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Implementing and Sustaining E-Learning in the Workplace

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ABSTRACT

New information and communication technology, specifically computer networked systems, create both a demand and an opportunity for businesses to approach training and knowledge management from new perspectives. These new training perspectives are driven by the need for businesses to provide the right training quickly and efficiently and to support knowledge systems that are current, accessible, and interactive. This article will discuss strategic planning in terms of the organizational elements and the e-learning program requirements that are necessary to build a framework in order to institutionalize and sustain e-learning as a core business process. The elements of the organizational framework include leadership, change management strategies, the technology infrastructure, and the organizational structure. The e-learning program requirements include instructional systems, roles and competencies of key staff people, and budgeting. The building blocks in a framework to sustain e-learning and knowledge building start with a foundation laid out by the strategic plan. The next two building blocks of the framework are the organizational support processes and the e-learning and knowledge management system

Keywords: budgeting; change management strategies; corporate training; culture and value system; distance education; e-learning organization; e-learning strategy; implementing and sustaining e-learning; instructional systems; knowledge management; leadership; mission statement; organizational training framework; roles and competencies of key staff; strategic planning; technology infrastructure; training model; vision statement

INTRODUCTION

Strategic Planning and Creating a Mission and a Vision

Implementing and sustaining e-learning in the workplace is based on strategic planning. The plan serves as a dynamic blueprint to guide the organization's practices based on its strengths, its values, and its mission (Schermerhorn & Chappell, 2000). This acts as a foundation that supports a learning culture by integrating learning and knowledge management with the organization's business processes and business goals.

Kilfoil (2003) defines strategic planning as a macro-level tool that involves change and focuses on the future by building

a bridge between the organization's current position and its vision of the future based on evaluation of its environment. Strategic planning is:

- A disciplined, fact-based, decision-making process.
- Based on an analysis of internal and external contexts and data.
- Related to choices on how to commit resources.
- Compatible with the vision and mission.
- Optimizes strengths and opportunities and minimizes weaknesses and threats (Kilfoil, 2003).

Strategic planning primarily involves two important components: the organizational mission and the vision for the future. Developing these two components requires the organization to analyze its current circumstances and to determine what strategy it needs to move forward and to thrive. According to Rosenberg (2001) vision statements are created through an organization-wide consensus-building activity and then refined by senior management. The vision identifies how the organization will conduct business in the future. Rosenberg (2001) describes the mission statement as a "succinct, specific and powerful articulation of the steps the organization will take to reach its vision" (p. 297).

The vision statement of an organization that intends to position itself as an e-learning organization of the future needs to determine how it will provide support and direction for the initiative. Gap analysis and SWOT analysis are tools that can assist in identifying what an organization needs to do in order to implement and sustain e-learning as a business process (Rosenberg, 2001; Schreiber, 1998). The gap analysis identi-

