# "Implementation of an e-Learning System within a Securities Firm”

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Sub-theme C: The changing status, structures andfunctions of universities in the networked age:

Item-2: Innovations in university structures,functions and Status in the networked age

"Implementation of an e-Learning System within a Securities Firm”

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Abstract: The paper will discuss the processes and issues encountered at a corporate university located within a securities firm. Prudential Securities Incorporated (PSI), a subsidiary of The Prudential Insurance Company of America, is composed of four divisions: Private Client Group, Capital Markets, Futures, and Investments. The Private Client Group, the largest of the four divisions, delivers training to its sales employees located in 43 states and 17 foreign countries via Prudential Securities University (PSU). Recently, PSU underwent a transformation to embrace blended learning to increase training effectiveness and the productivity of its branch personnel. Some of the topics discussed are: structure of a corporate e-learning administration, the implementation of a learning management system, the use of competency models to map employee development and learning paths, the creation of learning modules via learning objects, and the goal of blended learning.

1. Introduction to Corporate Universities

Corporate universities have been apart of corporate institutions since the 1950s. Led by companies with major technological investments and large R&D budgets, they were viewed primarily as a way to upgrade the skills and knowledge of their professional employees. The goal was to keep these elite workers abreast of new developments in the field. This was achieved by offering a wide array of classroom training courses (often times with a technical focus), and managerial certificate programs, in the belief that the workers would become more productive, and committed, to the company. As the concept of high-performing worker teams took hold, the universities expanded their focus to include training across the workforce, and not just the managerial class. By the mid 1980担, there were over 400 businesses with some kind of 搖niversity, institute, or education center” in place.(1)

Approximately 1,600 corporate universities currently exist, and over 2,000 are expected by 2003. (2) The rise of corporate universities has become a major development in the e-learning industry. By 2010, if current trends continue, they will exceed the number of traditional U.S. universities. (3)

A major contributing factor to this phenomenal growth is the new information age fueled by the knowledge economy. The U.S. economy has undergone a fundamental transformation from manufacturing based to service and technology based industries. According to the U.S. Bureau of Labor Statistics, since 1950, manufacturing sector employment has fallen from 40% to fewer than 18%. Conversely, the service sector has grown over 20% in this 40 year span. This new knowledge-service economy has created an increasing demand for employees with higher skills and education. Wages for graduate or professional degrees rose to $58,837 in 1989 while high school graduates earned $20,504 per year. (4) Recent trends suggest this education gap is increasing with ever more demand for employees with professional skills.

As more high tech jobs demand increasing skills, labor markets for these professional employees will become tighter. Corporations are responding by viewing their training centers as a competitive advantage with implications for continued growth and profitability. Training is no longer seen as a one-time classroom event for individual development but rather 揳 continuous learning culture where employees learn from each other and share innovations and best practices with any eye toward solving real business issues.” (5)

A corporate university is defined as 搕he strategic umbrella for developing and educating employees, customers, and suppliers in order to meet an organization担 business strategies,” according to Corporate University Exchange, a leading U.S. corporate education consulting firm. (6) Traditionally, training departments were viewed as a cost center with a peripheral link to the companies bottom line. Today,

however, corporate universities are now an asset, a knowledge asset with investments into the key human capital components, corporate employees, that increase the value of the modern corporation. This shift indicates a more targeted approach to employee development aligned to business objectives.

While training is normally seen as building skills, learning in the corporate sense is associated with those performances that solve business problems within business situations. Job performances are not a generic inventory of components that make up job roles, rather they are based on job audits, highly detailed descriptions of a job competencies. Corporate universities focus on these performance within the context of the employee担 work environment. For this reason, learning events can be both formal training opportunities and informal performance support materials (e.g. job aides) given just-in-time on a requested basis. This combination of foundation knowledge with on-the-job performance is the hallmark of a successful corporate university programs.

