



# A Detailed Study on Enterprise Content Management (ECM)

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# Enterprise Content Management

The Association for Information and Image Management (AIIM) International, the worldwide association for enterprise content management, defines the term Enterprise Content Management as

“

Enterprise Content Management (ECM) is the strategies, methods and tools used to capture, manage, store, preserve, and deliver content and documents related to organizational processes. ECM covers the management of information within the entire scope of an enterprise whether that information is in the form of a paper document, an electronic file, a database print stream, or even an email.

”

ECM is basically the entire lifecycle of the information management starting from the initial data capturing, publishing and archival through various process and controls. ECM covers document management, web content management, comprehensive search, collaboration, data management, digital asset management, workflows, policies and capture of records.

## Future of Enterprise Content Management

- By 2020, 50% of enterprises will manage their content by using a hybrid content architecture.
- By 2020, more than 20% of the enterprise content management solution sales will address multi organization "ecosystem" content.
- By 2020, enterprise file synchronization and sharing will be a standard capability of enterprise content management and collaboration offerings.
- By 2020, at least 50% of the leading enterprise content management vendors will rearchitect their offerings into cloud-based platforms.
- By 2020, 20% of all business content will be authored by machines.
- By 2021, 70% of all business content will be non-textual, which will require organizations to invest more widely in analytics as part of their content management efforts.

## Components

The five ECM components and technologies are **capture**, **manage**, **store**, **preserve**, and **deliver**.

### Capture

In an enterprise content management system capturing data means capturing data from paper documents and bringing them to the digital world. Capturing is also used to collect data from electronic files and information into a consistent structure for management.

Various capturing technology is been used for the creation of metadata that describes characteristics of a document for easy location searching.

### **Following are the various technology used in ECMs:**

- **Recognition technologies:** Various recognition technologies can be used to extract information from scanned documents:
- **Optical Character Recognition (OCR):** Extract alphanumeric characters from an image.
- **Handprint Character Recognition (HCR):** Extract alphanumeric characters from an image of handwritten text.
- **Intelligent Character Recognition (ICR):** ICR takes data from OCR and HCR use them for comparison and for creating logical connections.
- **Optical Mark Recognition (OMR):** Using OMR special character can be read like check marks or dots in a predefined field of a document.
- **Barcode Recognition:** Barcode recognition is been used to decode industry standard encoding of products and other commercial data.
- **Image Cleanup:** The image cleanup feature bring rotation, straightening, transposition, zoom, aligning, page separation, annotations and de-speckling.
- **Form Processing:** In form processing two type of technology is been used, recognition technologies and automatic form processing. The objectives of both the technologies are same to exact information content and characters in the filled up form. The automatic form processing technology can be used to capture electronic forms, such as those submitted via websites.

- **Computer Output to Laser Disc (COLD):** COLD is been used to record reports and other documents on optical disks, or any form of digital storage. COLD is also known as enterprise report management (ERM).
- **Aggregation:** The main function of aggregation module is to unify data from different sources, forwarding them to storage. It also contains a processing system in a uniform structure and format.

## Indexing Components

Indexing include searches and provides alternative solution to organize the information.

Manual indexing includes index database attributes to content by hand, typically used by the database of a “manage” component for admin and access. Manual indexing makes use of input designs to limit the information that can be entered.

Automatic indexing programs can extract index, category and transfer data autonomously. The automatic indexing is done based on the information contained in electronic information objects, can evaluate information based on predefined criteria or in a self- learning process.

### Manage

The manage category includes following application areas

- Document management (DM)
- Collaboration
- Web content management (including web portal)
- Records management
- Workflow and business process management (BPM)

In manage section various components can be used in combination or separately. Web content management, collaboration, workflow and business process management address the dynamic part of the information's lifecycle. Record management focuses on managing finalized documents in accordance with the organization's document retention policy which in turn must comply with government mandate and industry practices.

All manage component includes databases and access authorization systems. Manage components are offered individually or integrated as suites.

## **Document Management**

Document management is been used to control documents from creation to archiving. A document management includes features like:

- Check-in/Check-Out: To check stored information
- Version Management: To keep track of different version of a same document with revisions and renditions.
- Search & Navigation: For finding document and its associated contexts.
- Organizing Documents: In structure like files and folders

## **Collaboration**

Collaboration is a set of components in ECM system that helps users work with each other to develop and process content. Many of these components were developed from collaborative software. ECM collaborative system goes much further and includes elements of knowledge management.

ECM systems provides collaboration by using information databases and processing methods that are designed to be used simultaneously by multiple users, even in the scenario of multiple users working in same content item.

ECM use knowledge based on skills, resources and background data for joint information processing. Also there are multiple administrative components such as virtual whiteboards for brainstorming, appointment scheduling and project management systems, and communication application such as video conferencing etc. falls under collaboration. Collaboration also integrates information from other applications, resulting in joint information processing.

## **Web Content Management**

The scope of enterprise content management includes web content management system. WCM as ECM components is used to present information in web using already existing and managed in ECM repository.

Information presented via website or portal uses workflow, access control, versioning, delivery and authorization modules of the WCM which are integrated ECM functionality.

## **Record Management (File & Archive Management)**

Unlike traditional electronic archival systems, record management refers to the pure administration of records, important information and data that companies are required to archive. Records management is independent of storage media; managed information does not necessarily need to be stored electronically, but can be on traditional physical medias as well. Some of the functions of record management are:

- Visualisation of file plans and other structured indexes for the orderly storage of information
- Unambiguous indexing of information
- Management of record retention schedules and deletion schedules  
Protection of information
- Use of international, industry-specific or company-wide standardized metadata for the unambiguous identification and description of stored information



## Workflow/Business Process Management

Workflow and business process management differ substantially.

### Workflow

There are different types of workflow: production workflow uses predefined sequences to guide and control processes, whereas in an ad-hoc workflow, the user determines the sequence on the fly. Workflow can also be implemented as workflow solutions with which users interact, or as workflow engines, which will act as a background service controlling the information and data flow.

Workflow management includes following functions:

- Visualisation of process and organization structures
- Capture, administration, visualization, and delivery of grouped information with its associated documents or data
- Incorporation of data processing tools and documents
- Parallel and sequential processing of procedures including simultaneous saving
- Reminders, deadlines, delegation and other administration functionalities
- Monitoring and documentation of processing status, routing and outcomes
- Tools for designing and displaying process

The objective is to automate process as much as possible by incorporating all necessary resources.

## Business Process Management

Business Process Management (BPM) is a way of looking at and then controlling the processes that are present in an organization. It is an effective methodology to use in times of crisis to make certain that the processes are efficient organization. BPM goes a step further the workflow. BPM aims to completely integrate all of the affected applications within an enterprise, monitoring processes and assembling all required information.

BPM offers complete workflow functionality providing process and data monitoring at the server level. Enterprise application integration is used to link different applications. Business intelligence with rule structures integrates information warehouses and provides utilities that assist users in their work.

### Store

Store components temporarily store information that isn't required long term storage or preservation. The store components can be divided into three categories:

- Repositories
- Library Services
- Storage Technologies

### Repository

These are the different kind of ECM repositories that can be used in the below-mentioned combinations. Following are the various types:

- File Systems: File Systems are primarily used for temporary storage, as input and output caches. EMS aims at reducing the data burden on the file system, and to make the information available through Manage, Store and Preserve technologies.

- **Content Management System:** This is a storage and repository system for content. It can be a database or a specialized storage system.
- **Database:** Databases administer access information. It can also be used for storing documents, content or media assets directly.
- **Data Warehouse:** These are complex storage systems based on databases, that reference or provide information for all kinds of services. They can also be designed with global functions, such as document or information warehouses.

## Library Service

Library services are the administrative components of the ECM system that handle access to information. The library services are responsible for taking in and storing information from the capture and manage components. It also manages the storage locations in dynamic storage, the actual “Store” and in the long-term preserve archive. The storage location is determined only by the characteristics and classification of the information. The library service works in concert with the manage components database to provide the necessary functions of search and retrievals. The library service provides logs of information usage and editing which is also known as audit trail.

## Preserve

Preserve involves the long-term, safe storage and backup of static, unchanging information as well as the temporary storage of information that doesn't need to be archived.

Preservation is accomplished by the record management features on an ECM system. They are designed to assist companies that comply with government and industry regulations.

Electronic archiving is a related concept which has substantially broader functionality than ECM preserve components. Electronic archiving system comprises of a combination of administration software like record management, imaging or document management, library services and information retrieval systems and storage subsystems.

In order to keep information available in changing technical landscape, the long-term storage systems require the timely planning and regular performance of data migrations.

## Deliver

The deliver components of ECM present information from the Manage, Store and Preserve components.

The deliver components may contain functions used to enter information into other systems or reading information such as by converting its format or compressing it for the store and preserve components.

The deliver components break down into three groups: transformation technologies, security techniques and distribution. Transformation and security, as services are middleware and should be equally available to ECM components. For output, two functions are of primary importance: layout and design, with tools for laying out and formatting output, and publishing, with applications for presenting information for distribution and publication.

