

## **INTEGRATING Knowledge Management and Learning**

By Darcy Lemons – KM Review - June 2006

When a major US construction company needed to add 500-1,000 employees per year in order to meet its growth goals, learning strategy became key to business success. Here, Darcy Lemons describes how Turner Construction integrated KM and organizational learning to help employees access knowledge, develop competencies and close skill gaps while doing their jobs.

The largest commercial builder in the US, Turner Construction Co. has offices in almost every major city across the country. Turner's projects have included Madison Square Garden and the UN secretariat in New York City, as well as nearly 20 of the world's tallest buildings.

In 1999 the company was acquired by Hochtief AG7, a German-based construction services provider. It also gained a new chairman, Tom Leppert. Leppert approached James Mitnick, a senior vice president at Turner, because he wanted to find a way to align the learning strategy with the business strategy. He believed that this was necessary to achieve Ms growth goals: to grow the company by 15 to 20 percent each year. That meant that the organization would have to add between 500 and 1,000 new engineers annually to accommodate for retirees, growth and attrition. These engineers would need to be trained and their skills developed in the "Turner way." Leppert wanted Mitnick to find a way to share information across the enterprise in such a way that they could transfer the necessary skills and competencies, have them align with the business goals, and have the necessary resources in place to grow.

With these objectives in mind, Mitnick began researching learning, KM and technology. In September 2000 he presented a five-year business plan that laid out the concept of the Turner Knowledge Network (TKN) (see Figure 1, next page). The concept, or philosophy, of the network is fairly simple: "To provide access to learning and knowledge across the company in a consistent and organized format to assist in the development, recruitment, and retention of staff." Leppert approved the concept and tasked Mitnick with creating a pilot. He was given 90 days and the necessary funding to prove his concept.

### **Paying for the program**

Funding for the TKN is a corporate expense, which is partially offset by income generated from the sale of courses licensed to owners, architects, and subcontractors, and income from the AEC CommunitE-Store, which specializes in construction related safety equipment and other products.

When discussing ROI, Mitnick asks the following question to Turner's leadership team: "Would you be willing to expend US\$500 per employee to have access to learning (instructor-led, web-based, CDs, books, etc.) and knowledge (14,000 best practices documents) with the ability to collaborate and share information across vertical silos anywhere in the world?" According to Mitnick, the chairman has yet to turn down any of Ms requests for funding.

### **Creating a streamlined knowledge marketplace**

At the conception of the TKN, Mitnick and his team needed to address three key business issues:

1. Alignment of Learning with the Business Strategy;
2. Performance-Driven Learning;
3. Change Management.

Alignment of learning with the business strategy included supporting the growth of the company; developing and training new employees; and providing consistent, quality content that was (and is) easy to access and use. The company has nearly doubled its workforce since 2001, growing from 3,000 employees to approximately 5,700. To support that growth, Mitnick and Ms team had to understand the competencies and skill gaps across Turner's nine job families and provide the employees with the tools they needed to bridge gaps.

Performance-driven learning focuses on the intersection of learning, knowledge and collaboration, which, in Mitnick's words "drives performance and profitability." Key components include 147 instructor-led and web-based courses, CDs, books, on-the-job training, access to manuals, forms, checklists and best practices, and the ability to communicate and share information across business units

and functional departments. Tools include fully integrated portal technology, a learning management system and content management system, a virtual classroom for collaboration, and communities of interest and practice.

Change management, according to Mitnick, was the most difficult task. In Ms experience with Turner's employees, those under 35 years of age "get it." They have embraced the TKN because they are accustomed to technology and sharing. However, those over 35 are having a more difficult time adapting to the TKN. The acceptance rate is only about 50 percent. Even with the chairman setting the example (he is over 50) by using and pushing the technology, these employees have not wholeheartedly adopted the TKN. To address this, Turner is piloting several applications intended to drive acceptance, including role-based dashboards, embedded learning within an individual's job, personal search pages, development plans and communities of practice.

## **Improving on old methods**

According to Mitnick, learning began as on-the-job training within the construction industry. Then, about 30 years ago, Turner launched an aggressive, instructor-led and classroom-based program. Although it was the best training solution available at the time, it probably was not the most effective method. Consistency in instruction was an issue.

Another issue was employee perception. At that time, attending a training class was viewed almost as a reward because it took an employee out of his or her job for a day or more, like a vacation. As technology improved and Turner expanded the types of learning opportunities it offered, including web-based learning events, that perception changed because more and more often the employee was able to take a course on a project site, at his or her desk, or at home.

A third issue is retaining knowledge. Like any major organization, Turner's employees rely on both explicit and tacit knowledge. The organization is challenged to take employees' tacit knowledge, codify it and make it available for reuse. Why is this so important for Turner? In 1999, the average length of sendee with the organization was 15 years. In 2004, it was seven. And yet employees are doing twice as much work. This means that they have superintendents with less than 20 years experience on the job and other roles with similar issues. Turner can no longer afford to take 20 years to develop someone to the point of competency. It's important to "connect the dots" between these two types of knowledge because their tacit knowledge walks out the door every day.

However, the key issue continues to be instructional design. Online learning doesn't offer the learner an opportunity to ask questions. It's up to the designer and/or subject matter expert to explain, through that technology, almost anything that is new or different to the learner. Consequently, Turner offers blended learning opportunities, which combine instructor-led and web-based courses. The learner takes a web-based course and then attends an instructor-led class to practice what he or she learned online.