Finally, the university担 role as a strategic link to business outcomes is further strengthened by links to upper level management with the rise of the Chief Learning Officer (CLO). The CLO has primarily four roles: business partner, systems thinker, senior education officer, and alliance builder. Being a business partner involves understanding the issues facing the corporation and recommending the learning solutions that will achieve the company担 strategic objectives. A systems thinker is having the ability to match specific learning solutions together to create a blended learning approach to deliver a unified approach to end-user training. The senior education officer must look beyond the immediate needs of employees training to create increased productivity across the value chain. The recent rise of education commerce points to the borderless transaction of what heretofore was viewed as internal training to external clients and even competitors. Lastly, the CLO must form the necessary partnerships with those who create and deliver content (e.g. institutions of higher education, third party content providers) with those who seek development. Given the vacillations of the Internet economy, this can be quite difficult undertaking indeed. (7)

Key Differences between
Training Department and Corporate University (8)

| Training Department | Corporate University |
|---|---|
| Focus Reactive to satisfy regulatory compliance and upgrade basic skills | Proactive to develop human capital and build core workplace competencies |
| Scope Tactical | Strategic |
| Delivery Instructor-Led, Place and Time Bound | Blended Solution, On Demand Learning - Anytime, Anyplace, Anywhere |
| Faculty Consultants/External Professors, Internal Trainers | Consultants and University consortium, Internal Management and Community of Employees, Third Party vendors |
| Audience Wide Audience with open enrollment | Specific job functions with just-in-time learning |
| Outcome Increase job skills | Increase job performance |
| Organization Fragmented staff, viewed as a cost with little managerial buy-in | Centralized business unit, seen as an investment with executive leadership |

2. Structure of Corporate Universities

Prudential Securities University (PSU) was established by Prudential Securities Incorporated as the main conduit for retail employees training. PSU is divided into three groups: Training and Executive Development, Continuing Education, and Branch Technology Training. There are several job families under PSU auspices including new and experienced financial advisors, branch managers, sales assistants, and other supporting staff. While the responsibilities for the various job families overlap, each of the three groups are served by their own staffs.

The Training and Executive Development group is responsible for the development of Prudential Securities branch personnel. The Training group maintains a comprehensive career development program for new financial advisors (FA), as well as, a mid-career development program for successful, experienced financial advisors. Another development program is the branch manager leadership program. This is a highly selective course for those individuals targeted as potential managers. In addition, ongoing managerial development programs are given, along with curriculum offerings for sales, operations, and administrative managers. Finally, basic technology training (i.e. Word, Notes, PowerPoint) also falls within the auspices of the Training group.

The Branch Technology Training provides orientation to firm specific applications. Similar to other securities firms, PSI has developed many proprietary programs to better serve its staff and client base. Continual training is required for all branch personnel to keep abreast of the latest platforms and applications.

The Continuing Education group ensures that employees are meeting their mandated continuing education unit requirements (CEUs). This group担 curriculum includes training that satisfies the Security industry担 regulatory and firm elements. Many of the courses developed

from the Training and Executive Development group often can be re-purposed to meet the needs of this constituency.

Structure of Prudential Securities University

In general, no two corporate university structures are alike. Typically, the highest governance body within a corporate university is the Corporate University Board of Directors. The Directors are composed of various stakeholders responsible for human capital development, including upper management (CEO level). This Learning Strategic Council establishes a business case, sets learning philosophy, prioritizes needs, links learning to strategy, approves curriculum, and reviews outcomes.

On the next level is the Curriculum Advisory Council. The Council approves learning paths for job functions. It reviews and recommends whether to create, refresh, or discontinue courses. In PSU, this is represented by the three groups: Training and Executive Development, Continuing Education, and Branch Technology Training.

The Council represents the numerous Schools of Learning. The Schools identify learning needs, and determine priorities and milestones for their job families. In PSU, this corresponds to the new financial advisor development, experienced financial advisor training, managerial development, technology coordinator training, and branch staff instruction.