### Comparison of Enterprise Content Management (ECM)

In this e-book we are going to compare following ECMs:

- Microsoft SharePoint
- IBM WebSphere
- Oracle WebCenter

## Microsoft SharePoint

Microsoft SharePoint is an enterprise content management system that integrates with Microsoft Office. SharePoint allows storage, retrieval, searching, archiving, tracking, management and reporting of electronic documents and records. SharePoint has some specific functional components which are designed around various legal, information management and process requirements in organizations. SharePoint also provides search and graph functionality. SharePoint has real-time collaboration with the help of Microsoft Windows and Microsoft Office. SharePoint is highly secure by the help of encryption and information rights managed synchronization.

## IBM

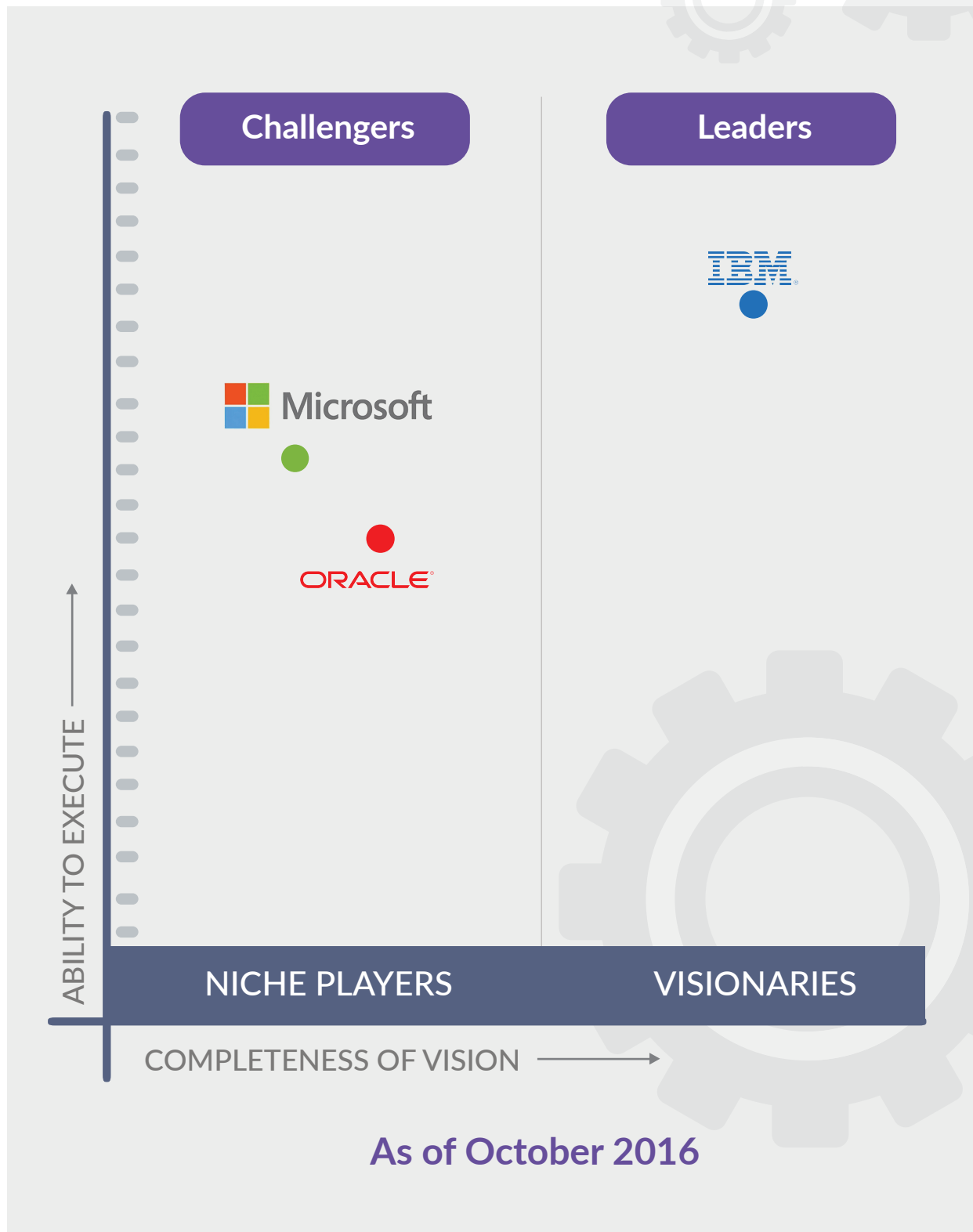
IBM offers various tools for its enterprise content management system. The most widely used IBM ECM is IBM WebSphere. IBM WebSphere is enterprise software which acts as an application and also integrated middleware. In simple words IBM WebSphere is been used to create applications and integrate application with other applications. It provides a range of flexible, secure, Java EE 7 runtime environments available on premises or across any public, private or hybrid cloud. IBM WebSphere contains an ecommerce module which highly effective and widely used by many ecommerce companies.

## Oracle

Oracle WebCenter is a Java EE based application developed by Oracle. Oracle WebCenter forms part of Oracle Fusion Middleware portfolio and supports Oracle database, DB2, Microsoft SQL Server, MySQL Enterprise and other JDBC-compliant databases. Oracle WebCenter also includes business process management and data mapping functionality. It's most widely used with Oracle database system. Oracle from time to time add more and more feature and integrate various other new application with WebCenter to stay updated in the competitive market. WebCenter supports security policies and it can manage by security administrators.

# Comparison

## SWOT Analysis



# Strengths & Cautions

Product	Strengths	Cautions
Microsoft SharePoint	<ul style="list-style-type: none"><li>• Microsoft is a global cloud data center provider that can provision Office 365, which encompasses SharePoint Online and its collective services worldwide.</li><li>• Microsoft delivers a contextual ECM experience - fuelled by Delve, a personalized, contextual search interface that ties together documents, conversations and people - that is bolstered by OneDrive for Business, Cortana (a virtual assistant) and a new mobile SharePoint app.</li><li>• Organizations heavily committed to Microsoft software will benefit from a unified user experience within Office 365, which following the latest SharePoint Online update, has a more modern and intuitive user interface.</li></ul>	<ul style="list-style-type: none"><li>• Customers often need add-ons and third-party tools to extend Microsoft SharePoint's capabilities with more robust ECM functionality. Buyers with deeper content control and management needs (such as for certified records management, imaging, auto classification, and advanced workflow and administration capabilities) should anticipate a need for add-ons and customization of SharePoint.</li><li>• Hybrid deployment of SharePoint is championed by Microsoft but is not a turnkey solution: organizations may face infrastructure complexities, skills availability issues and costs in bridging SharePoint Server and SharePoint Online. Microsoft has addressed some of these issues with new tools, but customized sites may require additional resources or support.</li><li>• New features in and updates to Microsoft SharePoint 2016 are not as deep or as frequent as those to SharePoint Online, making the value proposition for upgrading from SharePoint Server 2013 low where significant customizations and investments have been made. Feature packs and regular updates will mitigate functional gaps for customers who are not moving to Office 365.</li></ul>



Product	Strengths	Cautions
IBM WebSphere	<ul style="list-style-type: none"> <li>• IBM WebSphere is a board content management ecosystem, on-premises and cloud delivery models with integrated hybrid options, and global reach make it a leading ECM vendor and a preferred vendor for large, global enterprises.</li> <li>• IBM's Watson products make it a visionary in terms of content analytics for digital business and an innovator in unstructured content usability</li> <li>• IBM's technical and business partnership with Box enables IBM to offer innovation and new user experiences to its traditional enterprise customers by leveraging integration with Box's cloud-based EFSS capabilities</li> </ul>	<ul style="list-style-type: none"> <li>• The breadth of IBM's portfolio adds complexity, impacts customer infrastructure, cost, time and resource requirements. Purchasers should consider the full cost of implementation when negotiating with IBM.</li> <li>• Reference customer surveys indicate a need for modernized user experiences with mobile capabilities, probably because some customers are using older versions of the content Navigator mobile client. IBM customers should deploy IBM's latest client tools for the most up to date and integrated experiences.</li> </ul>
Oracle WebCenter	<ul style="list-style-type: none"> <li>• Oracle has a global reach, an extended partner ecosystem and well-integrated products, all of which benefits its customers. Consequently, Oracle received higher than average reference customer scores for satisfaction with its support and services.</li> <li>• Adoption of Oracle's Documents Cloud Service is growing, due to a competitive pricing model that attracts midsize clients in need of ECM capabilities without the operational overhead of an on- premises implementation.</li> </ul>	<ul style="list-style-type: none"> <li>• Oracle's focus on rebuilding its portfolio for the cloud has delayed its vertical ECM solution development and emerging functionality such as content analytics. Customers who need packaged industry solutions, content analytics or extensions to non-Oracle business process apps may find Oracle's offerings limiting.</li> <li>• The cost of implementing Oracle's on-premises ECM products has been a concern for customers, especially those needing extensive integration with non-Oracle products.</li> </ul>

