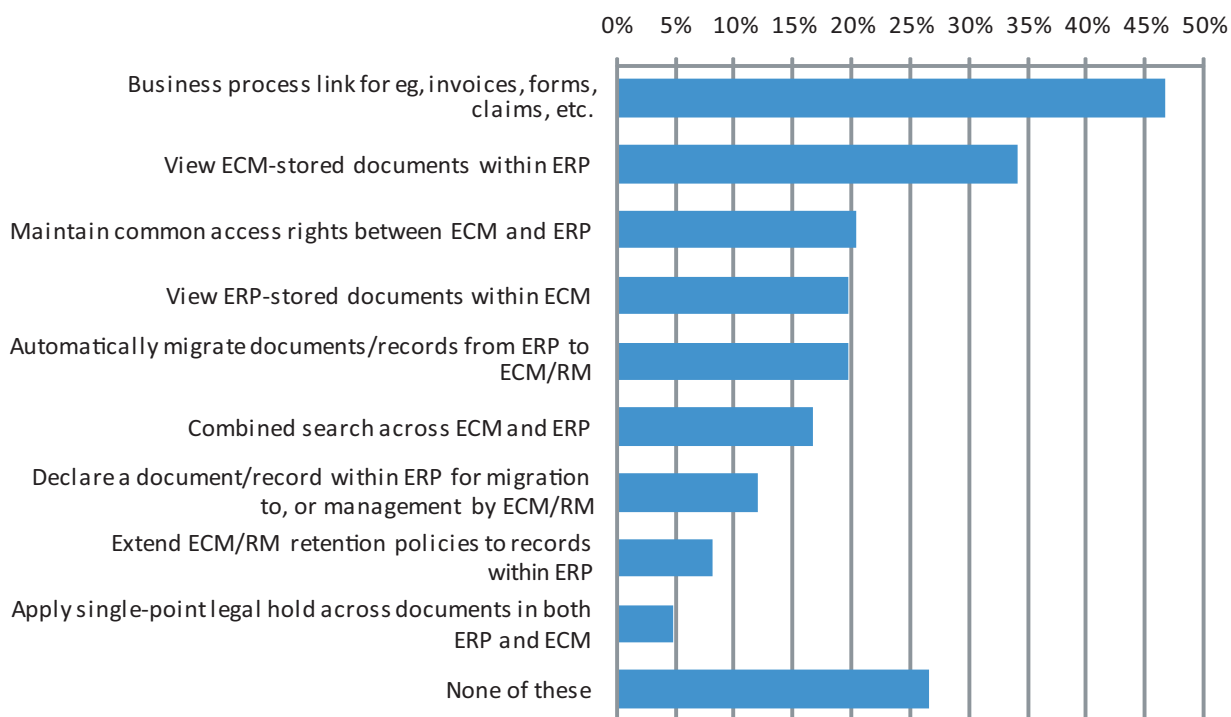
Implementation Issues

Looking at the issues encountered by those who have integrated their systems, we again see that in many organizations it is very difficult to reach a consensus as to which systems or portals to consolidate around given the different "ownership" of ERP and ECM. Beyond that, a problem that frequently arises as soon as these projects get underway is the likely mismatch of metadata standards between systems, difficult enough if migrating from one ERP system to another, let alone linking into a taxonomy-led system like ECM.

