Strategic Management of Learning Assets

Implementing an Enterprise-wide Learning Content Management System

Chris Howard

Table of Contents

In This Case Study

This case study profiles a financial services firm that is using a Learning Content Management System (LCMS) as the repository for an enterprise-wide content management strategy[1]. Enterprise-wide systems often are difficult to implement in highly distributed training organizations. This company has centralized all but a few training programs into a single learning group and, as a result, was able to select and roll out a content system for 80 content contributors across the organization. The targeted training audience is upwards of 50,000 users. When fully rolled out, the system is expected to support up to 800 content contributors. The company is in the process of upgrading its LMS and is in production with the EEDO LCMS to support its content development. The implementation process for the LCMS took 11 months, although the entire initiative (from business case to production) was almost a two-year endeavor.

LCMS Business Drivers

- Learners and Business Partners
  - Inconsistent look & feel on WBT courses
  - Lack of targeted learning options
  - Large, cumbersome courses
  - Development and delivery modes made course updates difficult

- Content
  - Learning content housed in multiple locations
  - Outdated versions of content taught in the field
  - Large courses with little Performance Support possibilities
  - Business areas consistently rebuilding similar content

- Cost
  - Lengthy course development process
  - Time consuming process for legal discovery
  - Classroom intensive – too costly to maintain
  - Costly travel (financial and time) for classroom training

Figure 1: LCMS Business Drivers (courtesy of large financial service company)

---

[1] For purposes of confidentially, specific details about the organization size, industry, and business structure are being withheld from publication.

Key business drivers for this initiative included the following:

➢ Content management: Similar to many industries, the financial services sector is subject to a myriad of regulations, thereby making training an important business function. The company has developed more than 5,000 training courses and related documents that needed to be tracked, managed, and versioned. Content exists in almost every conceivable format and media type. These documents were not stored in a single repository, making it difficult to repurpose the content or even locate training content that had been taken in the past. As an example, version control was especially important as the company, for legal purposes, could be asked to produce the exact version of a course that had been taken five years ago. This would be a near impossible task without a centralized repository for tracking courses and assets.

➢ Reduction in time-to-market: The number of products across the company has grown from 15 to more than 50 today, so the volume of training production continues to grow. The Project Leader estimated that the LCMS will be used to manage the production of several hundred course hours/year.

➢ Recycling: In order to comply with local laws, the company builds training content that can be customized to accommodate the regulations of each market it serves. The centralized development groups maintain some modules while others can be modified locally. These changes may be minor but are difficult to manage without a repository to track changes and versions. Content reuse was not considered a primary, or even realistic, objective. However recycling, in which content can be accessed and modified for another context, was considered an achievable objective.

➢ Prescriptive learning: The company has low turnover but employees frequently move between different positions and departments. When training for new positions, employees may be familiar with a significant portion of the content, making it redundant for them. A system that would assess the learner's mastery of the material and only deliver to them the relevant training would have a big impact on reducing training hours across the company.

➢ Access: The e-learning group uses content development outsourcers for 30% of its materials. Any supporting technology should enable more effective management of the content produced by third-party vendors.

Solution Considerations

The project leader, an analyst in the learning group, assembled a stakeholder group to consider various alternatives that would best solve their business challenges. The following considerations were investigated during this process.

Digital Asset Management Systems

One of the considerations the group evaluated was to use an Enterprise Content Management System (EMC), sometimes called a Digital Asset Management System. The company uses a variety of asset management technologies and evaluated using these systems for managing its training content. These systems store and manage millions of documents across the organization.

This option was ruled out as the group determined that while they could use a generic content management system to manage assets and documents, the system would not be able to manage courses. There needed to be a holistic approach to the way that learning modules were created and delivered in order to support not only management and reuse, but also personalized content delivery of courses. ECMs manage assets but provide little or no support for learning objects.

Reuse vs. Recycling

The concept of content reuse was viewed as having limited applicability. There may be some instances in which a module of courseware could be reused across different job roles with similar knowledge skills but the concept was not widely applicable to a substantial volume of the content to be produced. A repository could more easily support content being recycled rather than reused. Although considered an important capability, content recycling was not used as a consideration when developing a business case for the system.