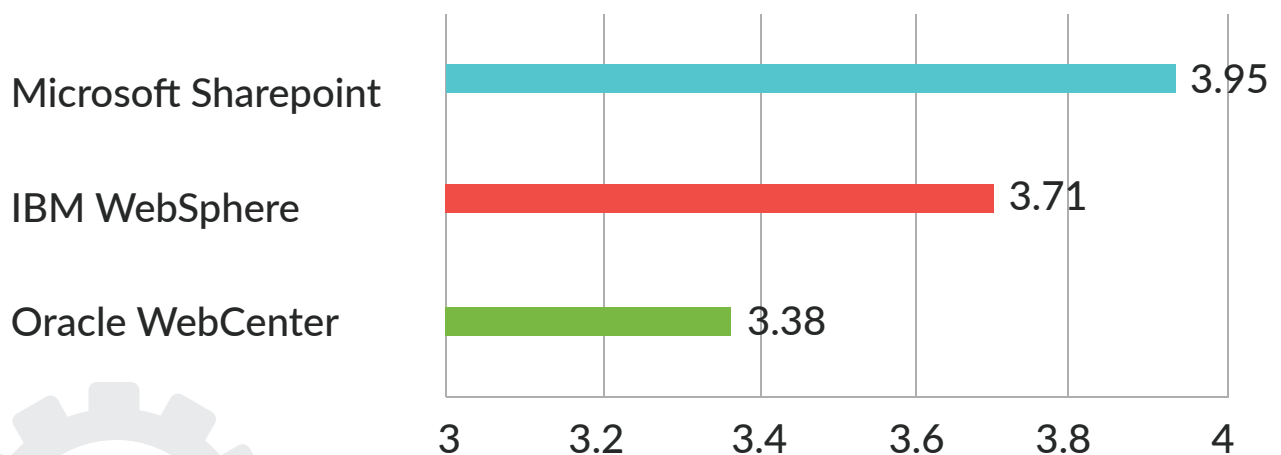




Product	Strengths	Cautions
Oracle WebCenter	<ul style="list-style-type: none"> <li>Oracle's deployment options across cloud and hybrid model appeal to a wide range of clients who want to diversity their ECM service delivery in order to achieve cost, performance and globalization goals.</li> </ul>	<p>Customers should assess the range and types of extension they expect to need for their ECM solutions, and then budget for professional services.</p> <ul style="list-style-type: none"> <li>Oracle's focus on selling WebCenter to large enterprises and existing Oracle clients neglects potential LOB and other business segments. Prospective buyers with vertical or horizontal ECM needs may not understand Oracle's offerings.</li> </ul>

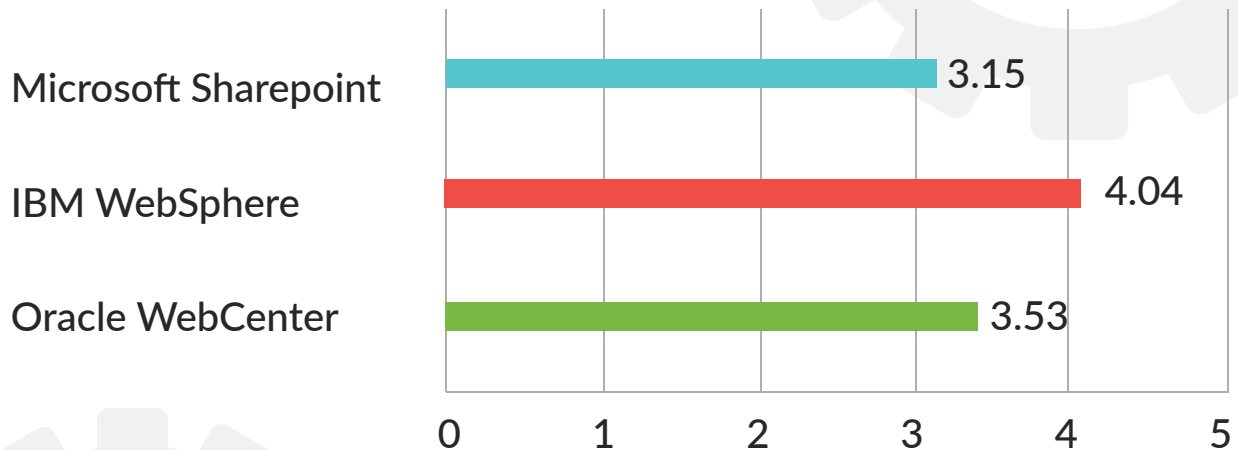
## Product Scores for Personal and Team Productivity Use Case

### Personal and Team Productivity



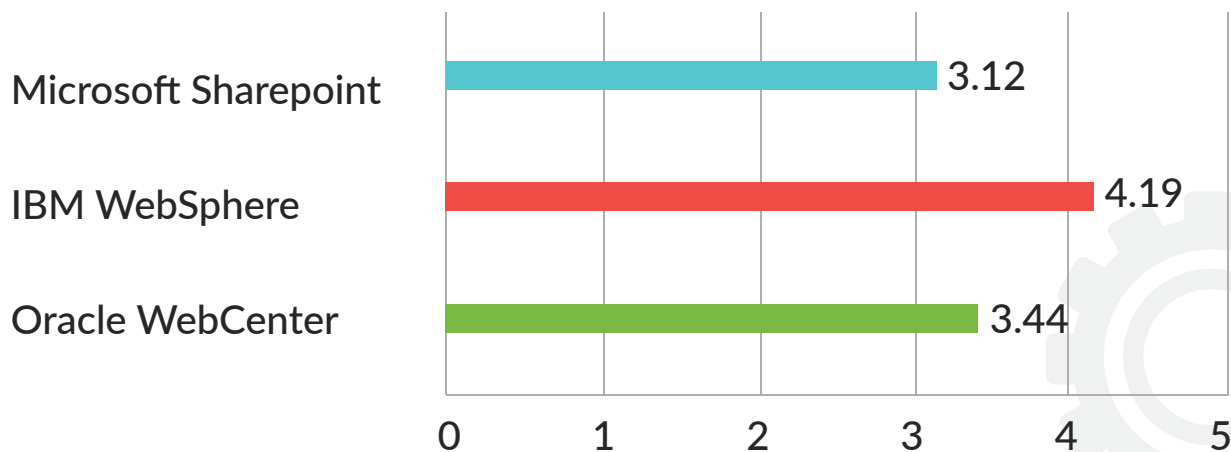
## Product Scores for the Records Management and Compliance Use Case

### Records Management and Compliance



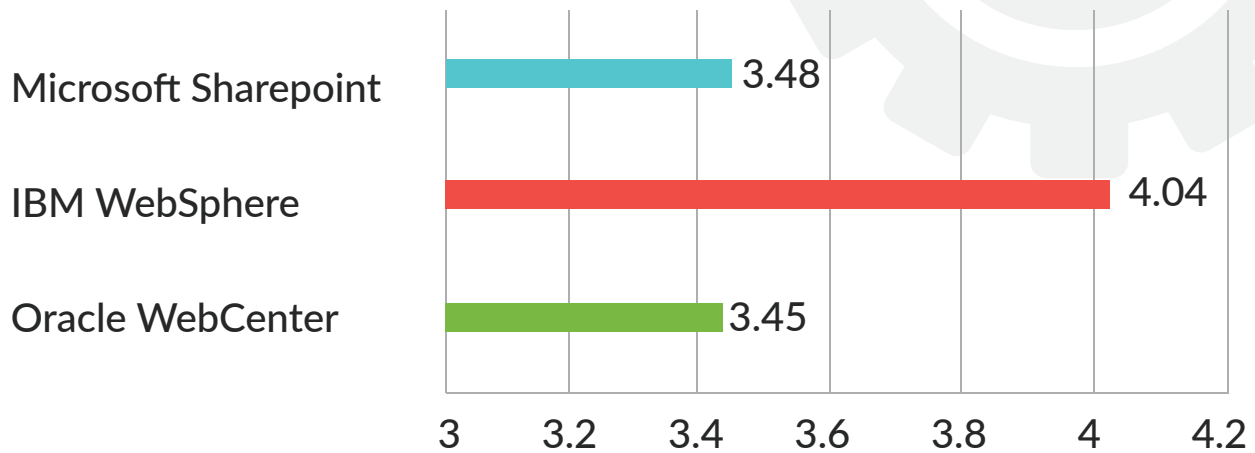
## Product Scores for the Process Applications Use Case