In partnership, the Training Advisory Board is formed. The Board works with the Schools to establish training standards and functionality across the University. Similar to this Board, the Distance Learning department at PSU was established to works across all the Schools to coordinate the University担 e-learning strategy. In general, the goals of the PSU Distance Learning department are to implement e-learning solutions that achieve the strategic direction of the firm, its functional departments, and its learners (i.e. employees). It does this by introducing technological solutions to enhance learning performance and development, such as, learning and knowledge management, communication and collaboration, and performance tools. It also builds connections across the Schools to help consolidate and measure comprehensive learning objectives and increase technological efficiencies. Another important task is to participate in the formulation of learning objectives into a competency model by job functions that can be monitored and tracked for performance indicators. Moreover, the Distance Learning department assists in tracking the return on investment and demonstrating measurable performance gains based on the Schools' training programs.

3. Implementation of a Learning Management System

Distance Learning departments will become a fundamental unit for any full functioning corporate university as they increase their use of educational delivery content via network based technologies (i.e. e-learning). In 1999, over one-third of corporate learning was delivered by either the Internet or Intranet. (9) The shift away from classroom, instructor-led training to electronic content delivery is expected to continue. By 2003, 40% of all corporate learning is expected to be electronically delivered (from 20% currently). (10)

Despite these shifts to e-learning, many believe that blended learning solutions will result in the most effective environment. PSU, for example, delivers its training via a blended learning solution using a combination of classroom, mentoring, Internet, Intranet, CDROM, and paper based training. This approach attempts to leverage the best of both online and offline environments. E-learning provides foundation knowledge allowing financial advisors to practice and test themselves through various sales scenarios, for example, to reinforce basic concepts. This computer based study is reinforced by onsite meetings with mentors to ensure and verify comprehension. Classroom interventions are saved for interactive role plays and case studies, where immediate feedback is most valuable. PSU also recognizes the importance of community building and socialization with peers as a critical component of a learning experience. After these live events, new FAs are able to build a peer network that will allow for electronic mediated knowledge sharing exercises (e.g. synchronous and/or asynchronous sessions) and a support group to implement many of the plans formulated in the face-to-face sessions.

Surrounds is another approach to extend the instructor-led classes by providing a community, and supplemental materials online. These online meeting places are meant to offload many of the cognitive demands on students, such as note taking and information gathering, while enhancing class discussions and remediation. Because these surrounds combine the familiarity of a face-to-face experience they can be especially helpful in alleviating the anxiety and technology fears of older students, building acceptance and familiarity with the online learning process. (11)

A third approach to structuring e-learning within the workplace is tiering. For example, IBM offers four tiers of information for its learners. Tier One is to provide performance tools and information. These include information indexes, job aides, publications, best practice information, data marts, wizards, expert system models, etc.. The next tier is where all the interactive learning information such as simulations, courses, and scenarios are gathered. The Third Tier is where peer-to-peer collaboration occurs, using a variety of online tools. The final tier is classroom collaboration centered on performance. Tiering can be effective for experienced users familiar with the learning

environment knowing where to access the right tools at the right time.

While all of these methods are designed to aide in the users acquisition of knowledge, corporations have their own challenges. The first is the ability to deliver content to the end user desktop. Many corporations are turning to Learning Management Systems (LMS) to register, distribute, and track student educational activities throughout the learning lifecycle. The LMS serves as the online course directory managing all the files and maintaining a centralized transcript of students performances. LMS is combined with a Content Delivery System (CDS). The CDS houses the content and publishes the course information to the end users. As the graphic shows, the LMS and CDS are located in a central unit which administers and manages all content.