Figure 6: Which of the following issues did you encounter when integrating your ERP and ECM systems?
(Check all that apply) (N=185, linked systems)
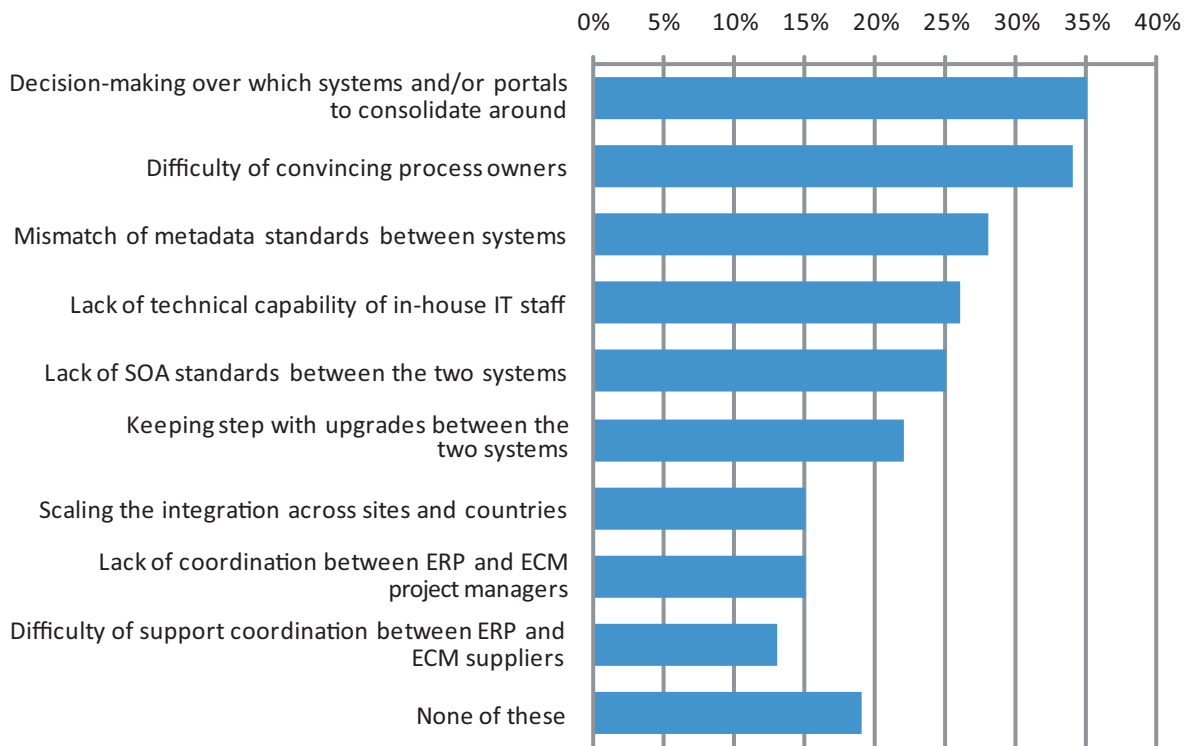
Return on Investment

As we have seen in other AIIM surveys[1,2], linking scanned document workflows to ERP-stored transactions can produce ROIs of less than 18 months for a majority of projects. In this survey, we compared the ROI for ERP to ECM integration in more general terms.

Figure 7: Given the business benefits you have achieved from linking your ECM and ERP systems, how would you describe the ROI compared to other IT integration projects? (N=185, linked systems, excl. 62, Don't know)
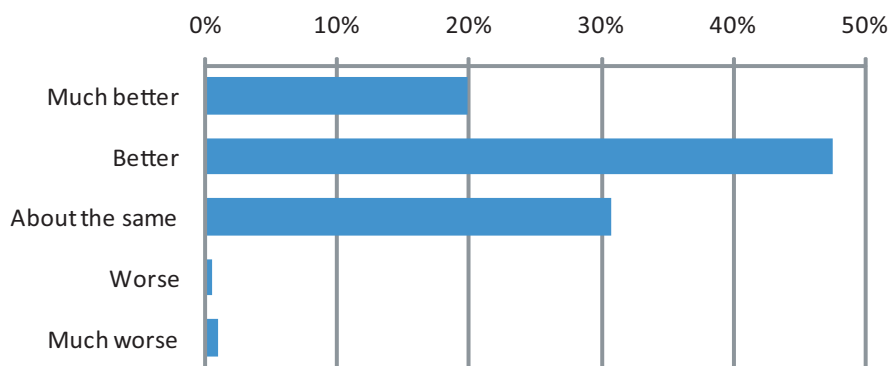

In total, 68% indicated a very positive experience. Perhaps the most remarkable aspect of this result is the near absence of "Worse" or "Much Worse" which are generally indications of failed projects.

Best Performing Applications

As mentioned earlier, invoice automation for Accounts Payable is the top performing application, In Figure 2 we looked at the processes considered a priority for those without links. In Figure 8, we see that in terms of the best performing applications in practice, Accounts Payable is easily the top performing, well ahead of HR and Project Management. Procurement and Proposals/Contracts have risen compared to Figure 2, with Legal dropping back.