Flexible Meta-data Model

The Project Leader indicated that more than 30 products were reviewed when evaluating potential solutions. A key differentiator was the flexibility of the meta-data model provided by the various systems. While most of the systems provided meta-data schemes, they could not be modified easily across various levels of the instructional hierarchy (e.g., asset, page, module, or course). Assets, for example, required different meta-data than modules or even courses, yet many products could not support this.

Nor were the architectures extensive enough to make them useful. Accurate and properly maintained meta-data was a critical

component of the project's success. Meta-data that was not in a searchable format would render this system useless over time because content could not be recalled easily. The meta-data needed to be of various data types (e.g., text, time, multi-select, date, or memo) and needed to be a required entry for some types of data and not others. At the asset level, for example, a video image would require entry of the "data-rate" while a graphic would not.

The requirements gathering process also revealed that some products required vendor intervention to make changes to the meta-data model, which ultimately would require more time and extra cost. The chosen product provided seven meta-data types and allowed for the enforcement of data integrity[2].

Authoring Model

A key issue for the authoring model was the ability to create content without using a template. In order to create structure and follow a specific learning object metaphor, some systems require that the author select from a fixed library of templates for content creation. Feedback from content developers indicted that this would be a productivity limitation, as many of them are used to free-form desktop tools and that a rigid template-based system would result in linear, uninteresting courseware. The chosen system provides structure when desired while, at the same time, offering content developers the flexibility of a range of course design options.

The inflexibility of authoring tools built into LCMSs has been a limiting factor in its adoption. Many developers prefer to use best-of-breed tools that give them the creative freedom that a preformatted template cannot. However, customers that are able to successfully use a template-based system can realize productivity improvements but often at the expense of interactivity. Solutions that provide customers authoring flexibility and choice enable them to make decisions on productivity, interactivity, and ease of use.

Assessments and Personalized Content

The Project Leader indicated that personalized training content that can adapt to various levels of existing knowledge was thought to be an important value proposition. Employees within the company frequently move between departments so they have some basic knowledge on a topic but need some additional training. An LCMS that supported various combinations of pre-tests, post-tests,

---

[2] The Project Leader indicated that some vendors in the market have since improved their meta-data support based on the company's feedback. Buyers should evaluate their individual needs. However, any system used as a content repository for a large volume of assets should be evaluated on the ability to properly maintain the integrity of the meta-data.

feedback, personalized content assembly, and remediation was required to address this need.

Personalized, or prescriptive, learning can be useful but can be expensive to implement so it is usually limited to specific applications. Content that requires a good deal of technical knowledge, and is used by learners of various skill levels, is a good candidate.

Security

As a regulated financial services company, controlling access to courses and specific content objects is of primary concern. Many of the products evaluated were designed as departmental systems that had only rudimentary security models. The learning group builds content that is used to comply with federal licensing requirements so they strictly control the number of content creators that have access to assets and courses.

Implementation

Implementation required a project team of more than 30 staff members, most of which were only allocated for specific tasks. Once the vendor was selected, the system required eight months to bring it into production. This implementation schedule included e-learning strategy, taxonomy, and meta-data design. It also included QA and internal training. Developers started building courses in March 2005. As of August 2005, 17 courses were in production and were expected to be fully functional within 30 days. Integration with the company's LMS has not been completed.

Best Practices

The Project Leader offered the following guidance for others implementing a large-scale LCMS.

Change Management

As with any other business application, implementing an LCMS involves change management (Figure 2). Inadequate or no attention to the change process can derail an otherwise successful project as the system can involve major disruptions in the development cycle. The Project Leader assigned three full-time staff members to manage the rollout to a team of 80 developers. In addition, other stakeholders, including executive sponsors, needed to be aware of the investment in change management and that the project may not deliver immediate returns.

Key Lessons Learned

- Change Management and Communications
  - The importance of finding the right vendor-culture fit
  - Gaining enterprise participation
  - LCMS blamed for <u>all</u> changes in the department
  - Don't underestimate change management impact

- Content
  - Involve users early and often (both developers and learners)
  - Define approach, test it, and redefine
  - Use Proof of Concepts

- Cost/Time Commitment
  - Focus your purchase process on key requirements
  - Benchmarking and site visits prior to purchase
  - Patience – this is a long term commitment for everyone

Technology is not the biggest change... it's culture and behavior!