### Process Applications



## Product Scores for the Content Ecosystem Use Case

### Content Ecosystem



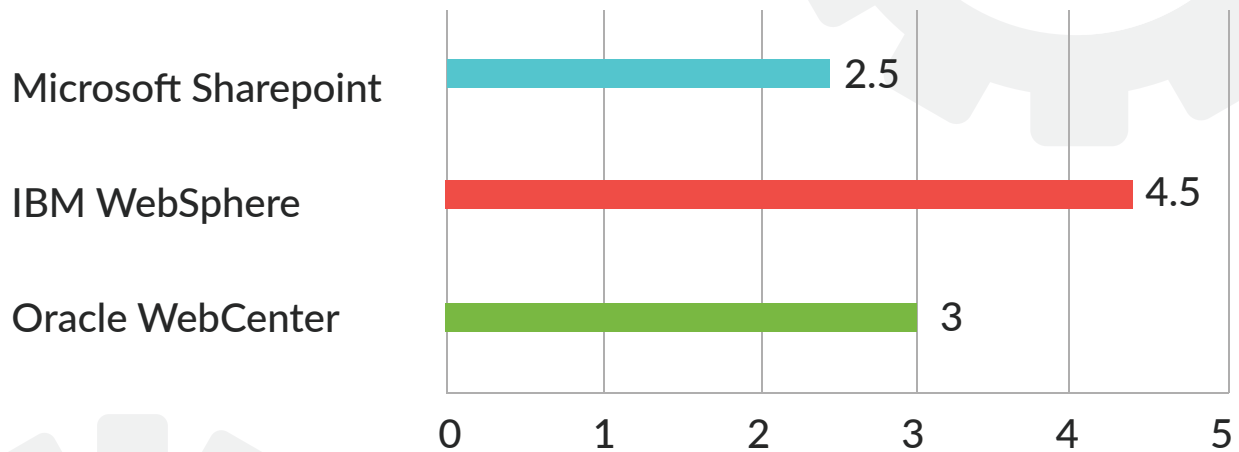
## Product Scores for the Digital Transformation/Modernization Use Case