Figure 8: In your organization, which business process or integration is performing best?
(N=219, linked systems)
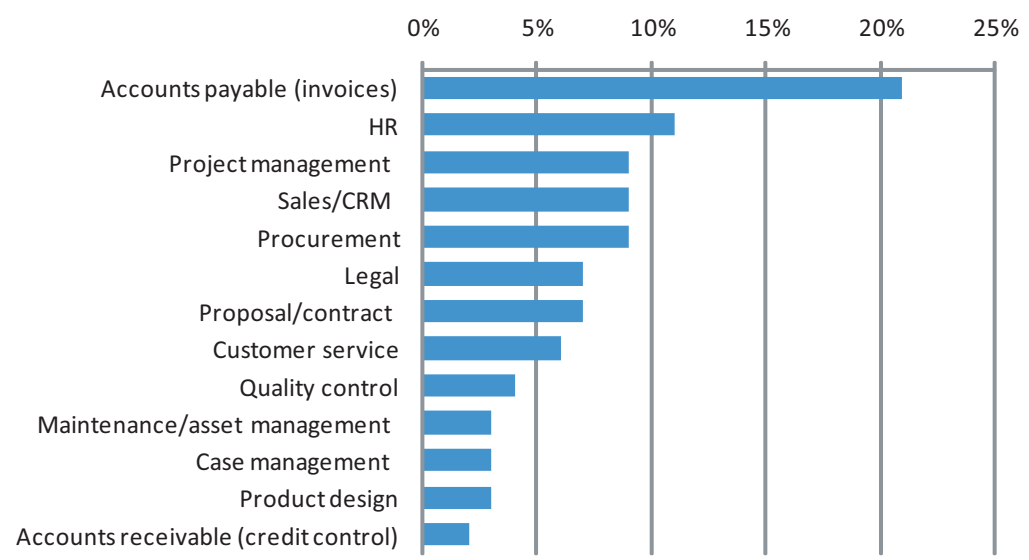

Integration Strategies

Transactional systems are characterized by reference numbers for each transaction or item, and these generally form the most appropriate link to join together documents and document-centric processes. It's interesting to note that the ordering of Figure 9 reflects those links that are in place, rather than those performing most effectively. The procurement process, for example, rates number 5 by performance, but number 2 by linkage.

Figure 9: Are your ERP and ECM/DM/RM systems linked electronically by any of the following references?
(N=219, linked systems)
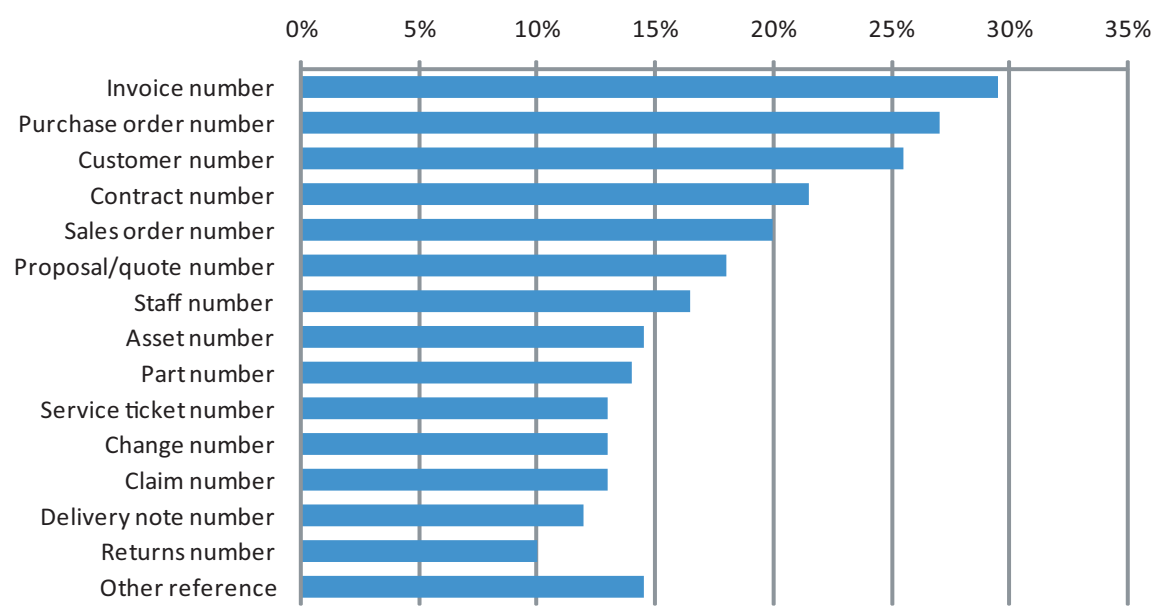
As regards the actual links themselves, although 31% are vendor-supplied and supported as standard connectors, 38% are using custom developed links - 24% in-house developed and 14% custom-developed by the vendor. This must present a concern as these links may have to be redeveloped to match system upgrades. In-house developed links are more prevalent in financial sector organizations.