Figure 2: Key Lessons Learned During LCMS Implementation

Instead of courses, developers need to think in terms of smaller objects and learning objectives. The process of content development is being redesigned around this concept. The Project Leader indicated that this is the most significant obstacle to success and that processes need to be very specific. Storyboarding, for example, won't be done in the LCMS. Instructional Designers will use MS Word and then import the content into the LCMS. However, this process could change over time. Ultimately, up to 800 content creators or approvers will use the system. Figure 3 illustrates the change management process used for the LCMS implementation.
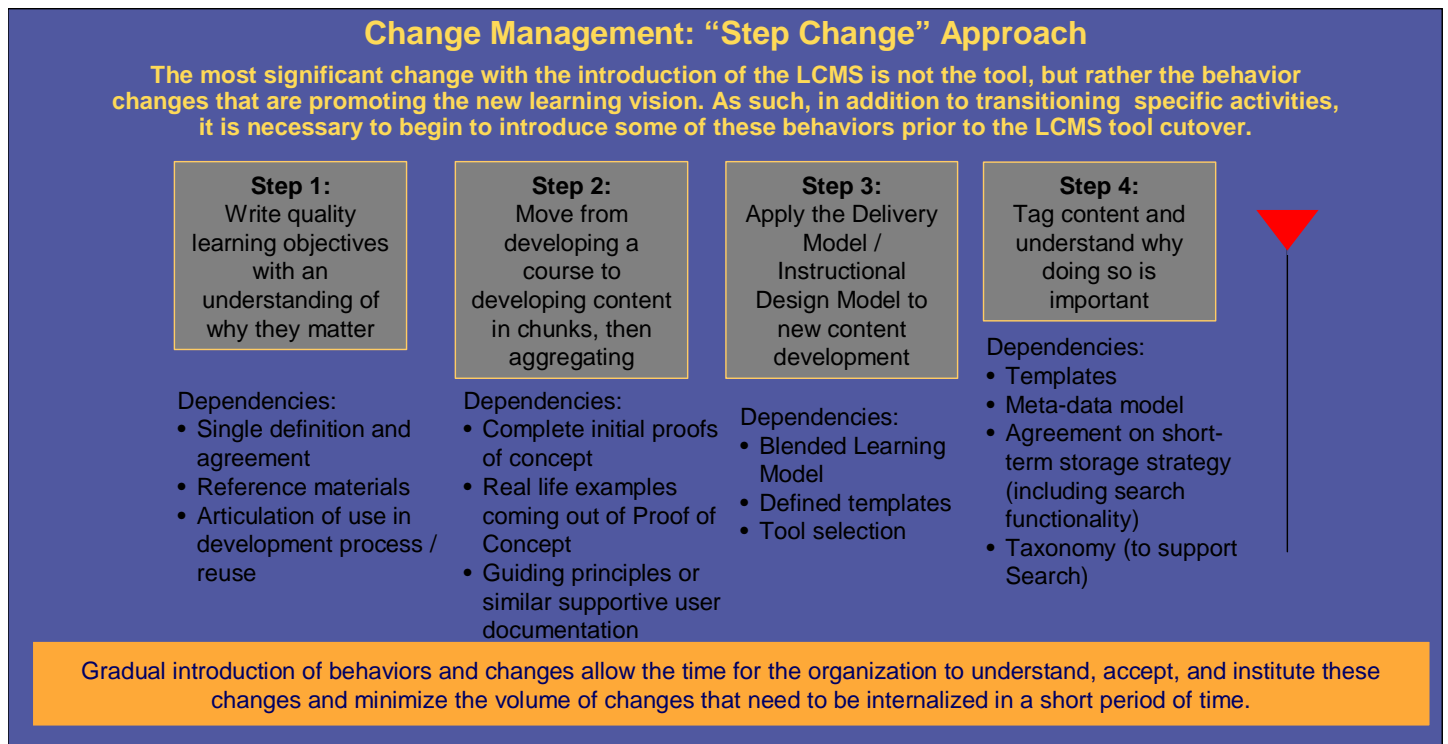
Change Management: "Step Change" Approach

The most significant change with the introduction of the LCMS is not the tool, but rather the behavior changes that are promoting the new learning vision. As such, in addition to transitioning specific activities, it is necessary to begin to introduce some of these behaviors prior to the LCMS tool cutover.