fies disparities in current e-learning status with those outlined in the vision statement. The SWOT analysis looks at the internal environment and identifies **S**trengths and **W**eaknesses while looking at the external environment to identify **O**pportunities and **T**hreats (Rosenberg, 2001; Schermerhorn & Chappell, 2000).
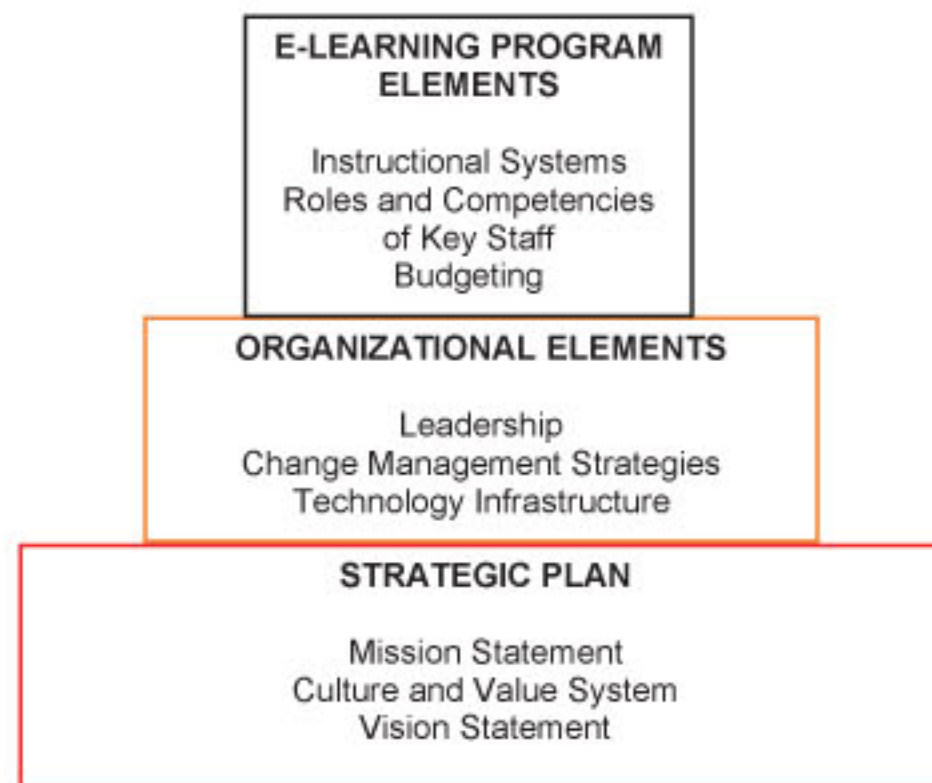
Rosenberg (2001) explains that an organization can build a foundation for e-learning strategy that reinvents the training model. This model can encompass knowledge management, a learning architecture, the organization's technology infrastructure, a learning culture, and a sound business case (Rosenberg, 2001). These ingredients are key to sustaining e-learning over the long term because they institutionalize learning, support it with technology, and link learning to business goals. The blend of organizational learning programs linked to improved business goals as a strategic plan is the foundation in a framework to implement and sustain e-learning (see Figure 1).

Organizational Issues

The second building block in a framework to move through the stages of technological maturity and to sustain distance training and knowledge management includes a commitment to strategically blend strong leadership, change management, a networked electronic technology infrastructure, and organizational structure with the goals put forth in the mission and vision.

Training and knowledge management must be viewed as a core business process. According to Conner and Clawson (2003), in order to remain competitive, organizations need to adapt quickly to changing environmental factors. As a result, training

Figure 1. Building blocks for implementing and sustaining e-learning in the work-place

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            ┌─────────────────────────────┐
            │   E-LEARNING PROGRAM        │
            │        ELEMENTS             │
            │                             │
            │    Instructional Systems    │
            │    Roles and Competencies   │
            │       of Key Staff          │
            │        Budgeting            │
        ┌───┴─────────────────────────────┴───┐
        │      ORGANIZATIONAL ELEMENTS         │
        │                                      │
        │          Leadership                  │
        │   Change Management Strategies       │
        │    Technology Infrastructure         │
    ┌───┴──────────────────────────────────────┴───┐
    │              STRATEGIC PLAN                   │
    │                                               │
    │            Mission Statement                  │
    │         Culture and Value System              │
    │            Vision Statement                   │
    └───────────────────────────────────────────────┘
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and knowledge are critical to growth and survival. From an organizational perspective, this means developing a plan that includes training and knowledge management as integral system components that produce outcomes that are needed to reach business goals. Institutionalizing learning by gaining stakeholder buy-in is critical here. Ensuring access to learning systems, highlighting the personal benefits of e-learning, and illustrating improved business outcomes are methods that can be employed to gain stakeholder buy-in.

E-Learning Maturity Model

E-Learning can be defined as the use of computers, digital media, and Internet technology to deliver learning or training solutions that enhance knowledge and performance (Berge & Kearsley, 2003; Rosenberg, 2001). According to Berge (2001), two primary benefits of e-learning are that it tailors learning to the individual needs of each learner by offering just-in-time and just-for-me learning. This is a unique difference between e-learning models and traditional training as well as historical distance education models.

Learning materials in traditional models are often outdated before they can be implemented into work functions (Rosenberg, 2001). Traditional delivery methods are often costly, synchronous events that halt workplace productivity and require travel expenses for learners and instructors (Rosenberg, 2001).

