

Looking Beyond Content Reusability: The Many Benefits of an LCMS

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Although LCMS technology has been an emerging learning technology since the late '90s, it seems that business interest and understanding of this technology is only starting to solidify over the last couple of years. While LCMS success stories are starting to emerge, there is still a prevailing lack of understanding of what exactly an LCMS can do and the associated business benefits an LCMS brings to an organization. But, who can blame learning leaders for treading into the LCMS market in a hesitant and foggy state when the definition of what constitutes an LCMS is still very inconsistent from vendor to vendor and there are still very few articles, seminars and discussions on the topic of selecting and integrating an LCMS? This leaves most learning practitioners confused about what exactly an LCMS is and why they may benefit from one. Training leaders are at the same stage they were 10 years ago when first exploring LMS technology and not knowing what to look for and why.

This white paper will assist learning leaders in understanding the many benefits of investing in an LCMS. First, we will explore the component functionality of a robust LCMS in today's marketplace. Then, more importantly, we will provide a clear overview of how the different technical features help:

- Reduce course development costs.
- Increase operational productivity.
- Aid rapid learning.
- Protect corporate knowledge assets.
- Prepare the learning organization for the paradigm shifts under way in corporate learning.

A revealing statement recently encountered from a very large organization with thousands of employees, hundreds of courses and more than 25 course developers was, *"Our divisions all have their own courses, instructional designers and preferred vendors. They don't share content so we have no need for an LCMS."*

When asked if there weren't at least a handful of compliance courses, health and safety, systems, process and people management topics that crossed divisions, the reply was, *"Of course! A lot of our content is mandated nationally but each division likes to have their own course with their own customer examples."*

This manager was confined to thinking that the sole benefit of an LCMS is to support content reusability when, in fact, only about 5% of content is typically used exactly as is.

What this manager was missing was the fact that content reusability comprises only a fraction of the overall business benefit of an LCMS as compared to development cost savings, productivity gains, risk management of corporate assets and reduction in learner time that can be realized through use of an LCMS.

LCMS vs. LMS

To get started, let's review the difference between an LMS and LCMS. You likely understand the basic concept that one system manages learning content (LCMS), the other manages learner information and learning activities (LMS). However, the confusion begins when you consider that many LMSs have functionality that

crosses over with LCMS functionality, such as assessment authoring and learning path/curriculum management.

Refer to the following simplified chart for a general overview of where typical functionality resides:

	LMS	LCMS
Primary target users	Training managers, instructors, administrators	Content developers, instructional designers, project managers
Provides primary management of...	Learners	Learning content
Management of classroom, instructor-led training	Yes (but not always)	No
Performance reporting of training results	Primary focus	Secondary focus
Learner collaboration	Yes	Yes
Keeping learner profile data	Yes	No
Sharing learner data with an ERP system	Yes	No
Event scheduling	Yes	No
Competency mapping—skill gap analysis	Yes	Yes (in some cases)
Content creation capabilities	No	Yes
Organizing reusable content	No	Yes
Creation of test questions and test administration	Yes	Yes
Dynamic pre-testing and adaptive learning	No	Yes
Workflow tools to manage the content development process	No	Yes

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The above chart provides a basic overview of the differences between an LMS and an LCMS but, in many cases leads to more questions:

- Do I really need both?
- If I don't have either, which one do I start with?
- Am I better off with an integrated solution from the start or might that leave me with underutilized technology for a few years?
- If I have an LMS, at what point does it make sense to begin to use an LCMS?

Of course, the answer to all these questions is, *“It depends”*.