### Digital Transformation/Modernization

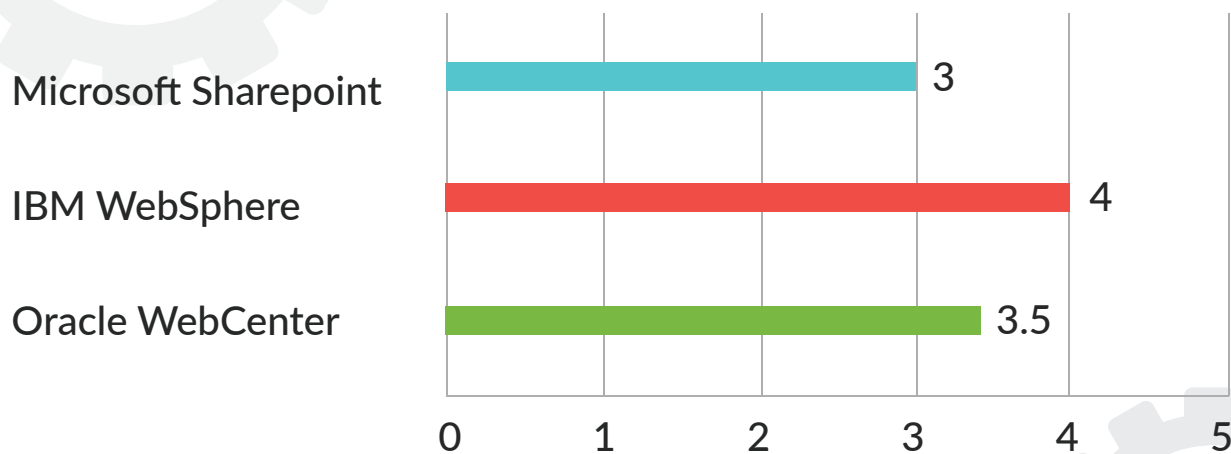


# Product/Service Rating on Critical Capabilities

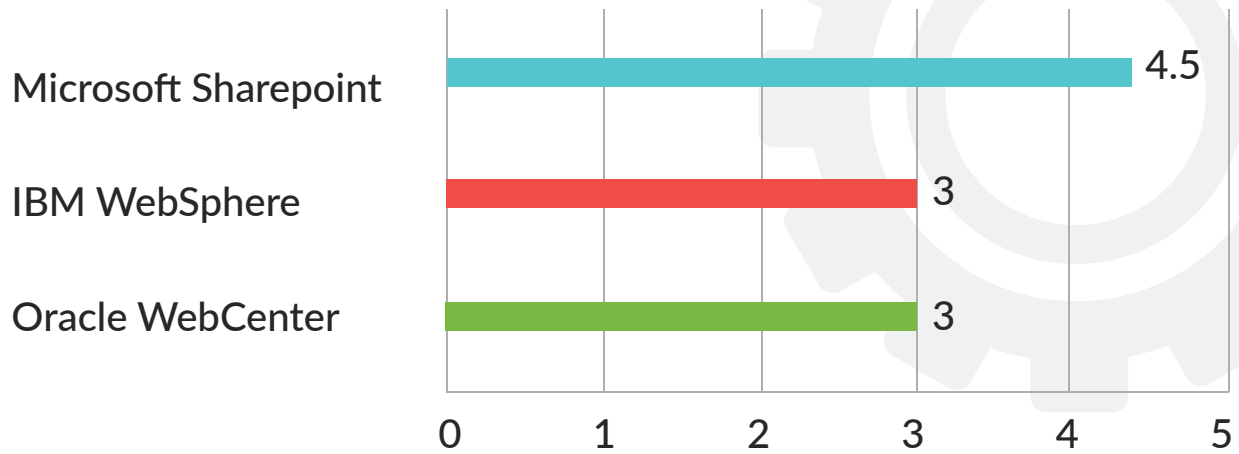
## Document Capture/Ingestion



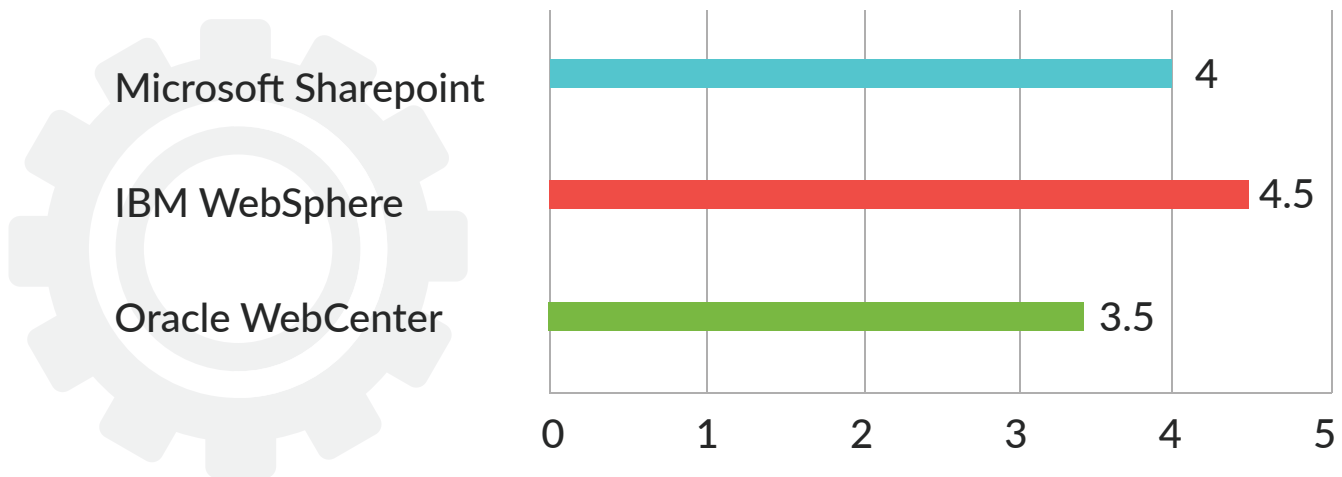
## Classification/Categorization



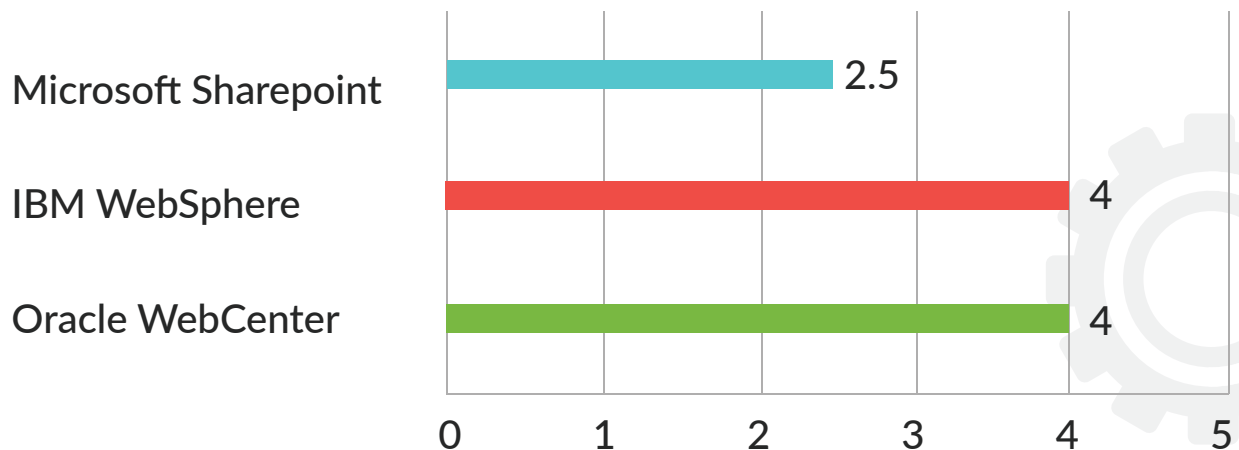
## Insight Engine



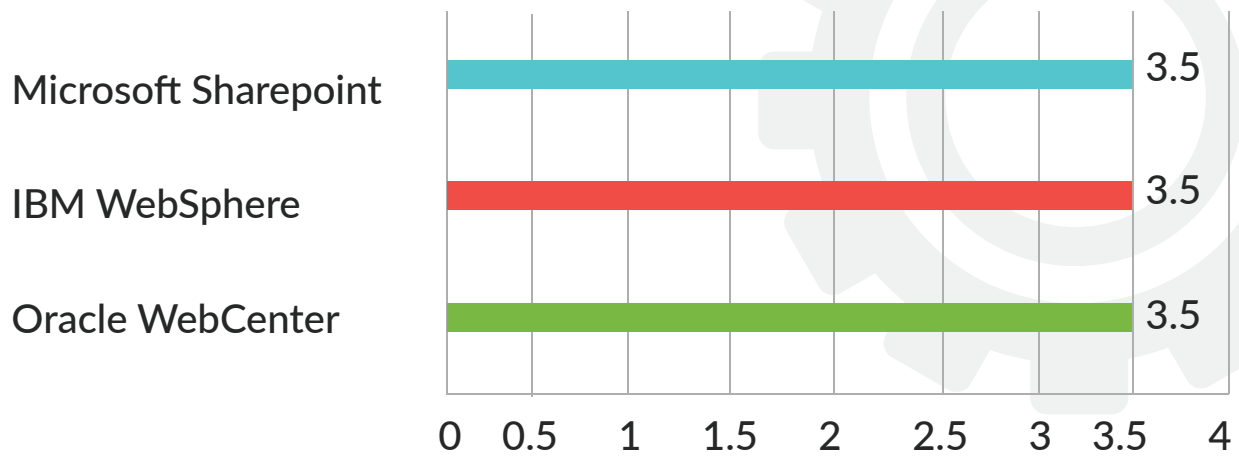
## Content Security



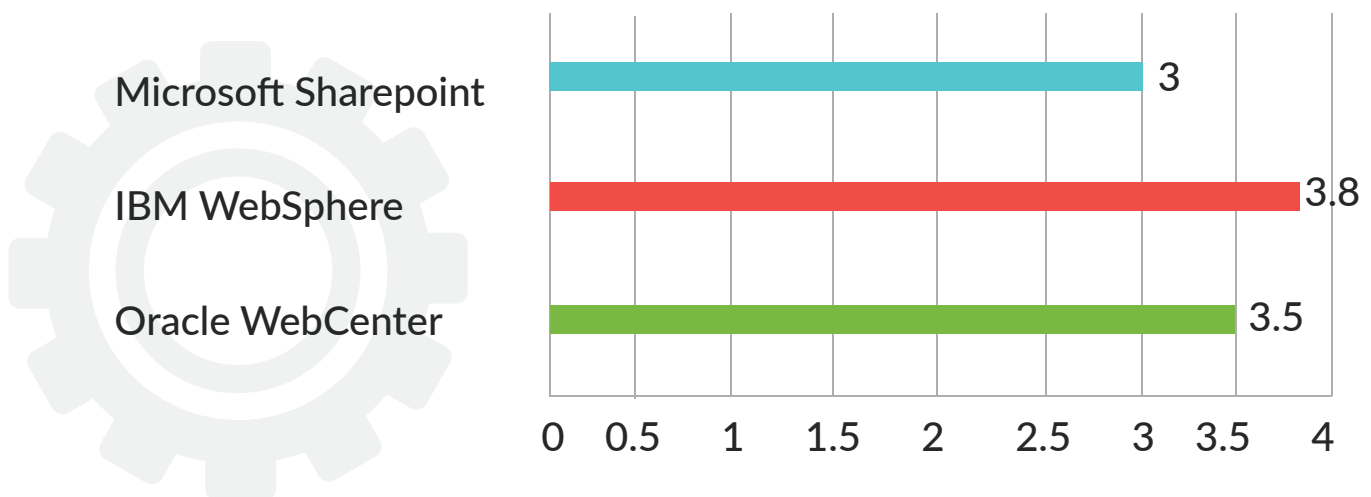
