Top 10 Criteria for Choosing an Enterprise Content Management System

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Executive Overview

Enterprise Content Management (ECM) is a broad term that incorporates a variety of technologies that can significantly affect your business. ECM encompasses the strategies, methods and tools used to capture, manage, store, preserve, and deliver content and documents related to your organizational processes. ECM tools and strategies allow the active management of an organization's unstructured information, wherever that information exists⁴. How you manage this content has a direct impact on business efficiency, employee productivity, IT infrastructure complexity, and most importantly, your bottom line.

The rapid growth in the amount of information being produced around the world is astonishing. In a recent survey, one-third of respondents report the amount of data within their enterprises grew by 25% or more over the past year alone. One out of ten companies now has data stores in the petabyte range. With this increase in content volume, important steps must be taken to manage it responsibly. An ECM system enables you and your organization to mitigate exposure to risk and litigation by providing policy management including where content should reside, who can access it and how long it will be kept. ECM provides a manageable and defensible method of adhering to government and industry compliance standards. Finally, an ECM system enables better productivity by enhancing how users and teams collaborate around unstructured content and ensure that the proverbial “one version of the truth” is always readily available to those who need it.

Oracle has created this whitepaper to help guide you in developing your ECM strategy and make sure they align with your business needs. By considering each area carefully, your organization can make the best strategic decision possible and get the most value from the ECM system you implement.

1. Integration with Business Processes and Back-End Systems

Information is of the most value when it is put to work. A quality ECM system allows you to “content-enable” your business applications so that the latest and most accurate information is readily available in the context of many different business processes. It’s not enough just to store the information in a repository where it is secure and managed. That information, whether it is forms, documents, images, faxes or videos, should be immediately available to the business user that needs to reference or update it within a transactional process.

For many companies, unstructured content is scattered across various locations and repositories making it difficult or impossible to find. This happens because individual application solutions often

⁴ AIIM.ORG
have their own isolated file stores for related documents, further promoting the proliferation of content repositories. Invoices, orders, application forms, insurance claims are all examples of content that need to be classified and managed in a way that can be natively accessible from within business applications. The importance of optimizing business processes and improving business efficiency is a critical driver for content management, as shown in the results of a recent AIIM survey (Figure 1).

![Figure 1: The most significant business drivers for document and records management (Source: AIIM, State of the ECM Industry 2011)](image)

Once your core business applications become content-enabled, organizations realize significant cost savings due to efficiency improvements, reduced reliance on paper forms and documents and lower physical storage requirements.

In analyzing an ECM system, consider which of your current business processes would benefit from being content-enabled. The ideal ECM system will provide out-of-the-box support for integration with leading business applications. Common processes that can be streamlined by integrating them with your ECM system include:

- Accounts Payable – automating the capture, routing and payment of invoices
- Human Capital Management – coordinating global and country policies, documenting procedures and incidents
- HR Onboarding – managing applications, benefit enrollment, and other processes for new employees
- Procurement – contract management, order processing and exception handling
- Case Management – automating claims, requests, proposals, and other complex business processes

Additional return on investment can be realized when multiple systems leverage the same content repository. Organizations like the Chicago Public Schools began leveraging their ECM system to improve the management and routing of invoices but later used the same system to improve HR Onboarding, Facilities Management and Construction, Payroll and other financial processes. By
standardizing on one ECM system as the “hub” for their content-enabled business processes, they have realized substantial savings, avoided duplicate effort and have maximized efficiencies in a challenging budgetary environment.

2. Core ECM Capabilities

When considering an ECM system, it’s important to consider the breadth of unstructured content types that you will manage, as well as the actual product features needed to support that content throughout its lifecycle. Unstructured content comes in many forms, including Microsoft Office® documents, PDFs, scanned images, production graphics, videos, engineering documents and operating procedures. As your company continues to grow, so will the types of content that need to be managed, shared, archived and properly disposed of. Make sure that your ECM system can properly manage the entire lifecycle of these different content types and support the different search needs, rendering, and retention policies that are associated with these different file types.