Schreiber (1998) provides a model of organizational technology maturity stages:

• **Stage 1.** The organization supports sporadic distance learning events.
• **Stage 2.** The organization has sufficient technological capability to support distance-learning events. When these events occur, they are replicated through an interdisciplinary team that responds to different staff/management inquiries and recommendations about distance learning.
• **Stage 3.** The organization has established a distance learning policy such that a stable and predictable process is in place to facilitate the identification and selection of technology to deliver distance training.

- **Stage 4.** Distance learning has been institutionalized in the organization. Distance learning policy, communication, and practice all are aligned in such a way that business objectives are being addressed. The organization has established a distance learning identity, and it conducts systematic assessment of distance training events within an organizational perspective.

These stages are designed to measure organizational maturity and capability in terms of maximizing the use of technology, institutionalizing e-learning, and linking learning outcomes to business goals (Schreiber, 1998).

Leadership

The transformation from traditional learning models to e-learning requires strong leadership. According to O'Rourke (1993), individuals in leadership positions might be senior administrators, top-level teaching staff, training managers, or human resource managers. Whatever the title, these individuals must have the ability to create and communicate the vision for change, implement change, and guide e-learning through its growth process. This includes conducting an environmental scan, securing funding, overcoming barriers, and recruiting and retaining key staff.

During the strategic planning process, leaders analyze external and internal environmental factors affecting the organization. Gap analysis and SWOT analysis of the current situation are highly effective tools here. Gap and SWOT analysis guide strategy planning designed to overcome barriers to building and sustaining distance training (Rosenberg, 2001; Schreiber, 1998). They aid in positioning distance training as a business process by identifying opportunities, clarifying goals, and highlighting strengths. Berge (2001) describes this process as developing an innovative roadmap that includes budgeting, funding support, infrastructure, communication, human development, and policies and procedures.

A crucial role of leadership is to gain support from top-level management in order to ensure proper funding for sustaining the program. One method of accomplishing this is to show how e-learning outcomes positively affect business. External issues concerning competition, the product market, and government activities are some primary considerations for top-level management. Leaders need to show that these issues also drive the training needs of the organization. From an internal perspective, leadership needs to promote a shared vision of where the organization wants to go and how it will conduct business in the future.

Leadership must develop strategies that overcome any barriers to implementing and sustaining the technology initiatives. According to a survey conducted by Berge, Muilenburg, and Haneghan (2002), resistance to e-learning is greatest during the early stages of organizational maturity, and their ranking changes as the organization progresses through the maturation process. The following list shows Berge and Kearsley's (2003) list of challenges to e-learning:

- Time and costs associated with the development of e-learning
- Demonstrating return on investment for e-learning
- Formalizing the processes associated with e-learning
- Keeping up with rapid changes in technology

- Finding and retaining e-learning staff
- Identifying what training needs can be met best by e-learning
- Creating and maintaining interest in e-learning
- Providing the technical support needed
- Misconceptions about e-learning that result in underuse or overuse
- Budget and/or resource limitations
- Inadequate bandwidth for complex applications
- Need for instructor acceptance of e-learning
- Getting employees to make time for e-learning
- Too much time spent on developing the technology and not enough on instruction
- Lack of consistent direction, support, or involvement from management or senior management.

To combat this resistance, leaders must communicate the benefits of e-learning and encourage involvement from all stakeholders. According to Conner and Clawson (2003), leaders that support and focus on institutionalizing learning can inspire ordinary people to accomplish extraordinary things.

Another important task for leadership is to recruit, support, and retain a team of competent technology and instructional professionals and to have them work collaboratively in order to build and support the e-learning initiative. According to Berge and Kearsley (2003), frequent personnel changes on the champion level can stifle the growth and development of the e-learning initiative. Troha (2002) advises leadership to clearly define the roles and responsibili-

ties of team members to minimize resentment and overlapping of tasks.