It depends on the following key factors:

1. **The volume of learning content you produce**—the more content, the greater the benefit of an LCMS.
2. **The shelf-life of your learning content**—the more frequent the maintenance, the greater the benefit of an LCMS
3. **The complexities of your learning audience**—the more you customize content to accommodate different divisions, departments, geographical regions, brands, or languages, the more you will benefit from an LCMS.
4. **The number of different output formats needed to serve your learning audience**—if you deploy similar messages through learning portals/EPSS, self-paced e-learning, virtual classrooms, mobile learning and print materials, you can greatly benefit from an LCMS.
5. **The number of people involved in content production**—there is no magic number that indicates when collaborative authoring and review functionality can benefit your content production efforts but, if you feel that your team’s content production cycle involves a bit of cat herding to get content written, reviewed and approved, chances are good that your team will benefit greatly from an LCMS with built in collaboration tools. In addition, web-based authoring provides all members of a geographically dispersed team with equal access to the content and tools they need to work together effectively.
6. **Last, but not least, it greatly depends on the type of functionality you get with the LCMS solution you choose.**

To better understand the business benefits related to each of these factors and decide whether an LCMS is right for your organization, it is critical to understand a bit more about the core functionality found in a robust LCMS. From there, you can decide what level of functionality is important to your organization and be better prepared to research the various systems you will find in the marketplace. Sure, all LCMS solutions will “manage content” in some way but the notion of what constitutes “content management” varies from vendor to vendor—in some cases implying only tagging and storing content, while, in others, facilitating all aspects of content development and deployment. Technical functionality lists will tell part of the story, but it is not until you experience how easily course production and maintenance tasks can be performed and see the productivity increase and the associated frustration decrease within your learning team that you will truly appreciate the differences between LCMS offerings.

The Biggest Benefit Stems from Dynamic Content Production

A fundamental premise to mentally adopt before looking further at your needs for LCMS functionality is the concept of dynamic content production versus static content production.

Content produced through an LCMS resides in a database. Each content object is tagged and stored as a unit of information that can be pulled into a presentation template for viewing by the learner. The learner's "page" is dynamically generated at the time of linking to that page, calling forth the appropriate content elements from the database. This dynamic construction method allows for three very powerful content production benefits:

1. You will update a content element once, and that content then replicates on each and every 'page' in which it is presented. Compare this to the task of updating a logo on the "master slide" in PowerPoint and having it replicate on the header of each slide versus having to go into each slide and make the change. Now imagine the productivity benefits of having that power to manage ALL course content.
2. You can customize the content that gets displayed for one group of learners versus another. Or, display the same content to both groups but display it with a completely separate look and feel for each audience. In one case, it might be branded as company X and be viewed through a standard web browser, while another learner might see the same information on company Y's branding template and be retrieving it through their mobile browser. All by just changing display settings rather than producing multiple versions of the course.
3. You can take the concept of customization even further and personalize the learning experience for each individual through use of adaptive or prescriptive learning where the learner is presented with just the content that he/she

needs to review, based on the results from a pre-test. The real business benefit here is the reduction in learning time, with each learner only being forced through the information they personally need to learn.

While the benefits realized through dynamic content authoring are often sufficient to make the business case to move to an LCMS, there are other features that bring great benefit as well.

An LCMS with rich features will:

- Include a simple interface for rapid creation of small units of content (learning objects). As well, be sure to look for an LCMS that allows for easy integration of content produced through popular desktop authoring tools (PowerPoint, Flash, Dreamweaver, etc.).
- Track and tag each learning object for effective data management, storage and retrieval.
- Assist learning designers in assembling learning objects into effective courseware. Or, allow learners to directly search the learning object repository and only reference the information they need to perform an immediate task.
- Allow for courseware to be produced and assembled once and then easily translated into other languages and reassembled into a whole new course in just a few clicks.
- Output content to multiple formats for e-learning, mobile learning, paper-based distribution.
- Provide project workflow to allow for collaborative content authoring and controlled review/edits, publishing cycles.

Differentiators of Advanced LCMS Solutions Over Lower Priced Systems

With North American pricing for an LCMS ranging from free (Open Source) to almost a million dollars for a large scale enterprise system, learning practitioners really need to educate themselves on the features they want and need and not rush the shopping process. The three key functional differentiators of advanced LCMS solutions over lower priced solutions are:

1. Integrated content authoring capability

Enterprise class systems will offer robust, integrated content authoring capability whereas others will restrict their scope to content classification and storage and rely on external off-the-shelf authoring tools for content production. We really should describe some systems as an LCAMS –Learning Content Authoring and Management System to distinguish them from those systems that rely on third party authoring tools.