In order to effectively mitigate risk and provide real productivity benefits, an ECM system must be the “single source of truth” within an organization. It is the one authoritative place to go to get the latest version of a file, the most current procedural document, the approved marketing imagery, current sales collateral and much more. ECM systems simplify content discovery for employees while providing flexible and appropriate levels of access. When it comes to managing all of this content, it must be done across the entire lifecycle of the item, from creation to disposal. Items are created or imported into the ECM system where they are classified using an appropriate taxonomy model to facilitate easy discovery and use of the proper retention and disposition policies. Once there, content can be accessed and used by a variety of employees and applications until reaching the end of its usefulness. Where content resides throughout its lifecycle may change over time and often must adhere to governmental requirements, industry regulations, and recommendations of corporate counsel. An ECM system should let you define each step along the way of a content lifecycle for all types of content, different users and roles within the context of your corporate information management strategy.

A full set of functionality that supports each step of the content lifecycle is not guaranteed in all ECM systems. A thorough evaluation of these capabilities within the scope of your current and predicted future use cases is warranted to avoid unnecessary and costly customizations. Areas to consider include functionality such as:
• Search – without proper search and discovery tools, an ECM system could become a great place to hide information where its value can never be realized. The best ECM systems will provide faceted full-text search, support for common search syntax, filtered search results for end-users to quickly find what they have authorized access to, and advanced search capabilities including custom search forms and metadata search.

• Metadata, Classification and Taxonomies—Support for automated, manual and inherited metadata values on all types of content and the associated classification of content based on these values. Support for multiple and easily updated taxonomy models ensure that each line of business can adapt classification procedures to meet their specific needs while adhering to overall corporate requirements.

• Versioning – automatic tracking and storage of each file version along with auditing, archiving and the ability to revert to a previous version of a document if needed.

• Rendition support – the ability to automatically generate content in other formats (PDF, XML, HTML) or resolutions can be essential for many content usage scenarios. For example, a marketing department managing an image library will often want the ECM system to automatically generate different versions of a high resolution image – a thumbnail, a low resolution version, a black & white version, etc.

• Compound document support – Content Folios that allow for many smaller documents to be incorporated within a master or parent document. Often critical for technical or procedural documentation where regular updates must be done to sub-sections of the overall document by a variety of users.

3. In the Office or on the Road: Content When You Need It

The best content management system in the world is of little value if no one uses it. The key to realizing great user adoption across your company is making sure employees can securely access their content when they need it and from wherever they might be. These days, the list of applications and devices they could be using is only getting longer so it’s important that your ECM system is designed to be integrated not only with business applications but also accessible from a variety of mobile devices. The ability to search against a complete index from any device is also a key consideration. A study by IDC found that a typical knowledge worker spends over 9 hours a week searching for information and at least 3 hours per week recreating content that cannot be found\(^2\). That is over a day

per week of wasted time for each employee! Ensuring that employees are as productive as they can be is one of the many benefits of ECM.

An important aspect to content delivery is the ability to provide it within portal environments. Whether it is for intranet, extranet or a combination of both access models, access to important content in this context adds significant value. One commonly used portal environment is Microsoft SharePoint. While SharePoint lacks the full breadth of functionality to be considered a true ECM system, it has a lengthy and solid heritage as a portal and site-centric collaboration product for teams. Being able to integrate with SharePoint or other portal solutions you are using in-house is a key value point to consider as you evaluate ECM systems.

The Bring Your Own Device (BYOD) movement has taken hold in companies worldwide which demands specific consideration in the context of information access. Not only do you need to factor in the need to properly support access via a broader range of devices but you also need to consider the information access controls and policies that you may want to put in place to ensure that adherence to compliance and governance regulations remains intact, no matter the device. Some organizations will put device access restrictions in place, while other organizations may not. Make sure that your ECM system provides the right level of control and access across devices to align with your content management strategy.

While mobile application usage is soaring within enterprises, it’s equally as important to make sure that you can provide content access within common desktop applications like Microsoft Outlook and Office as well as the local file system. This capability will ensure easy access to information and help every user be able to easily take advantage of the secure content repository available to them.

4. Integration with the Existing IT Infrastructure

Integrating with the existing infrastructure has significant ramifications as the utilization of existing assets extends their value and can realize substantial cost savings when compared to implementing entirely new supporting systems. An enterprise-class ECM system will not lock you into one specific supporting database, file system or application server. Instead, be sure that you have the flexibility to use multiple databases, network storage devices, file systems and application servers – especially those that you already own and support but also with an eye toward future growth and expansion.