## Regulations/Certifications



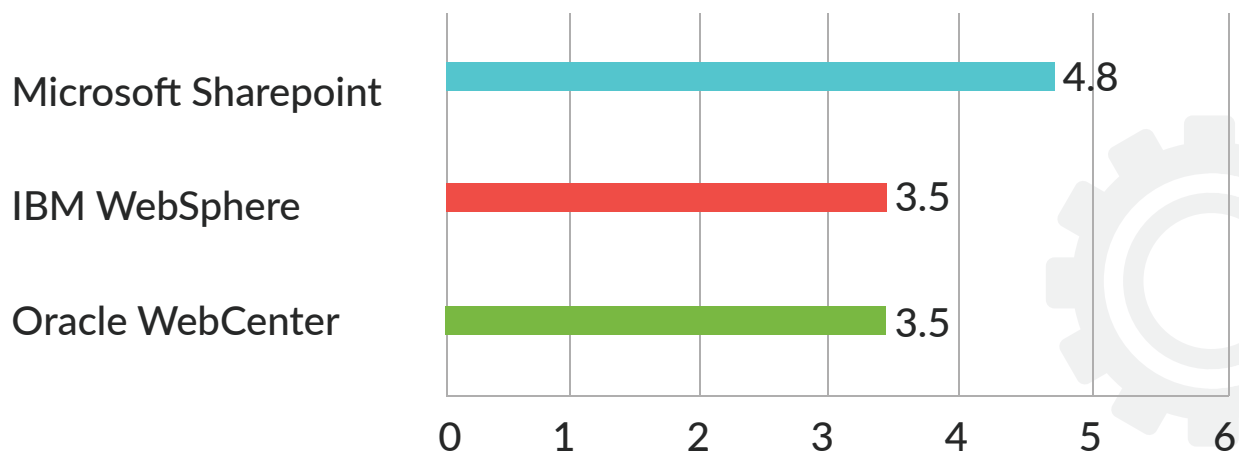
## Mobility



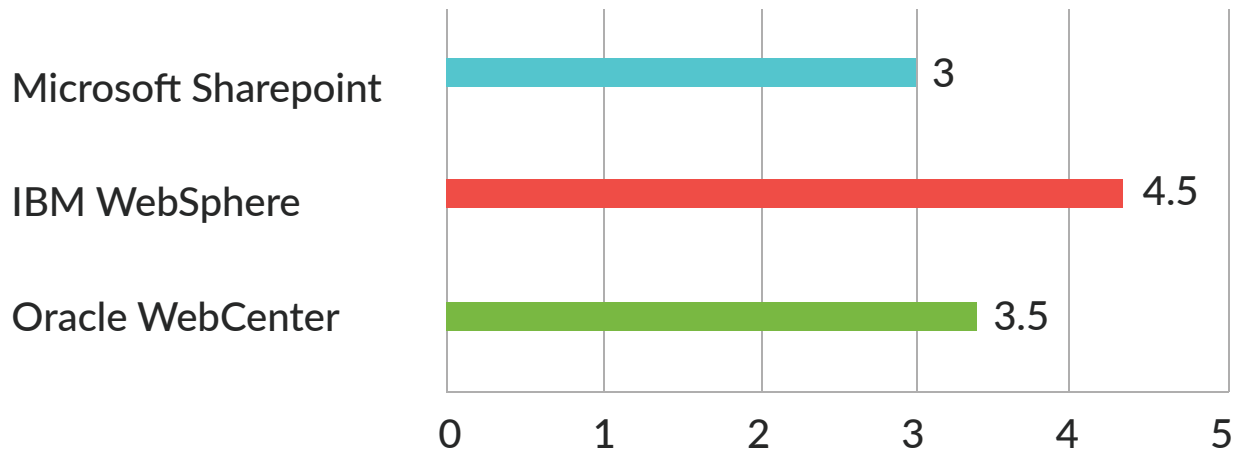
## Integration/Interoperability



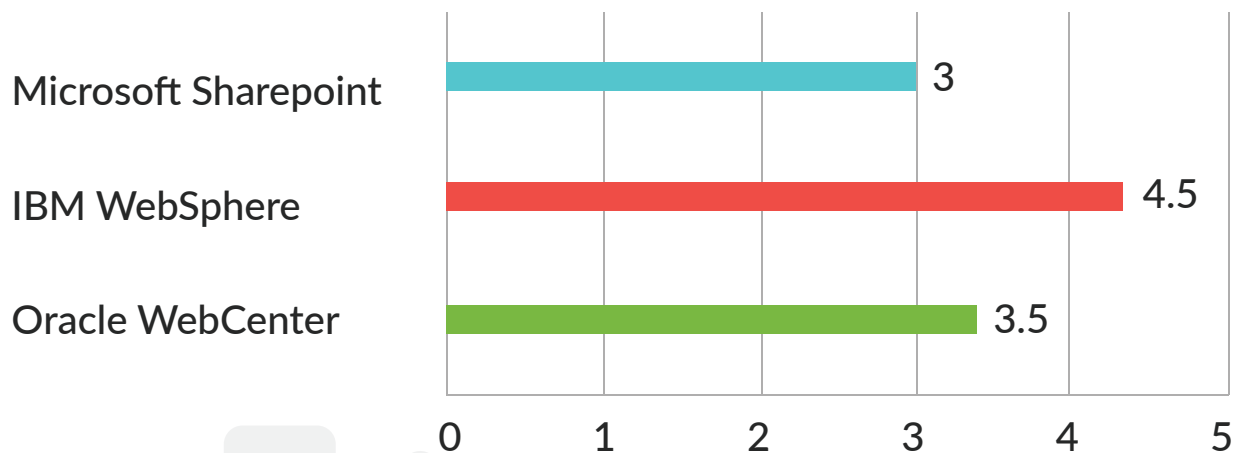
## Social Collaboration



## BPM/Rule Engine



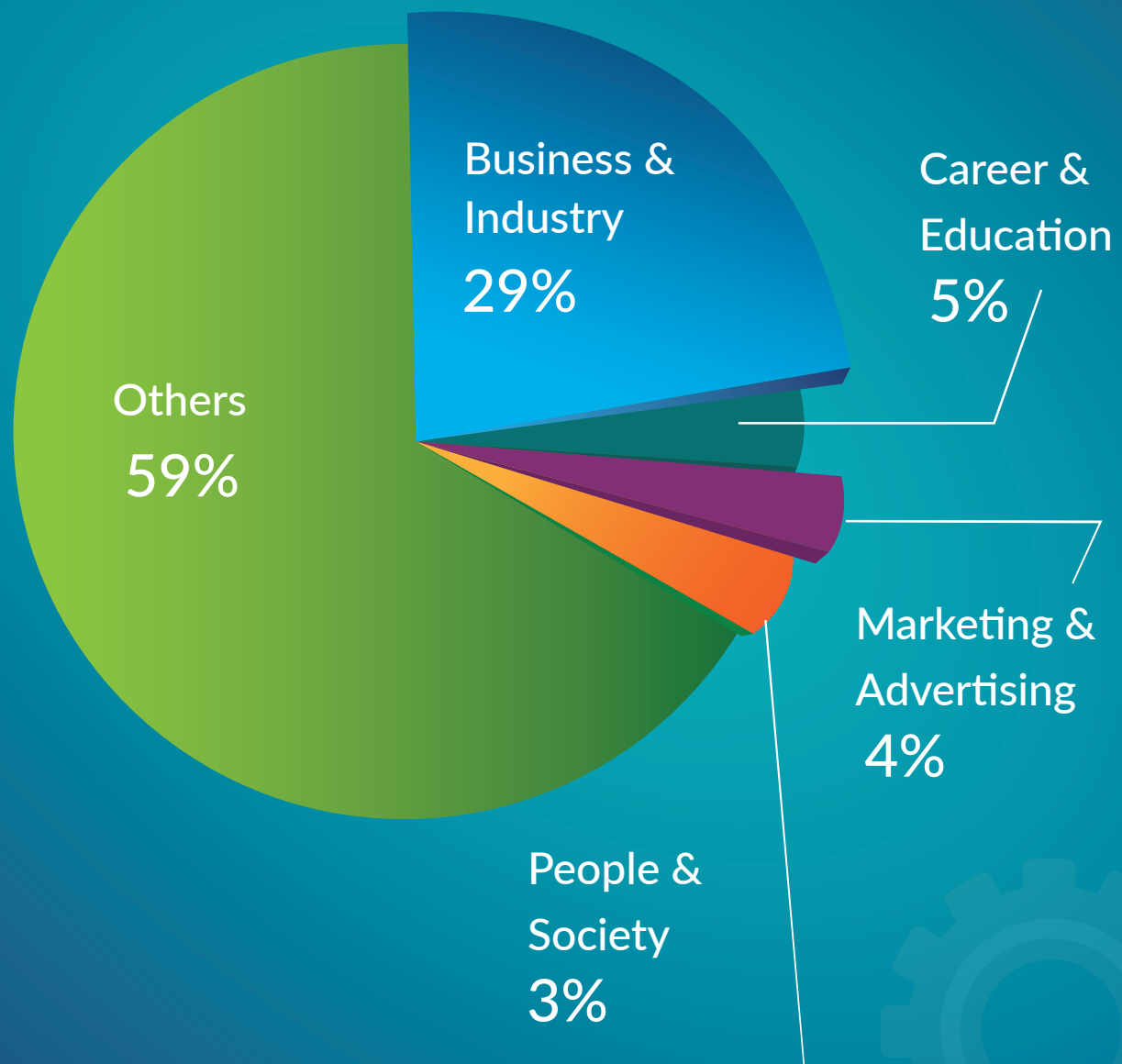
## Analytics/BI



Source: Gartner Report "Critical Capabilities for Enterprise Content Management" Gartner Report "Magic Quadrant for Enterprise Content Management"