Figure 10: Which connection mechanisms are you mostly using or developing to link documents and/or records between your ERP and ECM/DM/RM systems? (N=291, excl 44 Don't Knows)
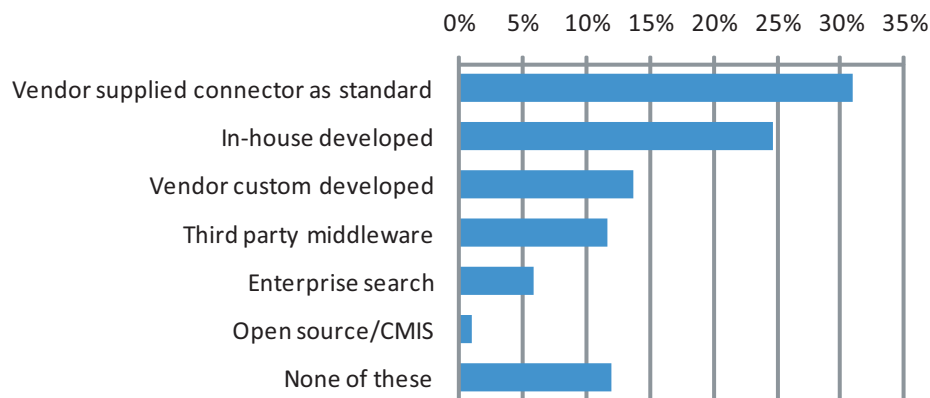
CMIS (Content Management Interoperability Services) and Open Source hardly show up at present, although the multi-vendor supported CMIS represents a major step forward in creating a standard connection protocol for exactly these purposes.

Portals

Many organizations are keen to link multiple content repositories with a single-sign-on portal that can be rolled out to all users, reflecting their particular needs, and providing internet-like single-point search. Many ERP systems already have portals or dashboards to link modules and reports and these can be adapted to include ECM.

Figure 11: Have you created, or do you have plans to create, a portal to provide single point of access to ERP and ECM content? (N=278, excl 56 Don't Knows)
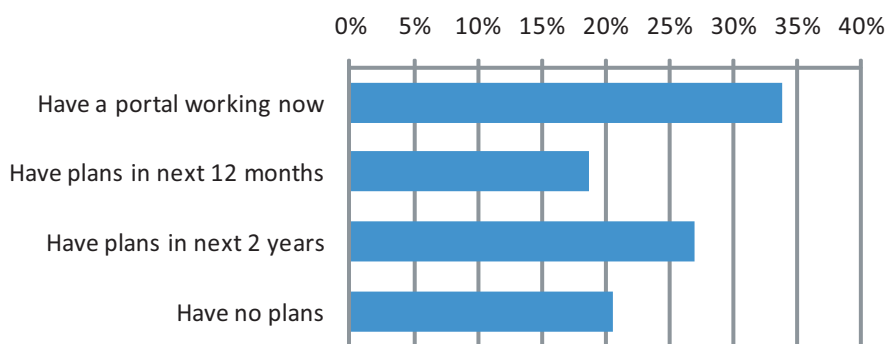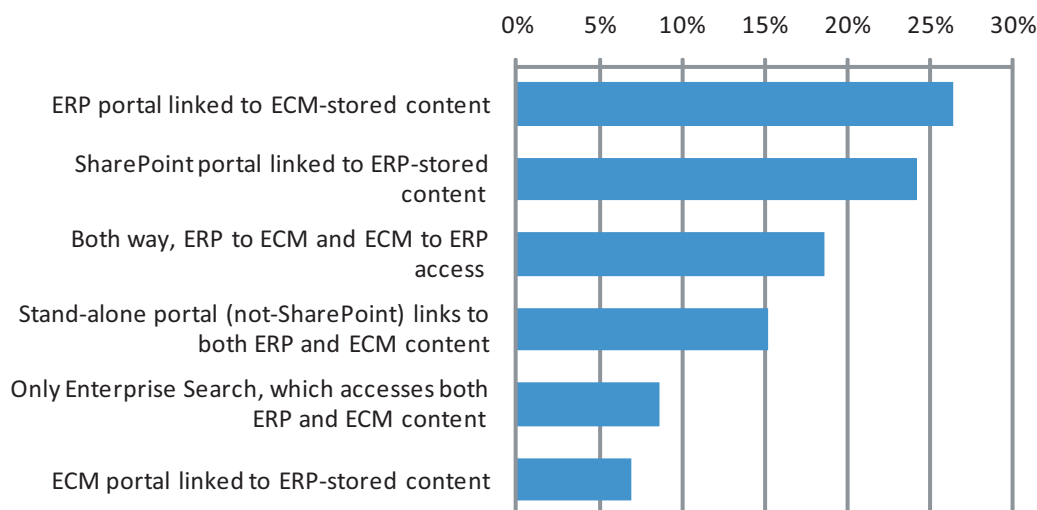

Figure 12: If you have a portal, or plans for one, which of the following best describes its architecture? (Pick the closest one only)? (N=231, excl 49 Don't Knows/No plans)

As mentioned earlier, the choice of which approach to adopt here at an enterprise level can be made many times more difficult if there is more than one ERP system and/or more than one ECM system in use across different geographies. It may also present obstacles as regards client access licences for each constituent system. The vision, however, is that any employee, subject to "allowed to know" rights, can search for and find any information that the organization knows, no matter what system it may be held on.