Step 1:
Write quality learning objectives with an understanding of why they matter

Dependencies:
• Single definition and agreement
• Reference materials
• Articulation of use in development process / reuse

Step 2:
Move from developing a course to developing content in chunks, then aggregating

Dependencies:
• Complete initial proofs of concept
• Real life examples coming out of Proof of Concept
• Guiding principles or similar supportive user documentation

Step 3:
Apply the Delivery Model / Instructional Design Model to new content development

Dependencies:
• Blended Learning Model
• Defined templates
• Tool selection

Step 4:
Tag content and understand why doing so is important

Dependencies:
• Templates
• Meta-data model
• Agreement on short-term storage strategy (including search functionality)
• Taxonomy (to support Search)

Gradual introduction of behaviors and changes allow the time for the organization to understand, accept, and institute these changes and minimize the volume of changes that need to be internalized in a short period of time.

Figure 3: LCMS Change Management Model (courtesy of financial services company)

Productivity Improvements

The learning group expects an increasing ability to produce more electronic content over time using the LCMS. However, the Project Leader has prepared the organization for a temporary loss in productivity before users are comfortable with new tools and processes.

One source of time savings will be direct access to the learning content servers, which will be under the control of the learning group. Prior to installing the LCMS, training content was distributed on the company intranet, which is considered a mission-critical system and is, therefore, tightly controlled by the IT organization. The process for deploying a new course involved moving it to a staging server where it was reviewed by IT before being placed on the production server, a process that could take up to five days. (The learning group often delayed modifications because of the effort involved.) Using the LCMS is expected to reduce this time to 20 minutes or less. The LMS provider, and EEDO, supplier of the LCMS, will be integrating the systems to allow for more streamlined content publishing.

The Project Leader indicated that they plan to use the authoring tool provided with the LCMS for some content authoring (e.g., text and page layout) and that specialized tools will be used, when appropriate, for more sophisticated tasks (e.g., creating simulations). The goal is to at least match the time that it takes to create content with desktop tools but improve productivity using the content repository for finding and recycling learning objects.
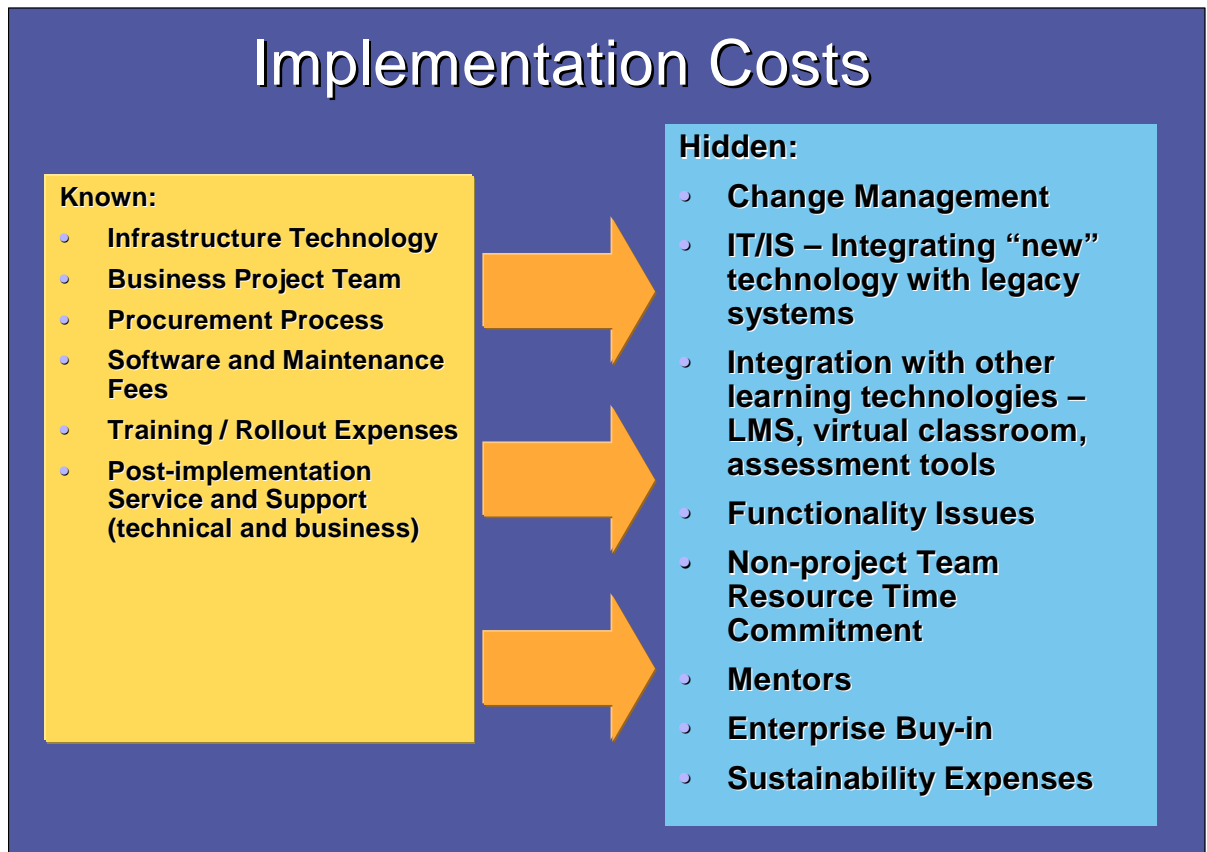
Implementation Costs