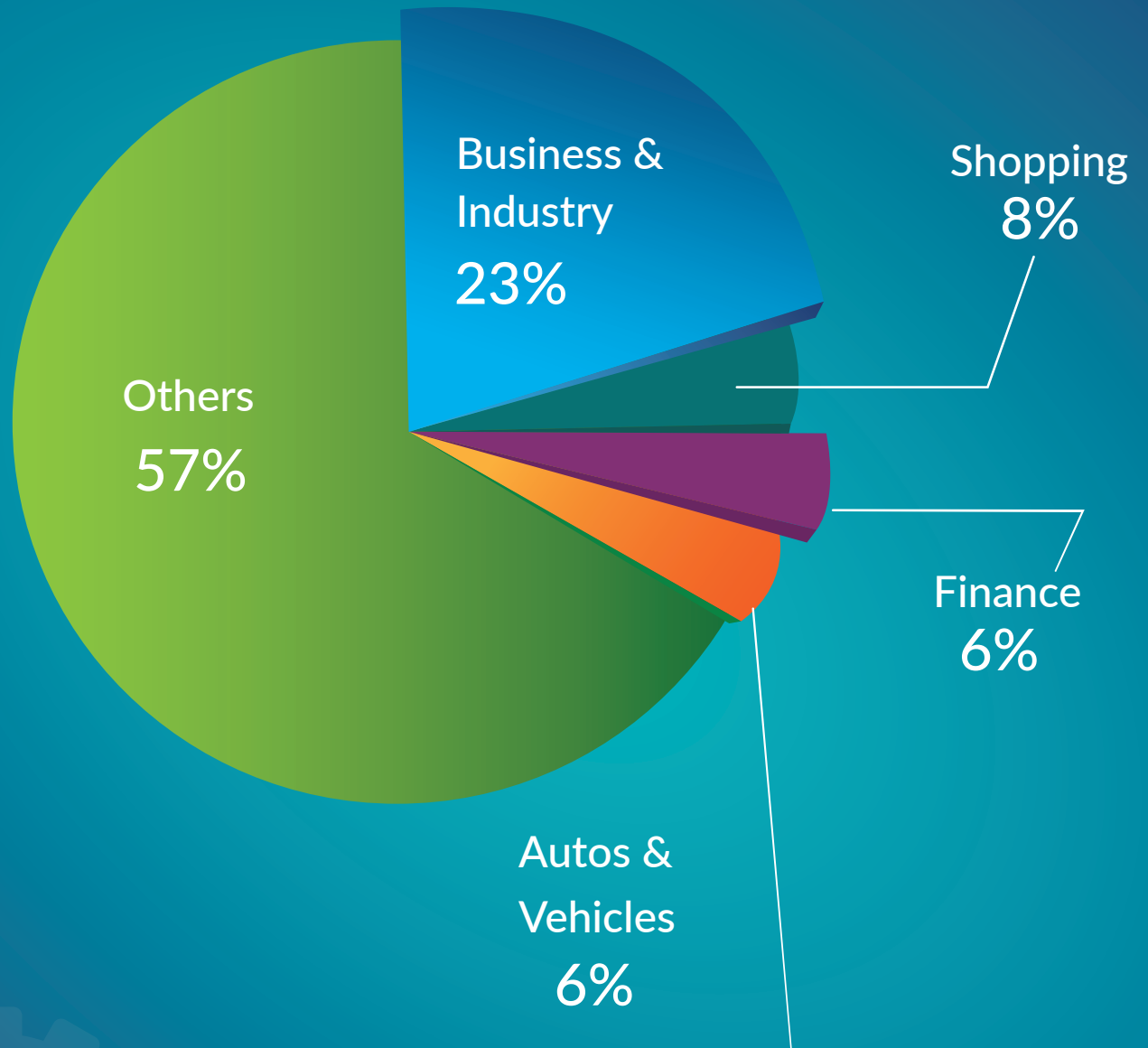
# Industry Wise Distribution

## Microsoft Share Point

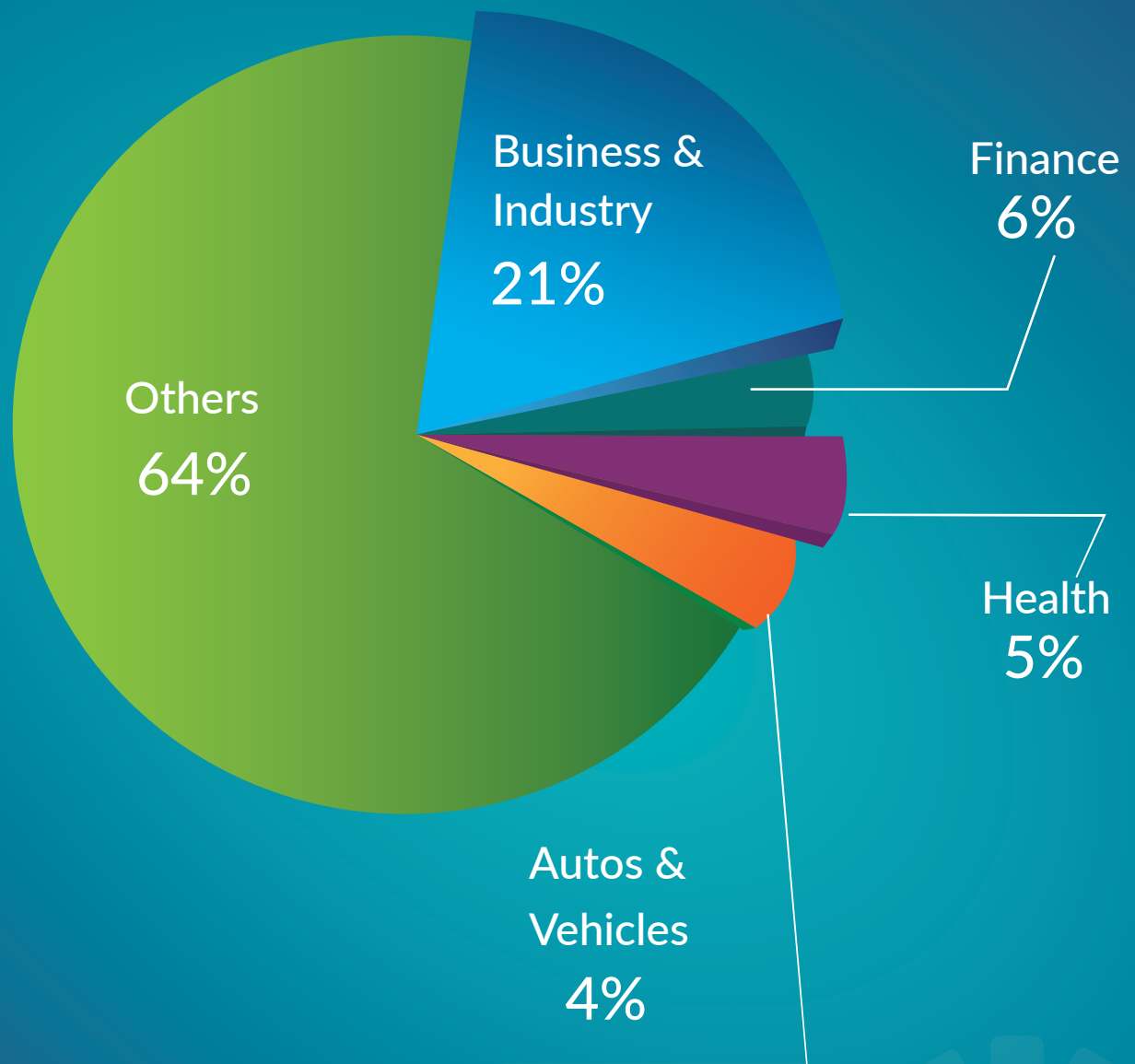




# IBM WebSphere



## Oracle Webcenter



Source: Similartech & Builtwith

# Geography Distribution

## Microsoft SharePoint

Country	Websites
United States	5,553
Canada	890
Australia	700
Turkey	700
United Kingdom	671
Viet Nam	619
Russia	525
Brazil	499
Germany	477
India	441

# IBM Websphere



Country	Websites
United States	853
China	648
Germany	273
Japan	183
Viet Nam	178
Brazil	158
United Kingdom	150
Italy	143
Russia	142
India	121



# Oracle Webcenter

Country	Websites
United States	201
Spain	108
Italy	36
Russia	34
Austria	31
Japan	30
France	27
Brazil	22
United Kingdom	20
India	19

Please note this figures are only for those website which are accessible by public. Most of the systems running in enterprise content management system run as an intranet system for companies.

Source: Builtwith & Similartech

## Feature Comparison

An enterprise content management system is highly customizable. So, if any feature is not present in the package it can be developed by the product owner or by any third party certified company. Also, some of the features are kept out of reach from client for extra payment from them.

Feature marked as “No” in the table below can be done by customization by the system owner or any certified third party companies.

Feature	Oracle Webcenter	Microsoft SharePoint	IBM Websphere
System Requirement			
Application Server	J2EE	IIS/.Net	J2EE
Database	Oracle	MSSQL	DB2
License	Closed Source	Closed Source	Closed Source
Operating System	Plat for Independent	Windows Only	Plat for Independent

Feature	Oracle Webcenter	Microsoft SharePoint	IBM Websphere
Programming Language	Java	C#	Java
Web Server	Apache	IIS	Apache
Security			
Audit Trail	Yes	Yes	Yes
Content Approval	Yes	Yes	Yes
Granular Privileges	Yes	Yes	Yes
LDAP Authentication	Yes	Yes	Yes
Login History	Yes	Yes	Yes
Pluggable Authentication	Yes	Yes	Yes
Sandbox	Yes	Yes	Yes
Session Management	Yes	Yes	Yes
Versioning	Yes	Yes	Yes



Feature	Oracle Webcenter	Microsoft SharePoint	IBM Websphere
Support			
Certification Program	Yes	Yes	Yes
Commercial Support	Yes	Yes	Yes
Comercial Training	Yes	Yes	Yes
Developer Community	Yes	Yes	Yes
Online Help	Yes	Yes	Yes
Pluggable API	Yes	Yes	Yes
Professional Hosting	Yes	Yes	Yes
Professional Services	Yes	Yes	Yes
Public Forum	Yes	Yes	Yes
Public Mailing List	Yes	Yes	Yes
Third-Party Developers	Yes	Yes	Yes



Feature	Oracle Webcenter	Microsoft SharePoint	IBM Websphere
Ease of Use			
Email to Discussion	No	Yes	Costs Extra
Friendly URLs	Yes	Yes	Yes
Macro Language	No	Yes	No
Server Page Language	Yes	Yes	Yes
Template Language	Yes	Yes	Yes
UI Levels	No	Yes	No
WYSIWYG Editor	Yes	Yes	Yes
Performance Management			
Advertising Management	No	Yes	No
Asset Management	No	Yes	Costs Extra
Clipboard	No	Yes	No