Change Management

Four elements necessary to sustain e-learning in an organization are culture, champions, communication, and change (Rosenberg, 2001). In order to achieve a level of technological maturation, an organization will need to use a change management approach that builds a learning culture, identifies champions, and creates open communication channels to promote the initiative (Rosenberg, 2001). Change management strategy involves assessing the organization to determine its capability to transform into an organization that values learning and is willing to use technology to meet communication and learning goals.

Change management is first about people. It involves assessing the real levels of organizational support and resistance to e-learning. This support or resistance is influenced by knowledge of selected technology and the desire to change familiar behaviors (Snider, 2002). An assessment reveals administrators, managers, and other key players regarded as champions, who can be used to communicate the benefits of e-learning and to gain the trust of workers throughout the organization. It also assesses what actually needs to be taught and learned and what technology and methods would best deliver it and support users (Snider, 2002).

Critical to sustaining e-learning is whether it will be accepted into the organizational culture. Conner and Clawson (2003) define organizational culture as "the shared history, expectations, written and unwritten rules, values, relationships, and customs that affect everyone's behavior" (p. 6). They further explain that "the organiza-

tional culture stands between the leader's intentions and the results the organization achieves" (p. 6).

A primary cultural barrier to e-learning is that e-learning methods do not feel like traditional training events. Equally important here is that people within the organization do not perceive training time as work time.

Rosenberg (2001) suggests nine strategies that pull rather than push an organization toward becoming a learning culture and help to overcome barriers:

- Make direct manager accountable for learning
- Focus at the enterprise level
- Integrate learning directly into work
- Design well and certify where appropriate
- Pay for knowledge
- Everyone's a teacher
- Get rid of the training noise
- Eliminate the ability to pay as a gatekeeper
- Make access as easy as possible

Cross (2003) focuses on learner acceptance of new training methods and suggests that the failure of e-learning to take hold in many organizations is that it is not promoted properly. Cross (2003) contends that e-learning should be marketed internally as a consumer product in order to increase acceptance. Although this strategy is suggested for the learning audience, it could be equally effective in selling the idea to upper management and other stakeholders, because it applies proven marketing techniques such branding, positioning, segmenting, and promoting to increase acceptance.

Technology Infrastructure

The technology infrastructure entails more than just hardware and software solutions. McGraw (2001) defines the infrastructure as the foundation of e-learning that incorporates the organizational culture, values, activities, and structures. The infrastructure is supported by a shared vision, policy, and language that define the procedures and interpretations of e-learning (McGraw, 2001). Common language and governing principles work together to sustain e-learning.

According to Rosenberg (2001) and McGraw (2001), there are practical guidelines that are critical to the e-learning organizational and technical infrastructure. The most important is access to standardized technology hardware, software, and learning materials by all users anytime and anywhere. Another key ingredient is a collaborative relationship between the Information Technology (IT) department and the training department in order to ensure appropriate content that is interactive, consistent, individualized and linked to organizational policies and values (McGraw, 2001; Rosenberg, (2001).

The IT department is responsible for building and maintaining the technical aspects of access, speed of connectivity, platform selection, integration, and compatibility of the technology infrastructure. IT support is critical to e-learning, and all activities and decisions must be coordinated with IT staff. However, McGraw (2001) suggests that the infrastructure is the sum of business strategy, architecture, organizational legacies, and learner needs. Failure to not view infrastructure as more than technology can cripple the e-learning effort.

Organizational Structure

The placement of an instructional design unit can greatly affect its success (Lent, 1990). The unit should be placed as closely as possible to its targeted audience. Lent (1990) goes on to advise that a training unit with a mandate to improve overall business should be placed highly in the organizational hierarchy, close to the power base, highly visible, and have access to key decision makers. Conner and Clawson (2003) caution that technology must be viewed as a tool playing a supporting role to enhance learning and communication within the organization. The social network of people within the organizational structure is the crucial factor in interpretation and application of the learning delivered via that technology. This social network component cannot and should not be automated (Conner and Clawson, 2003).