The key benefits to utilizing an integrated authoring tool are:

- Organizations can avoid the expense of managing multiple types and versions of software licences.
- There is no need to train learning designers and SMEs to use more complex software than they likely need to complete the task of content authoring. Teaching a SME to use a robust authoring tool to submit content is a waste, as is the task of having a developer/designer take MS Word or PowerPoint content from a SME and cut and paste it into a more robust tool. Good LCMS authoring solutions allow all roles to use the same authoring tool to do their part with the content.
- Branding and course navigation is controlled through predefined templates, ensuring that content authors focus solely on content creation and leave content presentation to the graphic designers.
- Organizations have far greater control over their intellectual capital when content producers use integrated authoring tools which automatically save learning assets to a central repository in your LCMS. Content that resides in desktop folders or even in team shared drives relies too heavily on human process to be properly stored, named, versioned and controlled for changes. For many organizations, the benefit of role-based security access to files, automatic tracking of changes and automated file versioning is only appreciated after they have felt the pain of having to reproduce lost/changed content or respond to an external audit regarding content controls when the accuracy of the content itself is in question.

While advanced developers will likely feel confined by the functionality available in most integrated authoring tools, these individuals can still easily work in applications such as Flash, or audio/video editing software, and contribute their final learning objects to the content repository for learning designers to assemble into the courseware as desired.

2. Collaborative authoring tools and workflow

Another critical differentiator in LCMS offerings in today's market (and a technical functionality worth its weight in gold when adopted) is workflow or some form of collaborative authoring capability.

Many organizations struggle to produce rapid learning—due largely to the time needed to gather content from SMEs and manage review cycles. By adopting a collaborative, web-based workspace where all writing, editing and reviewer comments are input and viewed online, a content production team can greatly reduce the time needed for e-learning production. Imagine eliminating the need for amalgamating multiple versions of tracked changes in a word processing document, or worse, having each reviewer try to describe their edits in an e-mail. More advanced workflow functionality even comes complete with the ability to automatically notify team members to perform a task. This is the kind of functionality that truly wows production managers and makes stand-alone content development tools seem archaic.

3. Tools to support ongoing maintenance and evaluation of courses

Sophisticated LCMS systems will include tools to help you report on e-learning successes and identify areas requiring follow up or revision, based on user data collected as learners take courses and assessments. An example is the ability to report on learner responses to assessments down to a very granular level, such as individual choices made within specific test questions, for example.

Such tools help ensure that no assumptions are made about the success of an e-learning experience.

Industry Adoption of LCMS Technology

Despite the productivity benefits and enabling opportunities provided through an LCMS, it is fair to say that LCMS adoption is still quite low, but not surprisingly so given the overall state of e-learning adoption. With LMS implementations complete and business processes fine tuned, most medium and large companies are just recently beginning to turn their attention toward effective content management solutions after amassing volumes of content over the last five+ years.

In *Training Magazine's* annual 2007 Industry Report of the state of training in the US market, 38% of the respondents indicate that they are using a LMS and only a mere 12% are taking advantage of LCMS technology. From a learning governance perspective, it is disconcerting to see that while only 12% are using an LCMS, a further 12% also claim to have content in an EPSS/Knowledge Management System, 15% have podcasting content, 56% are sharing content using virtual classrooms and 20% are using rapid learning tools for content production. This fragmented approach to content storage, production and delivery speaks to a great deal of room for efficiencies in how content is produced, shared, re-purposed and governed.

