

# LICMIS

A Critical Link  
to Learning  
Success



BY JEFF WHITNEY



# One of the largest issues

facing learning today is “The Content Gap.” This gap lies in the space between the abundant availability of generic “off the shelf” courses, and the lack of quality, organization-specific content.

Off-the-shelf content is important but provides no competitive advantage as it is readily available to the masses. As a result, learning initiatives and Learning Management System (LMS) implementations, along with the ROI expectations that accompany them, can fall short precisely at the moment when off-the-shelf content options are exhausted.

Learning becomes a much clearer value proposition when organizations are able to address the content gap by harvesting their own intellectual capital and convert those assets to re-usable learning content. To support this harvesting, organizations are increasingly turning to Learning Content Management Systems (LCMS).

Whether your role is a learning leader or a learning technologist, understanding the benefits and key characteristics of LCMS technology is an imperative.

Additionally, perhaps the biggest long-term benefit of an LCMS is its ability to turn invaluable knowledge locked within training courses into knowledge nuggets that can be re-used within other courses, as well as for informal and contextual learning. In this way, training initiatives become ongoing, real-time knowledge initiatives that impact workers’ performance each and every day.

## LCMS Models

As with almost all technologies, not all LCMSs have the same basic architectural model. There are two primary types of LCMS models: page-based and asset-based. Understanding the fundamental approaches and underlying design philosophy of each, as well as their strengths and weaknesses in meeting different business drivers, can help organizations select the best LCMS model approach for their immediate and long-term needs.

**A page-based LCMS** is primarily centered on the creation, management and publishing of e-learning pages created using embedded authoring tools. These tools enable authors to take an artisanal approach to developing online learning content. Authors handcraft the learning experience by constructing individual pages within the course, embedding the course navigation, adding content elements to the page, and specifying their look and feel. The result is a well-designed course that is purpose-built for the delivery of e-learning.

**An asset-based LCMS** is centered on the creation, management,

## Benefits of LCMS Technologies

LCMS technology offers many advantages, including:

- Increasing the efficiency of content developers.
- Supporting collaborative development.
- Driving down training costs.
- Helping to meet compliance requirements by maintaining strict control over content versions and historical account of changes over time.
- Reducing training time and improving learning by delivering more personalized content.

delivery, and publishing of all learning content — not just e-learning. Content created using asset-based LCMS authoring tools allows organizations to save useful chunks of content, called “assets,” a single time in a central repository. The content is stored without a specific design or navigation. This frees the organization to assemble and deliver these assets as often and in as many places as needed.

## Matching Business Drivers to LCMS Models

Both models can deliver significant benefit and the decision is very much dependent upon each organization’s business drivers.

For example, Orange County Teacher’s Federal Credit Union (OCTFCU) uses a page-based LCMS to create, manage and deploy employee training through e-learning. Their analysis showed they are developing courses 75% faster, reducing course development costs by 80%, and increasing learning effectiveness. In fact, shortly after implementing the system, surveys showed dramatic customer satisfaction improvement, particularly in the category of employee knowledge.

A large healthcare organization, on the other hand, has a need to distribute learning via the Web, CDs, workshop manuals and even handheld devices. Using an asset-based approach, they find they can develop their learning content a single time and re-use

# WHILE BOTH LCMS MODELS OFFER ENHANCED PRODUCTIVITY FOR DEVELOPERS AND EFFECTIVE LEARNING, EACH IS OPTIMIZED TO MEET DIFFERENT BUSINESS DRIVERS.

it for all their different purposes. Using this approach, they are able to develop learning 50% faster, and achieve a 75% higher learner satisfaction rate.

While both LCMS models offer enhanced productivity for developers and effective learning, each is optimized to meet different business drivers. The rest of this article will discuss these business drivers and how the page- and asset-based models address each.

