

Content Management and its Application in LIS Domain

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Abstract

This paper deals with the much talked “Content Management” and its application in Library and Information Science. Knowledge mapping can be done with internal content and capture, digitize and integrate it for cohesiveness. Moreover, the intranets form an integral part of library collection that are managed by LIS professionals. Content processing is rather complex and may contain in a variety of platforms in different forms. First thing is to setup a content domain and then only the clear idea of contents can be obtained, which later can be broken up into granular component pieces. It makes convenient and manageable chunks of information. This article tries to demystify the inherent intricacies of content management and seeks a better way to show its reflection in Library and Information Science.

Keywords: CMS tools, Content, Content Aggregation, Content Management, ECMS, Web Content

1. Introduction

Content exists in numerous formats – paper, graphics, electronics, e-mails, audio and video, web content etc. The document management efficiencies require capturing, managing, preserving and delivering content protecting content longevity and data recognition accuracy. The focus of the collection is on the content, whatever it is and wherever it comes from. In a typical library environment the collections are hybrid in nature and provide access to plethora of information in multiplicity of formats¹. However, the proliferation of digital resources does have an impact on collections of libraries and include the following²:

1.1 Internal Content

Capturing of knowledge is the key step in content management. The librarians can identify content owners in

the organizations, viz. scientists in research organizations, decision makers in government, executives in business, academics/researchers in educational institutions, technocrat in industries et al., can collect and record their expertise, opinions and technical knowledge. Thus knowledge mapping can be done with internal content and capture, digitize and integrate it for cohesiveness. Moreover, the intranets form an integral part of library collection that are managed by LIS professionals.

1.2 External Collections

Digital content is being delivered in libraries that derive from different sources. Some of the digital data acquired by libraries include purchased data bases on CD ROM, Online data sets that are subscribed, electronic publications with paper equivalent like indexes and abstracts, electronic journals, electronic reference works with or without paper equivalents, e-books etc.

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1.3 Network Access to Other Library Collections

Digital holdings of other libraries and non-profit organizations that are for sharing in a networked environment form a good chunk of content. In fact the present day libraries are functioning as distributed digital libraries for the purpose of digital data sharing through LAN or WAN.

1.4 The Internet and its Myriad of Web Content

The web is the means through which most libraries are accessed. Indeed the emergence of WWW is primarily to provide information. Although the www is seen for commercial uses, the factual sites are made available by libraries that are proved to make web more useful. The provision of e-books, reference books and e-journals through websites has the great impact on libraries. All these sources offer full text of books, journal articles and encyclopedic articles and also add value in terms of services.

Organization of the content involves provision of orderly structure that links relevant information of the content available and/or accessible. The metadata can be used for capturing relationships and links between different pieces of information or related web pages³. This of course is what exactly information professionals are trained to do. This step creates the architecture for the content presentation, categorizing and managing the content. In other words the metadata can be used to track the content,

- Capturing relationships and links between content packets,
- Mapping knowledge terms,
- Capturing keywords and
- Presenting the content in an easy to use pattern.

Thus metadata forms the key in content management; hence extensible metadata schema is in use for management and updating of existing data, cataloguing and indexing of content. Further a wide range of automated navigation aids can be used to achieve consistent browsing, back of the book indexing, cross references between pages, define the content unit by its location, searches for content using full text, thesaurus search, creation of request media list by mark in and mark out⁴.

1.5 Management of the Content

The management function starts once the repository that holds all of the content and the metadata is ready for access. This involves the document life cycle, one of the important aspects of content management. The primary aim is personalization of the content and delivery of the same. Different segments of content and their paths for access will be defined for efficient management. The segments generally include:

1.6 Internal Content Management

The process integrates all internal information, in any format and type, into digitized data so that users can access relevant information about a specific topic.

1.7 Website Content Management

The creation, organization, delivery and maintenance of website oriented content that suits the objectives of the library.

1.8 Transactional Content Management

The content that emerges out of transaction with the user and other libraries from time to time that may be re-used in future.