Supplier Choices

The core IT sourcing strategy in many organizations is that the first port of call for business applications should be their chosen ERP supplier, and the first option for support platforms should be their chosen infrastructure supplier. Only if these offerings are found to be inadequate should alternative or best-of-breed suppliers be approached. In looking at supplier choice for ECM applications, it would seem that a preferred ECM supplier policy exists in at least 50% of organizations.

Figure 13: Looking to the wider aspects of content management, who would you look to as your supplier for the following? (N=297)
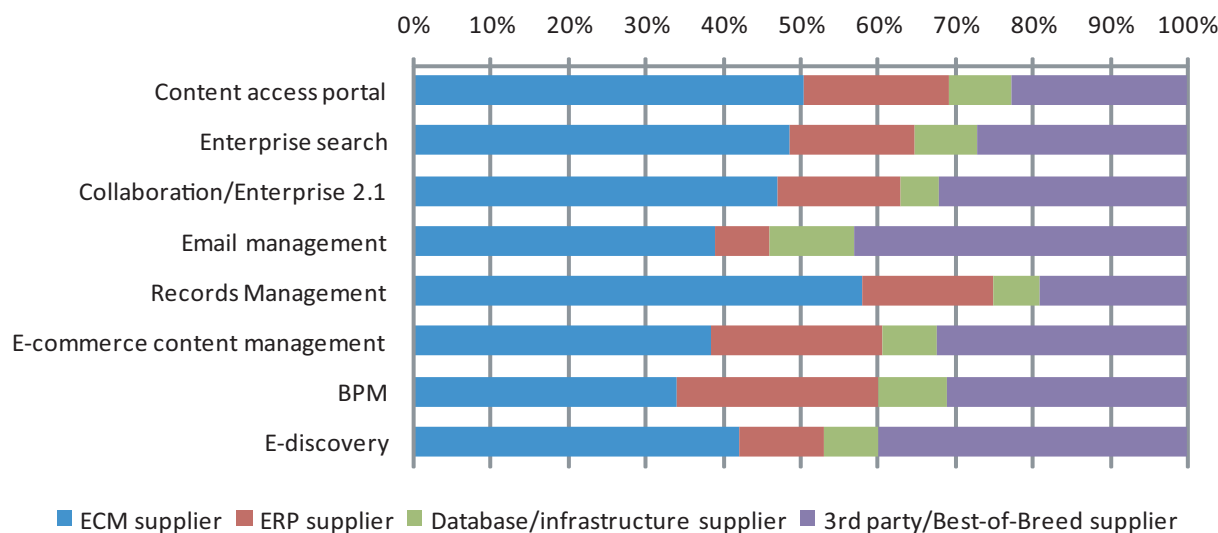
As might be expected, BPM sits closest to the ERP-style of application, but it is interesting to note that whilst Email Management is not necessarily thought of as a core part of ECM, users are not inclined to turn to their infrastructure supplier either.

Despite the relatively low showing of the ERP supplier in the above, when we asked users their willingness to consider single-sourcing their ECM from their ERP supplier, most were open to the idea, and 13% already do, particularly those in the financial sector.

Figure 14: How would you feel about sourcing your ERP and ECM from the same supplier? (N=316)
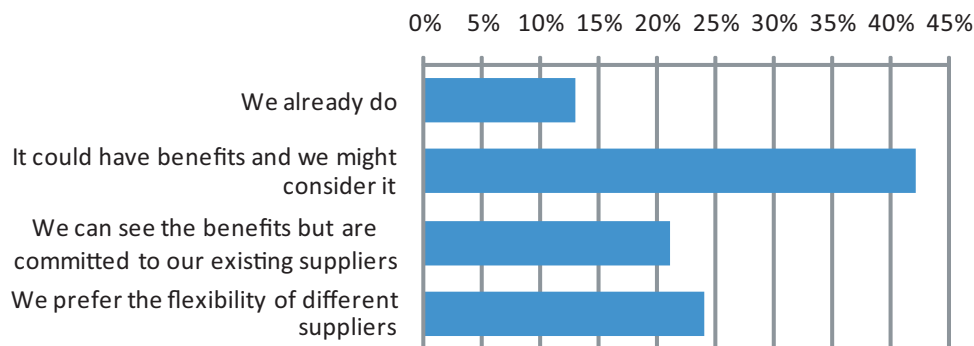
Conclusion and Recommendations