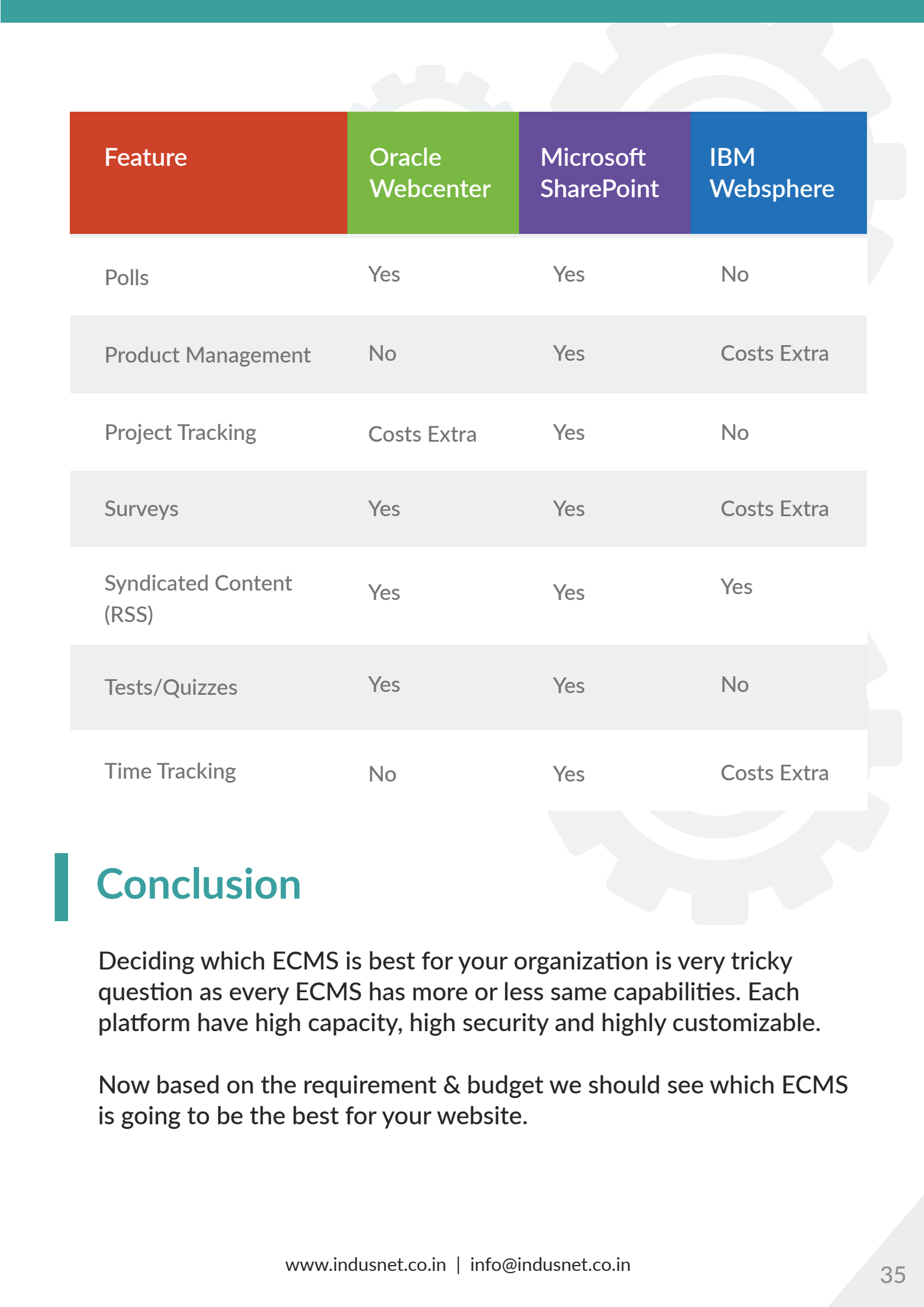
Feature	Oracle Webcenter	Microsoft SharePoint	IBM Websphere
Content Scheduling	Yes	Yes	Costs Extra
Inline Administration	Yes	Yes	Yes
Online Administration	Yes	Yes	No
Package Deployment	Yes	Yes	No
Sub-sites/Roots	Yes	Yes	Yes
Theme/Skins	Yes	Yes	No
Trash	Yes	Yes	No
Web Statistics	Yes	Yes	No
Web-based Style/Template Management	Yes	Yes	Costs Extra
Web-based Translation Management	Yes	Yes	No
Workflow Engine	Yes	Yes	Costs Extra



Feature	Oracle Webcenter	Microsoft SharePoint	IBM Websphere
Interoperability Flexibility			
CGI-mode Support	No	No	No
Content Reuse	Yes	Yes	Yes
Extensile User Profiles	Yes	Yes	Costs Extra
Interface Localization	Yes	Yes	Yes
URL Rewriting	Yes	Yes	No
Built-in Applications			
Blog	No	Yes	No
Chat	No	Yes	Costs Extra
Contact Management	Costs Extra	Yes	Costs Extra
Data Entry	Yes	Yes	No
Database Reports	Yes	Yes	Costs Extra



Feature	Oracle Webcenter	Microsoft SharePoint	IBM Websphere
Discussion/Forum	No	Yes	Costs Extra
Document Management	Yes	Yes	Costs Extra
Events Calendar	Costs Extra	Yes	Costs Extra
Expense Reports	Costs Extra	Yes	Costs Extra
FAQ Management	No	Yes	No
File Distribution	Yes	Yes	Yes
Help Desk/Bug Reporting	No	Yes	Costs Extra
HTTP Proxy	Yes	Yes	No
Job Postings	No	Yes	No
Link Management	Yes	Yes	No
Mail Form	No	Yes	No
My Page/Dashboard	Yes	Yes	Yes



Feature	Oracle Webcenter	Microsoft SharePoint	IBM Websphere
Polls	Yes	Yes	No
Product Management	No	Yes	Costs Extra
Project Tracking	Costs Extra	Yes	No
Surveys	Yes	Yes	Costs Extra
Syndicated Content (RSS)	Yes	Yes	Yes
Tests/Quizzes	Yes	Yes	No
Time Tracking	No	Yes	Costs Extra

## Conclusion

Deciding which ECMS is best for your organization is very tricky question as every ECMS has more or less same capabilities. Each platform have high capacity, high security and highly customizable.

Now based on the requirement & budget we should see which ECMS is going to be the best for your website.

# References

1. [https://en.wikipedia.org/wiki/Enterprise\\_content\\_management](https://en.wikipedia.org/wiki/Enterprise_content_management)
2. <https://en.wikipedia.org/wiki/Alfresco>
3. <https://en.wikipedia.org/wiki/SharePoint>
4. [https://en.wikipedia.org/wiki/Oracle\\_WebCenter\\_Server](https://en.wikipedia.org/wiki/Oracle_WebCenter_Server)
5. [https://en.wikipedia.org/wiki/IBM\\_WebSphere](https://en.wikipedia.org/wiki/IBM_WebSphere)
6. <http://www-03.ibm.com/software/products/en/appserv-was>
7. <http://www.aiim.org/What-is-ECM-Enterprise-Content-Management>
8. <https://www.g2crowd.com/categories/enterprise-content-management-ecm>
9. <https://www.laserfiche.com/ecmblog/what-is-enterprise-content-management-ecm/>
10. <http://searchwindowsserver.techtarget.com/definition/enterprise-content-management-ECM>
11. <https://www.onbase.com/en/learn-ecm/what-is-ecm#.WV4I34iGPIU>
12. [https://www.alfresco.com/platform/content-services-ecm?utm\\_source=google&utm\\_medium=cpc&utm\\_content=Enterprise-Head-Term-Exact&utm\\_campaign=Search-ECM-Other&referrer=PPC&gclid=EAlaIqobChMIhPbsm8301AIVQSN0Ch2VYAuDEAAYAiAAEgK0zfD\\_BwE](https://www.alfresco.com/platform/content-services-ecm?utm_source=google&utm_medium=cpc&utm_content=Enterprise-Head-Term-Exact&utm_campaign=Search-ECM-Other&referrer=PPC&gclid=EAlaIqobChMIhPbsm8301AIVQSN0Ch2VYAuDEAAYAiAAEgK0zfD_BwE)
13. <http://www.opentext.com/what-we-do/products/enterprise-content-management>
14. <https://www.sap.com/india/products/enterprise-content-management.html>
15. <http://www.gartner.com/it-glossary/enterprise-content-management-ecm>
16. <https://netbeans.org/kb/docs/web/jsf-jpa-WebCenter.html>
17. <https://www.oracle.com/middleware/WebCenter/suite.html>
18. [https://docs.oracle.com/cd/E13222\\_01/wls/docs61/intro/chap1.html](https://docs.oracle.com/cd/E13222_01/wls/docs61/intro/chap1.html)
19. <http://www.oracle.com/technetwork/middleware/WebCenter/overview/index.html>

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- 20.<http://www.cmswire.com/information-management/is-enterprise-content-management-as-we-know-it-done/>
  - 21.<https://www.cognizant.com/portals-content-management>
  - 22.<http://www.toptenreviews.com/business/internet/best-enterprise-content-management-systems/>
  - 23.<http://www.newgensoft.com/digital-transformation/what-is-enterprise-content-management-ecm/>
  - 24.<https://www.forrester.com/The+Enterprise+Content+Management+Playbook+For+2017/-/E-PLA510>
  - 25.<https://www.nuxeo.com/products/content-management-platform/>
  - 26.[http://www.webopedia.com/TERM/E/Enterprise\\_Content\\_Management.html](http://www.webopedia.com/TERM/E/Enterprise_Content_Management.html)
  - 27.<http://www.cygnet-infotech.com/enterprise-content-management-services>
  - 28.<https://www.docuware.com/document-management-software-solutions/why-docuware>
  - 29.<https://products.office.com/en-us/sharepoint/collaboration>
  - 30.[https://www.alfresco.com/?utm\\_source=google&utm\\_medium=cpc&utm\\_content=Alfresco-EXM&utm\\_campaign=Brand-Search&referrer=PPC&gclid=EAlaIqObChMIzNz20c701AIVXAYqCh2GOAjoEAYASAAEgKZovD\\_BwE](https://www.alfresco.com/?utm_source=google&utm_medium=cpc&utm_content=Alfresco-EXM&utm_campaign=Brand-Search&referrer=PPC&gclid=EAlaIqObChMIzNz20c701AIVXAYqCh2GOAjoEAYASAAEgKZovD_BwE)
  - 31.<https://www.alfresco.com/>
  - 32.<https://www.alfresco.com/platform/content-services-ecm>
  - 33.<http://www-03.ibm.com/software/products/en/appserv-was>
  - 34.<https://www-01.ibm.com/software/in/>
  - 35.<https://www.similartech.com/technologies/oracle-webcenter>
  - 36.<https://www.similartech.com/technologies/ibm-websphere-portal-server>
  - 37.<https://www.similartech.com/technologies/sharepoint>
  - 38.<http://www.cmsmatrix.org/matrix/cms-matrix>