Learning System Architecture

The LMS is linked to various back office personnel systems, such as human resources. This enables managers to have a full view of the learners activities in relation to other performance indicators and reviews. The CDS is connected to other content platforms which have the ability to manage content assets (e.g. video and audio clips, graphics, documents, learning objects, test banks, etc.), and knowledge assets (e.g. internal deliverables, internal communication, stories, etc.) when building courses. The CDS distributes the courses to local content delivery servers over the Intranet. The user workstations (i.e. thin clients) sends back information to the local server which then communicates with the LMS as to the status of the student within a particular course. The LMS records this information keeping a record of student performance which can be communicated to the CDS the next time the student logs in. This segmentation of tracking and recording from producing and publishing is designed to increase the efficiency of maintaining a large depository of content being accessed by a large number of users.

While having robust back-end systems to manage and distribute learning materials, a LMS can be helpful in addressing other problems corporations face. Difficulties arise in customizing and updating end user content. Corporations are in constant need of diverse, up to date content to fulfill their goal of offering a customized curriculum for each job family. Along with this is the need for superior instructional design that takes the content in the Content and Knowledge Management Systems and produces engaging and enriching online learning environments.

There are five types of content personalization: name recognition, self-direction of learning paths, functional/competency segmentation, learning styles and multiple intelligences, and motivation and affective styles. It is rare indeed for any online learning experience to measure up to these criteria. However, the ability to recognize who the learner is and adapt the content to his/her needs is a worthy goal that will produce greater cognitive gains, and consequently, higher productivity. Learning Management Systems can be helpful in defining the first three types of personalization. The LMS does this by storing a local profile of the user within its database. This profile contains information about the various job roles of the student and the competencies needed to fulfill this job. After inputting a well-documented competency model of the key tasks, skills, knowledge, and measures to satisfy the job role, the LMS can pinpoint which courses (or even parts of courses) to deliver to the student to satisfy the competencies that makeup the particular job. If the student has taken any diagnostic tests or assessments, the LMS can even generate a skills gap analysis which will allow the student to direct himself to those modules needed to close the gap. A detailed description of how this works follows in the next section.

Another problem is leveraging third party content within the corporate environment. While there has been a rapid increase in the number of content providers of high-quality intellectual capital, corporations have a difficulty in integrating these offerings within their current learning systems. The major problem is the lack of standards when communicating information back to the LMS. This is being solved by several initiatives underway, the most notable being The Shareable Courseware Object Reference Model (SCORM) led by the Department of Defense's Advanced Distributed Learning (ADL) committee. (12) SCORM defines the rules that lets developers reuse instructional content in different applications and platforms. According to the guidelines, content must be independent of context-specific run-time constraints to allow content to be included in multiple applications. Content must also have standard interfaces and data. SCORM includes a Course Structure Format, which is an XML-based model of a course structure that makes content more interchangeable by defining course elements, structure, and external references. As these standards become established, companies will be able to integrate and scale their content offerings to various user groups.

Finally, the ability to track and monitor learning effectiveness is of paramount importance. The calculation of the return on investment (ROI) is necessary as corporate universities move away from a cost center model to a business minded one. LMS includes various evaluation and reporting mechanisms that allow for resource management and education commerce to map the learning programs to financial metrics.

4. Creation of a Learning Database (13)

The Learning Database is a mapping of learning objects and knowledge objects to performance objectives assigned to a specific job task. By identifying and classifying recurring job performances, it is possible to designate a finite number objects and templates that can be used across the various curriculums for the job families. The first step in creating a learning database is creating a competency model. Competency model building is an iterative process and usually involves a through review of existing job materials, job standards, a series of observations, surveys, and interviews with the target audience. The competency model identifies the key tasks, skills, knowledge, and performance measures associated with a job. Terminal objectives are associated with the performances needed to be successful within a job. Enabling objectives are those skills and knowledge necessary to fulfill the job task.

In this example, George Bond enters his password into the LMS. The system recognizes he is a new financial advisor located in the Northeast and within Branch 21. The system then serves up content linked to a specific phase in training (these phases of training are associated with a core competency, in this case Business Planning and Reporting, which make up a job task). This competency is further indexed to performance objectives which specify what the key tasks, skills, and knowledge needed.