A key consideration is the ability to apply the same rigor to content access as application access. Your ECM system should follow the same protocols and rules that are setup in your application security stack so that security is consistent and immediate across your infrastructure.
5. Automated Capture and Image Processing

Inefficient paper-based transactional processes are time consuming and error-prone. Reliance on paper remains a significant issue for many companies and it has been estimated that 40% of all transactions are still paper-based. By automating the capture and ingestion of faxes, forms, images and other documents you can accelerate the number of transactions handled daily while reducing the possibility of human error that occurs when information is manually keyed into a system.

For many organizations, automating a paper-based business processes is the first area where ECM is put to use since a rapid return-on-investment can frequently be realized. Additionally, the other benefits of content management can then be applied to this ingested content including classification, retention policies and more.

The capturing of content can be done via mobile devices, using scanners in regional offices or centralized in a single facility. Once captured, the ECM system recognizes the form, extracts data from fields on the form and routes it into the proper business process while applying the proper classifications based on these values and other business rules. Proper classification and assignment of metadata ensures that the appropriate storage, archiving and retention policies will be applied.

These key capabilities allow you to apply your information governance strategy to a broader range of content while helping reduce physical storage costs and management expenses. Employees will also be able to locate content much more quickly, thereby accelerating collaboration and business processes.

Your ECM system should provide you with a flexible set of features and functionality that enable automation of paper-based processes with support for centralized or distributed scanning, forms recognition, classification and the ability to easily integrate into many different business processes.

6. Records Management and Retention Policies

Continuously expanding compliance legislation and the increasing cost of litigation makes proper management and retention of an organization’s content essential. Not only must content be maintained but it must also be defensibly disposed of once its usefulness has expired. A superior ECM system enables both retention and disposition of information, allowing organizations to define, manage, and execute records and retention policies for all enterprise content from a single application. Records Management and retention policies helps control the creation, declaration, classification, retention, and destruction of content and business records, resulting in improved compliance, minimized litigation risk, and lower storage costs.
The benefits of records and retention policies are many, including storage cost reduction, reducing exposure to “smoking gun” content being unwittingly kept, and being able to demonstrate defensible disposal and digital shredding practices. As shown in Figure 2 above, the impact of a 10% to 30% reduction in stored information due to retention policies is substantial over time. Factor in the costs of storage management, backup and offsite storage per terabyte and the annual cost savings are clear.

In the past, many organizations have simply taken the approach of keeping everything, no matter how mundane or sensitive with the idea that they will simply continue to add additional disk storage as needed. Over time, this practice becomes untenable due to its expense and the increasing difficulty in finding critical information in a growing mountain of content.

Finally, it is important to realize that a well-planned and thorough approach to records and retention policies is a core component of your information governance strategy. Information governance help organizations map out a relationship between the information and the value it provides. Then these records can be governed in a prioritized fashion. A single policy engine should support all of the organization’s governance controls—retention, disposition, legal hold, data privacy and security.

7. Content Workflow and the Movement of Information

Your ECM system should have sufficient and expandable workflow capabilities to meet the varied needs of your business. Determine what type of content workflows your organization wants and then make sure the ECM system you select can support them. Workflows can vary dramatically in complexity; from simple review and approval processes involving 2 or 3 people, to extensive processes around document creation, approval, and release that involve multiple lines of business in your organization. Documenting your existing processes and obtaining departmental feedback on needed
improvements will help you determine what level of workflow or Business Process Management integration is required.

Workflows as they relate to content can be divided into two major categories:

- Content-centric workflows (Native to ECM system)
- Workflows that go across applications (BPM system integration)

Content-driven workflows are the type most commonly used by end-users. A multi-step approval process is a simple example of document routing along a fixed path with defined reviewers along each step. These tend to be static processes that are very repeatable and predictable.

Much more advanced and dynamic workflows are possible with integration into a BPM system. These allow for much more flexibility, collaborative exception handling and full process monitoring. ECM integration ensures that all content within this process is still managed by the ECM system to maintain adherence to all retention and governance requirements.