The three key benefits achieved by those who have linked their ERP and ECM systems are: productivity improvements from linking document and transaction workflows, customer service response from immediate access to all related content, and the knowledge sharing benefit of universal staff access to information.

The ROI from these projects is considered by 68% of respondents to be better or much better than other IT integration projects. Linking the accounts payable process to scanned invoices is likely to provide the quickest returns, and is the most popular starting point.

The single most popular linking mechanism is to link the ERP portal to ECM-stored content. Using SharePoint as a portal is the next most popular, followed by both-way links between ERP and ECM, which have been implemented by 18% of our respondents.

Whilst portals can satisfy the requirement for single-sign-on search and universal access by staff across the enterprise, they do not of themselves allow the application of records management and retention policies to documents that reside within the ERP system, albeit that 20% of respondents have automatic migration functions from ERP to the ECM/RM system. A benefit of both-way links is that it gives users the flexibility to access the same content from multiple user interfaces.

42% of respondents would consider sourcing their ERP and ECM system from the same supplier, and 13% already do.

References

1. AIIM Industry Watch, "BPM: are we making the most of content-driven processes?" October 2009 www.aiim.org/research

2. AIIM Industry Watch, "Document Scanning and Capture: Local, Central, Outsource - What's Working Best" December 2009, www.aiim.org/research

Appendix 1

Survey Demographics

Survey Background

The survey was taken by 479 individual members of the AIIM community between 27th January and 9th February 2010, using a Web-based tool. Invitations to take the survey were sent via email to a selection of the 65,000 AIIM community members

Organizational Size

In view of the survey topic, it was decided to exclude 92 respondents from companies smaller than 100 employees. On this basis, larger organizations (over 5,000 employees) represent 43% of the sample, with mid-sized organizations (500 to 5,000 employees) at 38%. Small-to-mid sized (100 to 500 employees) - are 19%.
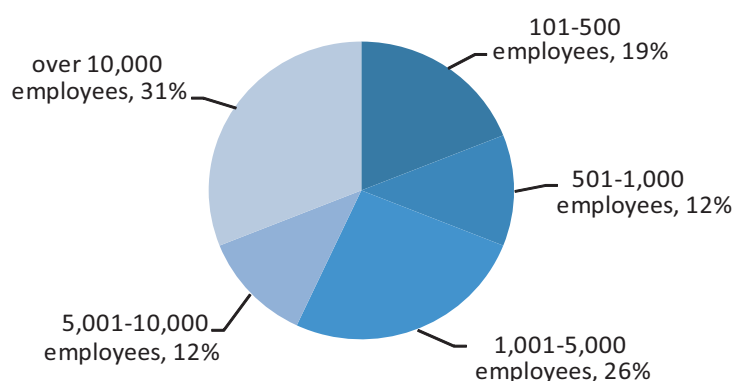
Industry Sector