Program Requirements

The final building block in a framework to implement and sustain e-learning is the e-learning program. This involves implementing an enterprise learning system with a focus on instructional design processes that assesses organizational business needs and links them to training outcomes. It also includes an administrative process that manages a team of specialists to facilitate a collaborative work environment. Merging the organization's technological infrastructure and learner access to instruction are key program considerations. Equally important are budgeting and costs justification functions.

Learning Management Systems and Instructional Systems Design

Learning management systems (LMS) are organization-wide components of the technology infrastructure that manage, monitor, and maintain electronic data and communication. Although the technical responsibility for the system rests with the IT department, organizational learning is a combination of formal and informal activities that run horizontally and vertically through the entire organizational structure (Snook, 2003). According to Snook (2003), this means that the LMS needs to be integrated with all other business processes to support a learning culture and to benefit the organization. A high level of collaboration between the IT staff and the e-learning team is necessary during all stages of design, development, and implementation of learning and knowledge solutions.

LMS can be developed in-house or contracted out. There are advantages and disadvantages to either choice. Troha (2002) and Snider (2002) advise that selecting a provider is a challenging decision that should be planned carefully and that no single vendor can deliver all solutions. Troha (2002) suggest that organizations:

- Develop and confirm precise, comprehensive selection criteria before meeting prospective providers.
- Use a preliminary design document and selection criteria to interview prospective providers.
- If new to e-learning, start small by limiting the financial commitment to a small initiative.

Design, development, and technology delivery of the learning content is the main task of the Training Department. Schreiber's (1998) Instructional Design Model for Distance Training (IDM-DT) provides a reiterative systems processing model for developing and implementing distance training. This is a systems approach that bases

performance outcomes and training needs on business goals and focuses on determining the most effective use of technology. It serves as a good model for organizations that are considering implementing and sustaining distance-learning systems.

It is important to consider that not all training should be delivered online. The tasks analysis performed by an instructional design team can determine what should be delivered through e-learning and what should be delivered through traditional or other means. According to Waller (2003), organizations with goals to deliver training effectively and at lower cost can use e-learning as a component of an overall blended learning strategy. Snider (2002) suggests that all good solutions are blended and grounded in behavioral outcomes, not necessarily in content or pedagogy.

Staffing

An e-learning organization requires staff input from a variety of competency areas. Staff can belong to the organization or be external to it. Although written for distance education in higher education, O'Rourke's Roles and Competencies Report can serve as a guide for e-learning staffing needs and activities. According to O'Rourke (1993), staffing areas can be grouped by category according to the roles and competencies they hold.

- **Leadership Roles.** Administrators, managers, and senior teaching staff with vision and access to financial support.
- **Administrative Roles.** Directors, managers, and project leaders who identify training needs, recruit staff, and handle finances.
- **Teaching and Course Development Roles.** SME; instructional and graphic designers; media specialist with knowledge of technology, content, and learning theory, and may not have direct contact with learners.
- **Teaching, Tutoring, and Student Support.** Mentors, facilitators, or teacher with direct contact to learners, materials, and delivery technology. Needs interpersonal skills and ability to communicate the organization's perspective to learners.
- **Logistics and Coordination.** This area would include IT and technology infrastructure and handles registering students and ensuring that materials and technology are accessible.
- **Research and Evaluation.** Monitor, test, and review results of training evaluation.

When compared, traditional training and e-learning staffing needs differ in critical ways. These differences result from the fact that e-learning uses networked computers to deliver content and knowledge instead of the lecturer mode. This changes the role of the subject matter expert (SME) to a content developer who may or may not have direct contact with the learners. It also creates the need for a team of specialists that is familiar with adult learning theory, computer technology, and instructional design theory, among other areas.

Some staff services also can be outsourced to vendors. The benefits of outsourcing services are reduced cost in the areas of salaries for technical staff, development and delivery technology, overheads, and some content or training solutions (Rosenberg, 2001). Outsourcing allows an organization to devote its resources to developing staff in other areas. Organizations must have a solid knowledge of vendor products and services as well

as an understanding of what solutions the organization needs. Staff dedicated to researching, negotiating, and contracting with vendors is essential.