Known:
- **Infrastructure Technology**
- **Business Project Team**
- **Procurement Process**
- **Software and Maintenance Fees**
- **Training / Rollout Expenses**
- **Post-implementation Service and Support (technical and business)**

Hidden:
- **Change Management**
- **IT/IS – Integrating "new" technology with legacy systems**
- **Integration with other learning technologies – LMS, virtual classroom, assessment tools**
- **Functionality Issues**
- **Non-project Team Resource Time Commitment**
- **Mentors**
- **Enterprise Buy-in**
- **Sustainability Expenses**

Figure 4: LCMS Implementation Costs (courtesy of financial services company)

Understand Your Requirements

As with many areas of learning technology, there is considerable confusion around product capabilities. Many buyers quickly discover that their chosen system is not a good fit for their situation. The Project Leader advised that buyers conduct a thorough research on needs and vendor capabilities. Advanced features, like the flexibility of the meta-model, need to be investigated and prototyped.

Looking Ahead

A longer-term objective of the LCMS project is to move towards performance support so that content can be used both as a formal course and reference material. Users will be able to access content in a modular fashion so that they don't need to launch the entire course to retrieve only a small segment of information. The Project Leader indicated that this is a long-term objective that may not be completely fulfilled for four or five years.

However, completing this objective requires planning as the content must be constructed to allow for more flexible access points. While learning object taxonomy will be developed to support this effort, it will be simplified when compared to early attempts, such as the now infamous model developed by Cisco in 1999[3]. Each learning object will have a single learning objective and three distinct parts: content, practice, and assessment. Other constraints, such as time limits or number of pages, will not be used although a single learning object should not be more than 10-20 minutes in length. Proof of concepts were conducted to validate the approach and reinforce the idea that the model should be simple and, therefore, easy to govern.

[3] The Cisco RLO/RIO Model

About Us

Bersin & Associates is the only research and consulting firm solely focused on What Works® enterprise learning research. With more than 20 years of experience in e-learning, training, and enterprise technology, Bersin & Associates provides a wide range of services, including market research, best practices, benchmarking, vendor and product analysis, corporate workshops, corporate implementation plans, and sales and marketing programs. Some of Bersin & Associates innovations include a complete methodology for Learning Management Systems (LMS) selection and application usage, an end-to-end architecture and solution for training analytics, and one of the industry's largest research studies on blended learning implementations.

Bersin & Associates offers the industry's first enterprise learning research membership, "*The Enterprise Learning Research Center*" (http://www.elearningresearch.com), which offers up-to-date research, product selection guides, white papers, and access to other experts online. This service enables corporate training managers, vendors, and consultants to make faster, better decisions about enterprise learning strategy, programs, and technology.

Bersin & Associates can be reached at http://www.bersin.com <http://www.bersin.com/> or at (510) 654-8500.

About This Research

Note: This case study is part of the detailed industry study WhatWorks® in Learning Content Management Systems: *Industry Trends, Best Practices, and Vendor Profiles* available to Bersin & Associates research members or for purchase at http://www.bersin.com/lcms .