As you consider how information moves through your organization, you will likely find that you have both simple process needs that can be addressed by content-driven workflows along with the more complex variety requiring a BPM system with process modeling, analysis and reporting tools. These more advanced processes will often span multiple business applications, making easy BPM integration an important part of the selection process.

8. Digital Asset Management

Digital content such as photographs, drawings and videos play an increasingly important role in any company’s business, especially in marketing, engineering, customer support and sales training. These files also require special processing and handling due to their typical large file sizes and unique metadata requirements involving copyrights and usage restrictions. Simply placing these files in folders along with other content introduces conflicts and confusion over time. Searching for and finding the right version of an image or video to use can also be more complex since a full-text index cannot properly classify audio or video content.

Integrating the management of rich media within a content management system has two major benefits over an approach that utilizes a separate Digital Asset Management (DAM) system and repository. First, the native versioning, auditing and de-duplication services of the ECM system allow you to utilize storage effectively and keep operational costs low. Second, the metadata, rendition services, retention policies and records management capabilities of the ECM system help ensure the proper use of copyrighted material.

In addition to providing easy access to the correct photos, video and engineering drawings, managing your digital assets within an ECM system allows you to enable automation of routine processing and review tasks. From this single, coordinated repository, users of rich media can take advantage of services such as:
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- Workflows and version control with automated policies that govern security, archiving, content conversion and disposition
- Content check-in and accessibility from anywhere with Web-based and Windows Explorer interfaces
- Compression of content to decrease bandwidth demands and storage requirements
- Automatic categorization of assets for easy searching
- Quick identifying of files via automatically created thumbnail renditions
- Conversion of legacy images to web-ready formats

9. Enterprise-Class Capabilities

When considering an ECM system to improve how your organization utilizes and manages content, there are many factors to consider. One critical factor is the ability of the system to grow along with your business in a way that does not introduce limitations or significant secondary support costs. An ECM system is the information backbone of your business and as such it must meet current and future requirements in the following areas.

- Scalability – An ECM system should be designed to easily and predictably scale to tens of thousands of users and billions of documents and manage the full lifecycle of all your unstructured content.
- Security - Administrators can define and apply access control as needed for specific users, groups, departments or across the entire organization. An advanced ECM system will include security options like data encryption and additional restrictions on database access.
- Manageability, auditing and reporting - A centralized administration results in streamlined provisioning, better manageability, and lower cost of ownership. Having a single platform that enables an administrator to manage all content services and access all reports and logs from a centralized console will reduce staffing requirements and improve compliance by eliminating the creation and enforcement of duplicate policies and procedures.
- Multi-Language Support – A global organization naturally requires localization support for many languages and the ability to handle time zone and identity management issues.

Service Oriented Architecture (SOA) with a complete set of APIs - Ability to integrate with many other systems is critical to ensuring content is used to its highest potential across the enterprise. With integration into a SOA Suite, businesses can attain improved efficiency and agility through rules-driven, business process automation and still adhere to content management policies defined within the ECM system.
10. Strength of Vendor

Enterprise Content Management is a core, mission-critical system within your business infrastructure. When evaluating ECM vendors, the ability to successfully meet the full range of your information management needs is vital. Your ECM provider must have the commitment, longevity and financial strength to be your business partner for decades to come. Important evaluation considerations related to the strength of your ECM vendor include:

- Scope of available educational and training materials (Online and in-person)
- Availability of global technical support
- Ability to address software issues and concerns in a timely manner
- Global availability of implementation partners and subject matter experts

Summary

Whether you are considering an upgrade to your current ECM system, a replacement of an older legacy system or the purchase of a completely new ECM system, there are many important criteria involved in selecting the best content management system for your organization. Along with the 10 criteria we have outlined in this paper, you will also have requirements unique to your organization that will build upon this list even further.

We hope you have found this white paper valuable and will consider including Oracle in your list of ECM vendors you talk to. Oracle WebCenter Content is a leading enterprise-class ECM solution used by tens of thousands of organizations around the world. Built upon decades of development and leveraging the best of Oracle database and middleware technologies, WebCenter Content enables you to manage content as a strategic asset and integrate content into business processes to drive productivity and agility.

More information about Oracle WebCenter Content and related solutions is available at [http://oracle.com/goto/ecm](http://oracle.com/goto/ecm)