Manufacturing makes up 14% of the demographic, followed by Local Government at 13% and Utilities & Telecom at 11%. The remaining sectors are evenly split. The participation of 8% ECM suppliers is not considered sufficient to bias the report in that we are looking at generic administrative functions here. Overall results are very consistent across the main industry sectors. Any significant differences are mentioned in the text.
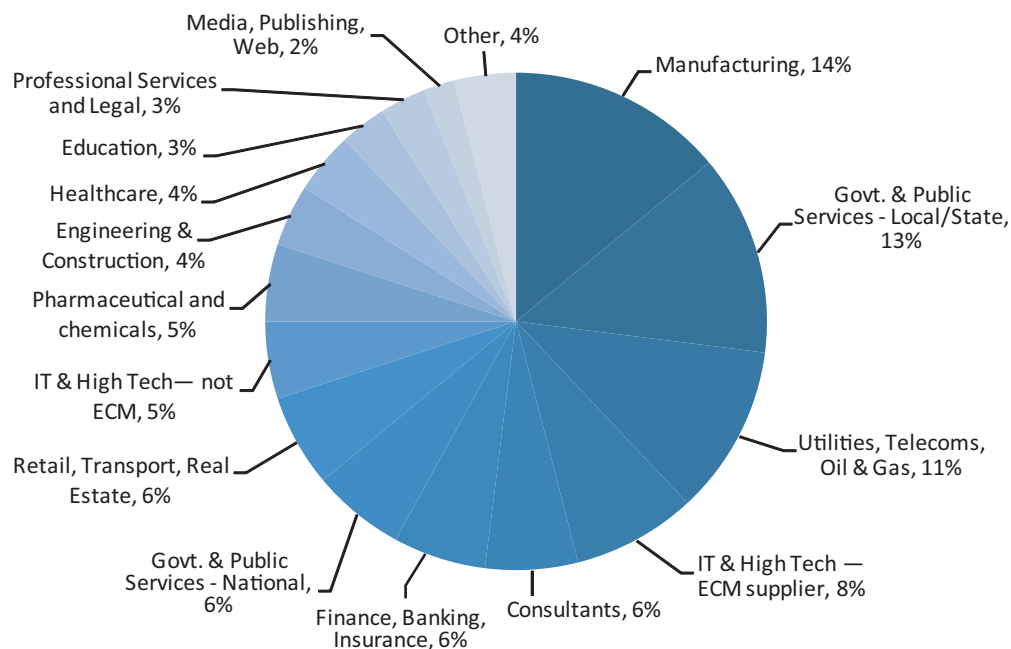
Geography

US and Canada make up 65% of respondents, with 16% from EMEA.

Central /
S.America, 2%
Africa, 2%   Other, 2%
Middle East, 2%
Australasia, 4%
UK, 4%
Asia, 9%
US, 56%
Mainland
Europe, 10%
Canada, 9%
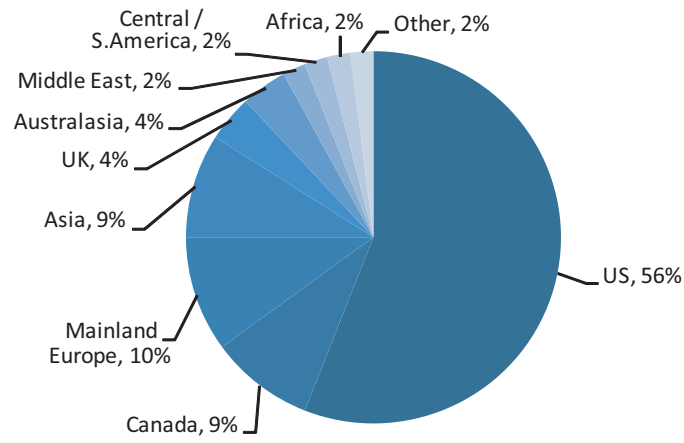
Appendix 2

Open ended comments:

"Do you have any comments to make about your experiences or expectations of linking ERP and ECM systems?"

- We definitely want to know more about this. Although we don't currently do it, it is a major driver for our plans to purchase an ECM product to replace the individual apps we have right now.

- Better education is needed on the ERP side to understand the benefits of ECM and to consider an integrated deployment from Day One.

- Different sources of info, metadata and naming nomenclatures as well as differing visions of what this info should do are the biggest challenges...

- 1- Think long and hard about design. Go slow in roll-out.
  2- Should have done this a long time ago.

- I would like for our company to consider out of the box systems as opposed to IS writing everything internally I feel that IS does not totally understand all the complexities and legal needs.

- I think there would be great advantages for doing this, but the ERP area wanted their own niche solution to add to their ERP system.

- If is provided by same company then it will have much better interoperability than mixing 2 different company's product.

- In process of implementing SAP with Open Text Technology.

- Once a few applications went live, other managers saw the benefits and got in line. Currently we are held up performing system validation/qualification and are limited by available resources.

- Very large company, it is hard to manage the disparate and often competing goals for the purposes of the ERP and ECM systems.