A similar statistic was also published by Bersin in their 2005 report on the LCMS industry, stating that the surveyed group had a rate of adoption of 42% for Learning Management Systems and 28% for an LCMS. The difference in these LCMS adoption statistics is solely related to the fact that the group surveyed in 2005 were early e-learning adopters who had been offering e-learning from 2001 to 2004, whereas the group surveyed in 2007 included all industries and company sizes, with many respondents just beginning their e-learning journey.

Leading the LCMS adoption are those companies who have been offering e-learning for at least two-three years, with courses being created for multiple audiences. The story is similar across many organizations—they dabble

with in-house production and maintenance but also rely on vendors for a lot of course development. Either way, learning leaders are still unsatisfied with the speed at which they can produce content, the effort needed to maintain courses and the overall rising costs and complexities with file management as their course volume grows. Most organizations start with network shared drives as the first step in managing a central repository of learning content. Others may have “been there/done that”, filled various shared drives and are now exploring other corporate content management solutions. However, those who have adopted LCMS solutions have become wise to the shortcomings of corporate content management solutions and are now producing and managing learning objects in a productive, cost-effective manner and are equipped to offer adaptive learning, mobile learning and performance support solutions.

Regardless of the current state of industry adoption, learning leaders should not ignore the need to invest in an LCMS to drive effective content management and course production:

- No amount of process engineering, project management and further investment in stand alone authoring tools will match the efficiencies to be gained through an LCMS;
- The LCMS products on the market today are very sophisticated and proven effective with many leading learning organizations;
- The change effort to implement an LCMS is not nearly as profound as an LMS implementation, nor does it take as long to integrate and adopt.

Finding the ROI in an LCMS

Considering the many business benefits of an LCMS, drafting a business case to outline the cost savings and future value is not a small task but also not impossible. If you stay focused on calculating the savings derived just from the following three areas, you may be surprised at how easy it is to make the case to invest in an LCMS.

Key Areas for Learning Cost Savings with an LCMS:

1. Time savings in producing and maintaining content, considering content re-use, the ease of creating multiple versions of courses and the use of collaborative review tools and project management capability embedded within an LCMS.

Start by measuring the effort time spent today on course creation and maintenance. Then, using very conservative estimates, plan to shave 15% off that effort time in year one of LCMS use, 20% in year two and 25% in year three. We recommend you calculate a year over year savings as your productivity will grow as users adapt to the LCMS and re-use content on a more regular basis.

2. Learner time saved if you start offering pre-testing and adaptive learning.

Learning time is a huge hidden cost for most organizations. If you enable the capability to pre-test and then just serve each user the content he/she needs in order to meet the learning objectives, you can likely save each employee some learning time. A simplified calculation is to assume that a percentage of your learning population will be able to skip at least a couple of learning modules if you enable pretesting. The following formula allows you to demonstrate the dollar value to the organization.

Example: 20% of learners will each be able to skip 10 minutes of learning, based on their pre-test score.

$20\% \times 10,000 \text{ employees} \times 10 \text{ minutes} = 20,000 \text{ minutes}$ or 333 hours of learning time. Based on an average hourly wage of \$20 x 333 hours, you save the company \$6,660 in paid learning time, just by saving 10 minutes for 20% of your audience.

Imagine saving an hour for every learner, per year.

3. Hard costs saved on authoring tool licences and data storage.

While you may want to complement your LCMS authoring with a bit of external authoring tool use, you can likely stop spending money year over year on stand-alone software licenses that can cost thousands of dollars per licence. In addition, most companies forget to calculate the cost savings achieved by migrating all courseware to a central LCMS and being able to close down internal content storage repositories on shared drives and internal servers.

As with any business case, be sure to balance the hard cost savings with a view to the opportunities an LCMS provides and how the adoption of an LCMS allows your organization to stretch your overall learning strategies even further.

Footnotes:

1. This industry survey and associated report was conducted by Bersin & Associates. The survey was held in August 2007, with representation from US based corporations. The survey included a cross section of industries and roughly a 33% split between small (100-999), mid-size (1,000-9,999) and large companies (10,000+).

About the Author

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