The TKN integrates blended learning with collaboration opportunities and other re sources to bring learning and knowledge sharing to employees on a just-in-time basis when they need it most.

## **The TKN Concept**

Part of the TKN concept is an integrated learning management and content management system. The integration of the two allows for course development, registration for learning events, tracking and certification, search and browse, learning paths, skill gap analysis, discussion groups, document version control and calendars. Another aspect of the concept is document management. Finally, the remaining piece of the concept was KM, which includes collaboration and communities of practice. Mitnick sees communities of practice as a primary means of collaboration and knowledge transfer across business units, departments and interests in the future. Above all else, Mitnick realized the concept had to be as simple as turning on a light switch and integrated into individuals' work or the learners would not use it.

## **Communities and collaboration are the future**

Although the company is just beginning in its use of communities and collaboration (it started in 2004), "this will be the future of learning at Turner," said Mitnick. Collaboration can be formal or informal, based on the needs of the organization. Communities allow for the transfer of knowledge to improve performance and profitability by crossing business units and functional areas (see Figure 2, below).

For Turner, the future of learning will be a combination of all types of learning events fully integrated within communities of practice. This will allow the TKN team to weave the learning across the entire organization by allowing it to cross vertical and horizontal silos.

It becomes very expensive when the same mistakes are made again and again. The ability to share information in a community improves employees' time-to-competency, reduces mistakes, and improves profitability and value to customers.

## **Capturing and sharing knowledge**

With the TKN tools, Mitnick and Ms team have the ability to capture and codify information from the company executives, superintendents and board members. Why is this so important? Because this knowledge formerly resided only in their heads. The TKN team create knowledge objects via interviews with these executives. The interviews can be captured in a combination of PowerPoint, talking heads and scripts that track to the audio plugged into the PowerPoint. These objects can also contain attachments and/or simulation exercises. They are object-based, which allows TKN staff or Turner managers or superintendents to e-mail them to the learners that need them. As long as an employee has access to a Turner machine, he or she can access these objects. TKN staff can also reconfigure the authentication and send them outside the Turner network for an architect, for example, to use.

## **Developing roles and partnerships**

In addition to a team of 10 staff members that assists with TKN deployment and delivery, Mitnick works with a TKN board of executives that represents a solid cross-section of the organization. The TKN board comprises two members from the corporate board, the organization's chairman, the head of HR, Turner's chief information officer, three general managers, and one operations manager. The general managers on the board are rotated every two years, which allows Mitnick to get more people involved and drive acceptance from the top of the organization. The board meets quarterly to review recommendations and provides direction and is committed to driving usage within the organization.

Working directly with Mitnick are 10 staff members, all of whom are remote employees, including a marketing manager, an instructional designer; a portal manager, a person who interfaces with IT; a content development overseer and a project manager. In addition, the network is supported by technical and learning specialists from Intellinex. The TKN team also works with subject matter experts and content managers (rotated every two years). Gatekeepers are responsible for managing documents and serving as experts for courses.

In 2005, Mitnick plans to propose adding a TKN champion in every office whose sole purpose is leadership and development, who will sit at the business table with the senior team of that business unit. He or she will represent the individual development and focus on knowledge transfer within the organization. This will enable the board to add leadership and development plans, learning, and the transfer of knowledge to the organization's agenda and drive it down into the business units.

Although TKN operates autonomously from HR, Mitnick partners with HR on certain projects to avoid overlap and redundancies and to ensure the proper links are in place between the tools and resources available to learners on the TKN and through HR (such as the competency development system, peer assists, coaching and mentoring).

## **Consolidating information through a portal**

The TKN uses an enterprisewide portal as the single point of access for all employees whether in the office, traveling or at home. This allows users access to learning, documents, publications, archived news, people searches, collaboration, intranet business unit sites, a virtual store, etc. The portal has helped Turner consolidate information for employees by embedding the ability to find and share information into their work processes. Within the portal, there is also a space for Turner University, which is focused on measurement, development, learning and collaboration. Knowledge objects live within TKN and can be accessed in any form including video, audio, PowerPoint, Word, Excel and PDFs.

## **Gauging the results**

According to Mitnick, one thing the TKN team will always have to do is measure the impact of learning. However, measuring isn't easy, especially when it comes to the impact on the whole organization.

There are plans for a pilot that will entail taking 20 of the most profitable jobs (i.e. projects) in the company, determining who was (or is) assigned to those jobs, and measuring the learning impact of those individuals. The next step will be to do the same for the 20 least profitable jobs. Criteria including schedule and earnings will be used to determine the "best" and "worst" jobs. Then Mitnick will

attempt to see if any correlations can be drawn between the successful jobs and the unsuccessful ones based upon those individuals, how long they have been with the company, which job family they are part of, and whether or not they consider themselves learners.

Another pilot will involve looking across the company at a particular function (e.g., purchasing managers) and force ranking them. Mitnick wants to look at the top third and bottom third performers in a functional area and see if any correlations to learning can be made based upon their performance.

## **Future plans**

In the future, Turner intends to develop role-based dashboards that present users with all the relevant information needed to perform a job. These dashboards will be dynamic and will change depending on one's role, organization and current assignment. This will involve embedding learning into everyone's workspace to improve individual skills and value to customers using both pull and push technology. Turner also wants all staff to have access to learning and knowledge wherever they are. This means wireless and secured access anywhere on a building project or community anywhere in the world.