Budget and Cost Justification

This is one area that gets the full attention of upper-level management, because it requires a substantial monetary investment that must be justified by linking e-learning outcomes to business goals. Upper management will want verification that the program will show a return on investment (ROI) and reduce training cost, and that it is cost-effective and cost-efficient (Raths, 2001). The goal of leadership and champions is to promote training as an investment in order to secure funding support for distance training (Berge, 2001). According to Carliner (2000), champions may thoroughly understand the benefits of e-learning, but the costs and organizational disruptions associated with it have a sobering effect on executives. Carliner (2000), therefore, suggests presenting the proposal as a business case or a request for project investment that identifies costs and returns and compares this with other potential investments. This might include:

- Research and compare relevant alternatives such as traditional methods.
- Show all component costs such as instructional design and authoring software.
- Present realistic return projections based on market rates and real enrollment data.
- Explain technical concepts in familiar terms.
- Recommend a course of action and outline benefits (Carliner, 2000).

Distance education literature always has noted economies of scale as a primary benefit of distance learning structures. Because the same materials can be delivered repeatedly to increasing numbers of students, distance education realized lower development cost as student numbers increased (Bates, 2000; Moore & Kearsley, 1996). The demands of corporate training coupled with delivery via computer and Internet technology change that distance-learning scenario (Rumble, 1992). Additionally, according to the Technology Costing Methodology Handbook (Jones, 2001) and Raths (2001), both higher education and traditional business training are notorious for their inability to classify and justify costs.

Knowledge management and e-learning can allow systems to tailor information to specific learner needs. They also require constant updating of electronic information. Consequently, e-learning cannot rely on traditional distance education economies of scale arguments to justify costs. Rosenberg (2001) uses Hammer and Champy's (2001) four success criteria for business performance—cost, quality, service, and speed—as a means to justify e-learning. According to these practitioners, the value of e-learning can be measured by how well these criteria enhance business performance.

Justification of e-learning also can be shown in terms of gains in productivity hours or time saved and increased and better worker productivity. According to Raths (2001), e-learning professionals are inventing bottom-line-oriented tactics to measure and justify e-learning. These include measures such as time to competency, achieved competency, and return on expectations. Kraack (2003) notes that

lower direct costs, such as travel expenses, facility overheads, instructor fees, publishing costs, and lower program tuitions, are well-known ways that e-learning reduces training expenses. Opportunity costs resulting from productivity gains is another area that results in reduced costs. According to Kraack (2003), industry standards indicate that one hour of e-learning is as effective as two hours of traditional training. E-learning workers spend less time away from work and receive training en masse, which results in more productivity time and faster application of learned material (Rosenberg, 2001).

CONCLUSION

The building blocks in a framework to sustain e-learning and knowledge building start with a strategic plan as a foundation. The process of developing a strategic plan involves analyzing the internal and external environments in order to help the organization determine what the current situation is and how it sees itself doing business in the future. The two components that guide the future activities of the organization are the mission statement and its vision of the future. Once this strategic foundation is laid, the organization can go about the business of transforming itself into a learning culture that maximizes the use of technology and depends on the investment in learning to produce outcomes that further business processes and goals.

The next building block in the framework is the organizational elements. Strong leadership to oversee a change management program, the technology infrastructure, and the recruitment and support of key staff to champion and communicate about the e-learning initiative are key elements here. A primary function is to actively inform all stakeholders about the vision of becoming a learning organization of the future. This means involving them in the development, implementation, and future use of technology by outlining personal and organizational benefits. Support for this effort comes in the form of an interactive technology infrastructure with the role of supporting human communication networks.

The third building block is the distance training and knowledge management system. This is the merging of the organization-wide learning management system, the instructional system's design program, and the IT department. This combination of entities ensures organization-wide access to individualized information files, quality learning content, and support of business goals, all while utilizing technology to become a learning organization of the future. The reach of the learning program becomes global, and the access to just-in-time and just-enough training and information is available at all times. Instructional design of program content ensures that the right training is delivered via the correct media and method to the right people. The IT and LMS functions ensures that it is easy to use and allows collaboration between users.

In order to successfully position itself as an organization of the future that values and supports learning, a business needs to see training as an investment and look to its outcomes to further it business goals.

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