Linking Objectives to a Users Job

UserGroup User Profile Competency Key Task Terminal (Performance)Objectives Enabling(Knowledge and Skill)Objectives

Financial Advisors New FAPhase IIGeorge BondBranch 21 BusinessPlanningandReporting Develop a Sales Plan Prepare a sales plan that willachieve quota figures · Explain the purpose of a sales plan· Describe the steps in creating a sales planetc.

The objectives of the competency model are used to define the number and complexity of the learning objects and knowledge objects delivered to the end user. A learning and knowledge object are discrete segments of content designed to support learning. The components of a learning object as this author defines them include: terminal or enabling objectives, instructional strategies including practice exercises, assessment/feedback, and the requisite content. To satisfy a key task, objects can be combined with other resources. Programmers of a LMS should be cautious as to how granular they make these resources balancing the need for thoroughness without overwhelming the end user with too many choices. The key is to link the appropriate resource to the terminal objective under investigation. As these terminal objectives become associated with other key tasks, the objects and resources will provide high level of reusability across curriculums.

The graphic below continues the mapping of the new FA task of developing a sales plan by providing him with an array of learning and knowledge objects, as well as, templates and human resources. The intersection of learning and performance support blur allowing the end user to decide which resource is best suited to his needs.

Learning and Knowledge Objects and Templates

for User Development

Courses Books and Resources PresentationTemplates Application/Evaluation Templates Related Knowledge Objects Related Users/ Discussion Groups

Basic Sales ISelling Skills Sales for new FA担The How and Why of Sales Award winning sales plans The case of the Smith family, what would you do? Completed Sales PlansProduct Cards Professional Sales AssociationRalph James, Director of Sales

The last area within a learning database are the measures to indicate whether the performance objectives have been reached. These measures can be either an objective standard supplied by the programmers of the LMS or a subjective display of the user information. In the example below, the author shows a subjective grouping of various measures including past performances by the FA George Bond. Just as in the case of resources, the measures should be indexed by the terminal objective.

Measures for User Development

Transcripts Performance Measures Evaluations Customer Ratings Portfolio

Course ResultsActivity Results Periodic (monthly, quarterly, annual) review of sales activity · Self evaluation· Other user evaluations Manager evaluation Customer evaluations George Bond 1999 Sales Plans

5. Conclusion

The training of employees should not be seen as a linear process ending with a well-trained worker within a constellation of learning objects and courses. Rather the developmental process is a cyclical one that adds the individual worker担 skills, knowledge and experiences back

into the collective corporate university. Employees take upon themselves simultaneous roles in the development process being a learner, teacher, and an author. They do so within a community of other learners. The ability to socially construct knowledge within this community helps create a culture whereby learners can foster collaboration and share knowledge across the enterprise. Knowledge formed in this way is also externally verified by others creating a screening process prior to knowledge capture. The graphic below traces this process.

Employee Development and Content Creation Cycle

In summary, the training department has matured into a new human capital development division. These divisions will be the intellectual center of the modern corporation, and will be the storage of all intellectual capital of the corporation. As employees are transformed, they also produce a smarter corporation, one which maintains the collective performances and knowledge of its workers (i.e. knowledge assets) which it can re-purpose and invest into new employees.

Since the development of human capital leads to higher productivity, the new division will be listed in the corporate balance sheet as an asset, and correlated to corporate earnings. A soon to be published report of over 175 corporate university directors shows that 11 percent of corporate universities are currently self-funded and a full 31 percent plan to operate as a profit center by 2003. (14) Over time, the learning curriculum and well-tested contents will become commodities as the processes for sharing objects and templates across learning systems become standardized. These corporate universities can then develop a brand across the educational industry, and will become an ever growing competitor not just in numbers but in robust curriculum programs to higher education institutions.

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