- We are feeling now that it was a wise decision.
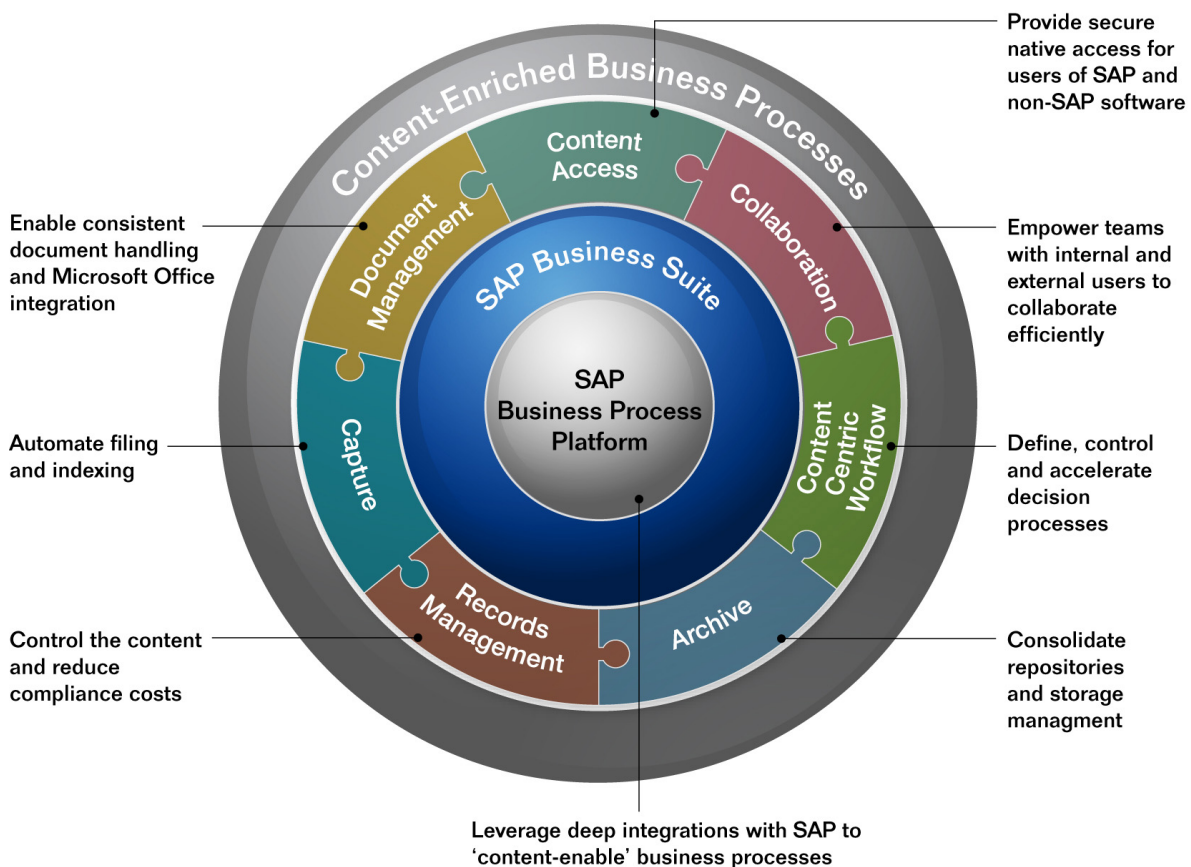
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To overcome the disconnect between structured processes and unstructured information, SAP offers a groundbreaking solution. The SAP® Extended Enterprise Content Management (SAP Extended ECM) application by Open Text is integrated with SAP Business Suite software such as the SAP ERP application. SAP Extended ECM enables management of unstructured content in the context of the processes and transactions supported by your enterprise applications, giving you content-enriched business processes. As shown in the figure, key functionality includes document management (version control, access control, and approvals); collaboration (with shared work spaces, approval workflows, and records management (for the full lifecycle of both electronic and physical records); and archiving (for access to archived information across any storage medium).

With SAP Extended ECM, users of SAP software can attach unstructured documents and entire ECM work spaces to transactions in SAP applications, and no longer have to log into multiple applications to find information. Users of other applications can be given access to SAP information via the SAP Extended ECM interface, allowing them to leverage SAP content without extensive training.

As organizations move to standardize and streamline core business processes, they increasingly find the need to interconnect unstructured information with those highly structured operations. The SAP®Extended Enterprise Content Management application by Open Text can help you meet this challenge.

SAP Extended ECM is also designed to minimize total cost of ownership from the IT perspective. The product is powered by the SAP NetWeaver® technology platform, and uses SAP user management tools to minimize administrative overhead.

Provide secure native access for users of SAP and non-SAP software

Enable consistent document handling and Microsoft Office integration

Automate filing and indexing

Control the content and reduce compliance costs

Empower teams with internal and external users to collaborate efficiently

Define, control and accelerate decision processes

Consolidate repositories and storage managment

Leverage deep integrations with SAP to 'content-enable' business processes

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For over 60 years, AIIM has been the leading non-profit organization focused on helping users to understand the challenges associated with managing documents, content, records, and business processes. Today, AIIM is international in scope, independent, implementation-focused, and, as the representative of the entire ECM industry - including users, suppliers, and the channel—acts as the industry's intermediary.

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