## Enabling Subject Matter Experts to Contribute Content

Oftentimes, subject matter experts, (SMEs) are tasked with providing the base information from which subsequent learning materials are built. In most cases, it does not make sense to train SMEs on how to use an LCMS authoring tools to capture the information they can provide. Instead, organizations rely on the software such as Microsoft Word and PowerPoint that most SMEs are familiar with. To accommodate this approach, a LCMS will provide the ability to ingest these common file types and convert them into a format native to the LCMS.

This ability to ingest and manage this document-based content is a key capability used to convert legacy content such as documentation and instructor-led materials into the content foundation used to create other delivery modes such as e-learning courseware.

Page-based systems generally do a good job of importing PowerPoint type content because it has already been optimized for on-screen delivery and shares the same basic page-based framework for structuring, presenting and positioning content. Support of document-based content, such as Word documents, however, may be a bit more troublesome and may require instructional designers to perform manual work before importing the content.

Asset-based systems also support PowerPoint-type content, and because of the asset-based system's separation of the delivery format from the content, document-based content, such as Word documents, is more easily handled.

In summary, if SMEs will be primarily using a PowerPoint approach to author content, then either LCMS approach is fine. For Word or other document contribution, an asset-based approach may be more appropriate.

## Managing and Publishing Standards-Based Content

E-Learning content standards, including AICC and SCORM, are designed to enable content to be interoperable across any compliant system. The ability to publish e-learning content from the development environment to these standards should be a core capability for any LCMS. Additionally, the ability to import, manage and deliver content developed outside of the LCMS is often another important consideration.

Both page-based and asset-based systems provide the ability to publish e-learning content as standards-compliant courses. Other legacy content such as existing HTML courses, CBT courses or other third-party developed courseware, may be imported and managed by both systems. However, an asset-based system provides stronger abilities to import, manage and deliver content that was not developed using the LCMS's built-in authoring tools.

For organizations required only to deliver standards-based content created by the organization, a page-based system will fill the need. When an organization needs to manage and deliver standard-based content created by vendors or use off-the-shelf content within a course, an asset-based LCMS should be considered.

## Facilitating Content Reuse

Both page-based and asset-based systems support the ability to assemble and reuse content. However, the approaches to content reusability and assembly differ drastically.

With page-based systems, each page and the content embedded in it is stored as a unique object in an LCMS, presenting the option of re-using the page in other courses or the same content in other pages. However, because the look and feel is embedded into the page and content objects, reuse is often limited to courses sharing the exact same look and feel as the original course. Since content is structured around the page-based framework, reuse most frequently happens at the page level. Authors search for and find pages that contain the desired content and link it into the new course structure as is. If a different look and feel is desired, those content objects must be copied and modified. This has long-term implications in terms of content maintenance.

# WHEN CONTENT IS DELIVERED ONLINE, THE LEARNING EXPERIENCE DELIVERED BY THE LCMS MAY BE TAILORED TO MATCH A LEARNER'S PROFILE.

Alternatively, asset-based systems store content separately from the presentation format. Therefore, the manner in which the content was created will not impact its ability to be reused. Any single element, be it a graphic or a paragraph, automatically exists in the LCMS as a content asset available for sharing. As a result, the focus of authors in an asset-based LCMS is not to create handcrafted pages but instead to focus on the creation and assembly of learning assets.

Thus, organizations should take into account their development methodologies and the likelihood of creating content that can be used across multiple courses and/or multiple delivery methods. Those that see a real opportunity to experience efficiencies by sharing and reusing content between courses, divisions, branches or audiences will have more incentive to consider the asset-based approach since it simplifies the sharing process. Organizations that do not expect to share content across multiple courses or provide multiple variations of the base content may find the page-based approach an appealing alternative.

## Providing Multiple Output Capabilities

Some organizations are only concerned with developing and delivering e-learning and simple HTML print, while others may have the need to provide additional training materials to support different delivery channels, such as instructor-led training materials, documentation, PDA-delivered content and online.

When an organization's learning strategy relies on the need for multiple output types from a single source of content, the asset-based approach offers efficiencies and simplifies the process of preparing, coordinating and maintaining the development and delivery of overall

learning content ensembles.