1.9 Shared Content Management

The process that allows shared information to be managed and accessed jointly, either within the organization under intranet or with other libraries at local or national level is called shared content management.

2. Strategic Information Services

The content management by identifying and structuring internal sources, sourcing and acquiring external sources and integrating internal and external sources paves for the delivery of information through strategic information services. Abell and Oxbrow explain "Information services package, develop and deliver value-added services to the business – critical areas of the organization⁵. Their role is increasingly to:

- Facilitate effective handling of the 80% of enquiries that can be predicted through help systems and call centres.

- Educate and train users to find, acquire, use and manage information – to make effective use of content manage the internal information flows that do not fall within the jurisdiction of content management.
- Provide the 20% of value-added information that requires a mix of research analysis and consultancy skills”.

The services that can be offered based on content management strategies are many, some important ones among them are:

2.1 Content Management

Content Management (CM) in its simplest sense is document management efficiencies to capture, manage, store, preserve and deliver content. Gartner Group explains, “Content management is an ambitious phrase with meanings that vary depending on what a user may need or vendor may offer”⁶. According to the business world, CM is a software package specifically designed to manage a website. Installed by web designers, via web-based interface that works much like word, it intends to be used by managers of web. It provides a simple non-technical way of updating the content. While James Robertson⁷ emphasized corporate information under Content Management, he suggested the creation, management, publishing, and discovery of corporate information. He also suggested that, “it covers the thorough life cycle of pages on ones site, by providing tools for creation of the content, through to publishing and finally to storing. It also provides the structure of the site, the appearance of the published page, and the navigation provided to the users.”

Tuemmler, a document management consultant, suggests that systems for managing organizational content be based on a critical review of business processes⁸. Users should identify processes involved and required information needs—not only hardware and software consultants and vendors. Finally, information life cycle study must address deletion and shredding of records that are no longer essential. Mancini reports that only four in ten respondents understand the importance of the information lifecycle⁹. In addition to end user requirements of the information lifecycle, Sarbanes-Oxley defines procedures and policies for managing information¹⁰.

Vignette and its alliances classify the CM in to three categories¹¹:

- Content Development Management – involves the creation of digital content from concepts, content

authoring, digital asset management, and document process management.

- Application Content Management – involves content aggregation, content description (metadata management) and delivery content specification.
- Content Delivery/Acceleration Management – involves the delivery of content in a controlled and optimized environment.

Thus despite variance, CMS are concerned with the administration and enabling of *content storage, personalization, authoring/editing, approval, publication and delivery* within an established work flow. The CMS are basically developed keeping in view the corporate sector as target customers.

3. Terminological Turmoil

Content management has gone by many names such as Knowledge Management, Document Management, Software Configuration Management, Web Content Management, Digital Access Management, Digital Rights Management, with subtle difference but aiming at the similar target information i.e. content objects, files, associated material or relational data. As Trippe puts it, “the names may change but in many ways the story is the same. Over past several years we have seen a quick and accelerating shift from one term to another that attempts to name the technology responsible for creating, updating, managing and distributing material in many forms ... Call it a ‘document’, ‘knowledge’, or ‘content’, the problem set that was identified years ago is, at its core, the same. There is simply more of everything – more core material, more forms of it, and more ways to distribute”¹². Owing to technological developments there are volumes of information in databases, on net and with humans as creators and carriers of knowledge. Hence the organizations want to manage the content for re-use, share, and preserve to function effectively. Thus they have returned to information in the new term ‘content management’, which encompasses a broad field since everyone needs to manage their content for effective functioning of the organization.

4. Factors Affecting the Growth of Content Management

Several factors are currently responsible for the growth of content management. Kaplan speculated that the growth

in content management implementations would double between 2001 and 2006¹³. Reasons for such growth are associated with management's understanding of the importance of their data and their possible strategic use of data within the organization. Mancini¹⁹ opines some additional reasons for such growth of CM implementations: i) continuity of business operations, ii) dissemination of information across the organization, and iii) reduction of litigation risks and costs⁹. The World Wide Web is another influential force affecting the growth of content management¹⁴. Arnold argues that survey findings that one-fifth of Web site managers (19 percent) indicate they will be involved in content management consolidation projects as they work to manage Web properties¹⁴.

5. Features of Content Management Systems

Early in its evolution, content management was viewed separately from document management. Today, with the growth of intranet and private virtual networks, many documents are now available on the Web that were primarily paper based in the past. According to Wilkoff (as cited in Kaplan¹³), "It's no longer strictly about Web content—it's just as much about managing users who are involved in the content process as it is about managing the content." In order to meet user expectations, content management systems should offer the following capabilities: repository management and version control, with check-out/check-in features; delegated administrative capabilities; search; workflow process control; authoring, template creation, and file transfer processes¹³⁻¹⁵. In addition to a system's capabilities, enterprise content management vendors frequently provide customer service, training, and continued product development. To illustrate a feature of an enterprise content management system, once again a typical e-mail message may be considered¹⁶.

6. Benefits of Content Management

There are obvious benefits to managing information. Having the right information, at the right time, at the lowest possible cost, is a major benefit of having a content management system. Other major benefits include: providing organizational memory, aiding in decision making, preventing litigation, achieving organizational efficiency,

and ensuring compliance with state and federal regulatory agency requirements. Smith and McKeen¹⁷ offer other benefits for content management: "simplified forms and work processes, improved navigation through organizational records, reduced materials costs, and increased access to information, and improved accuracy and currency of information"¹⁷. Arnold promotes greater customer satisfaction and reduced employee turnover as benefits of Web site content management¹⁴. Business people can realize their own benefits for a fully functional content management system, which could be implemented for their entire organization (enterprise content management). As proposed by Chen (as cited in Newing¹⁸), individuals within organizations are empowered to own, create, and maintain content so that information users have an accurate, up-to-date snapshot of the state of the organization, which should improve efficiency and productivity. Better interaction between executives, employees, business partners, and customers is also a benefit of a well-designed content management system, also offer collaborative work capabilities, which are managed with check-out/check-in procedures. Converting existing forms to Web-based versions can make the process of accessing, completing, and submitting "paper work" more efficient. The United States Air Force has implemented such a transfer of paper-based forms to Web-based versions⁴.

7. Application of Content Management in Libraries

The contemporary information environment is witnessing shift in the perceptions and strategies caused by digital world. Content management is one among several shifting perspectives. Six important factors need to be considered to understand the application of content management in digital library environment.

- Collection development of digital content
- Processing and Organizing the content
- Management of the content.
- Work flow
- Publishing and Presentation
- Strategic information services

Then scope of content management those confines to the application of content management in library and information environment is that libraries are primarily concerned with the *second category* of content

management as defined above. Electronic communication facilities provide opportunities for libraries to acquire and or access more information, both internal and external. As a result, a very large body of content is being piled up, which requires a strategy for information building and access. The LICs have to analyze, classify and capture the key knowledge and support the goals of the parent organization. They can achieve this with the help of content management techniques.

8. Conclusion

Content Management (CM) as the nucleus of Knowledge Management has opened new challenges and opportunities. New vistas in CM are Changing and its pattern of conventional conjecture host of new generation Content Development Systems. Library Professionals are struggling with the technologies and the new system for content consolidation content repackaging and customized content delivery mechanism. Limitless scope of appropriate CM strategies under the umbrella of Knowledge management as applicable to different sectors like Enterprise sector, Development Systems, Academic sector, Social sector for Literacy and Empowerment, Research and Innovation sector, etc. E-learning initiative is also one growing field where the content management can plat its pivotal role. It is more assuming that the LIS professionals learning skills and knowledge development on CM is therefore getting paramount significance. Co-building and coherent partnership among the allied disciplines like LIS and ICT requires to be reviewed in this perspective.

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