However, when an organization relies on only one or two modes or types of learning content delivery, these efficiencies become less important and the page-based approach to content creation, storage and handling may actually avoid complication without undue losses in efficiency.

## Providing Personalized Learning Experiences

When content is delivered online, the learning experience delivered by the LCMS may be tailored to match a learner's profile. This may entail audience-specific content branding via a different look and feel for various learning experiences or content tailored for each audience or specific roles within that audience via custom learning paths.

Both page-based and asset-based allow for varying levels of personalization. The page-based approach to branding content for multiple audiences typically consists of applying different "look and feel" templates to the course prior to publishing the e-learning content. However, this requires the organization to track and maintain multiple variations of the published courses. Providing custom audience-, or learner-specific content, however, may require authors to create pre-defined paths through the course content or create and maintain multiple audience-specific versions of each course.

With asset-based systems, personalization is approached very differently. The elements of learning content (i.e., content, structure, presentation, layout and

## FastFacts

■ A page-based LCMS is helping the Orange County Teacher's Federal Credit Union to develop courses 75% faster, to reduce course development costs by 80%, and to increase learning effectiveness.

■ Shortly after implementing the system, surveys showed dramatic customer satisfaction improvement, particularly in the category of employee knowledge.

■ An asset-based system is helping a large healthcare organization to distribute learning via the Web, CDs, workshop manuals and even handheld devices.

■ Thanks to reusable content, they are able to develop learning 50% faster, and achieve a 75% higher learner satisfaction rate.

# SHORT LEARNING CONTENT UPDATE CYCLES MEAN THAT EFFICIENT HANDLING OF CONTENT PAYS A REAL LABOR AND COST DIVIDEND.

navigation) are dynamically combined to produce individualized content. This dynamic delivery relies on factors such as learner profile and assessment results to determine the specific content to be delivered and the navigation path available through the content. This personalization can be applied below the page level and is handled dynamically without additional programming or re-coding of the content.

In summary, when a personalization strategy is being considered by an organization, the asset-based approach provides maximum flexibility and efficiencies. However, when personalization of e-learning content is a minimal part of the strategy, the page-based approach should be considered.

## Content Maintenance

Short learning content update cycles mean that efficient handling of content pays a real labor and cost dividend. Asset-based systems that dynamically assemble content are the right choice for heavy-maintenance learning products or situations that require the same base content to be used in multiple courses or delivery channels. Page-based systems can offer good value where

learning products do not turn over quickly and where updating is on a long or intermittent time cycle.

## LCMS Decision Process

The LCMS technology offers powerful benefits to almost any organization. LCMSs are built following one of two architectural models: page-based and asset-based. As shown in this discussion, there are significant differences between these two models.

It is important for any organization that is contemplating using an LCMS to understand their organization's business drivers and, based upon these drivers, to select the LCMS model: page- or asset-based that best fits their needs. Then and only then should specific LCMS vendor offerings be evaluated.

*Jeff Whitney is vice president of marketing for OutStart, a Boston-based software provider of learning and knowledge-sharing solutions. Jeff has more than 20 years of experience with technology and regularly speaks and writes on the use of LCMS to meet learning requirements. You can reach him at [jwhitney@outstart.com](mailto:jwhitney@outstart.com).*

## Takeaways

- Learning becomes a much clearer value proposition when organizations harvest their own intellectual capital and convert it to learning content.
- Understanding the two primary types of LCMS models (page-based and asset-based) can help organizations select the best approach for immediate and long-term needs.
- A page-based LCMS is primarily centered on the creation, management and publishing of e-learning pages created using embedded authoring tools.
- An asset-based LCMS is centered on the creation, management, delivery and publishing of all learning content — not just e-learning.
- Organizations should take into account their development methodologies and the likelihood of creating content that can be used across multiple courses and/or multiple delivery methods.
- Both page-based and asset-based allow for varying levels of personalization.