

E-Portfolio and Pedagogical Change for Virtual Universities

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INTRODUCTION

With the rapid advances in networking technologies and the commercialization of the Internet today, many organizations are actively reflecting on their organizational design and operating philosophy to transform their bricks-and-mortar entity into its clicks-and-mortar counterpart. We call such a transition effort the electronic transformation of the organization, or simply the e-Transformation effort (Henderson & Venkatraman, 1993; Hoque, 2000). Obviously, such an effort requires an objective methodology (Vat, 2000b; 2002b), which must be instrumental to creating an efficient electronic organization (e-Organization) model that could enable the organization (Vat, 2001a; 2002c) to launch and learn based on some innovative initiative, and then incorporate the lessons learned and launch again. Consequently, organizational transformation could be considered as the essence of a learning organization (Senge, 1990; Garvin, 1993; Vat, 2001b), implying its constant efforts to better itself for any coming challenges. An example of such transformation is to consider the challenge of managing a learning university (Duke, 2002) and putting the university online (Cornford & Pollock, 2003). A university comprises valuable assets coming from its teams of knowledge workers, who have a strong formal education, have learned how to learn, and have a habit of continuing to learn throughout their lifetime. Nevertheless, human capitals as an organization's intellectual assets could be made more visible only through their application and reuse (Conklin, 1996; Stewart, 1997). These then are good reasons to stewarding people's intellectual knowledge, however implicit it may be, and making it available within and without the organization whose competitive edge comes from having and effectively using such knowledge. The idea of electronic portfolio systems (e-Portfolio) (Aalderink & Veugelers, 2006; Dalziel, Challan, & Sutherland, 2006), as part of a university initiative to improve teaching and learning, fits timely to advance this goal in higher education. However, this vision requires e-Transforma-

tion efforts on the part of the conventional university, to take advantage of not only the new technological, but also the renewed pedagogical opportunities. The result could eventually be an essential constituent of a virtual university (VU) (Hamalainen, Whinston, & Vishik, 1996; Chellappa, Barua, & Whinston, 1997; Vat, 2001a; 2004), which is an electronic form of the original university renewed based on the working model of a virtual organization (Davidow, & Malone, 1992; Cheng, 1996; Hedberg, Dahlgren, Hansson, & Olve, 1997), to enable a re-engineered vision of the university's education process.

THE BACKGROUND OF SOME VU'S INITIATIVES ON E-PORTFOLIO

Typically, universities customarily generate content locally, and dispense courses only regionally to their students. The global market, nevertheless, offers the possibility for content import and course export (Hamalainen, Whinston, & Vishik, 1996). Importing materials from the best possible sources, say, specialists or distinguished scientists could enhance a better quality service. Exporting courses renders a good chance for universities to amortize their costs over a higher volume of students. However, the key to establish this practice of educational services lies in the trustworthiness of the materials and services rendered. In this regard, the value of a marketable e-Portfolio as reliable sources and distributors of quality educational products and services stands out unquestionably. Still, an important concern of the VU must focus on developing skills and expertise of the university in customizing educational services or content on demand rather than merely providing terminal degree programs with predetermined curricula. It is envisaged that besides an administrative body, and teams of instructors, a VU should comprise content providers, content reviewers, validation supervisors, and students-practitioners connected electronically with appropriate control mechanisms. The VU's electronic

infrastructure (Chellappa, Barua, & Whinston, 1997; Vat, 2000a; 2002a) must be equipped with, among others to be innovated, a repository of reusable educational components in course development, a document filtering system, an electronic team-based review-and-edit system and a user-centered digital learning environment. Operationally, a VU could select educational materials from various content providers and from educators on demand to the extent that their respective e-Portfolios could satisfy the necessary requirements, customizing them to student needs and interests, thereby providing the benefit of learning customized knowledge and skills minus the opportunity cost of time and other resources incurred by students. The critical problem is to set up the proper organization within the university. More importantly, universities nonetheless require insight to decide the areas for which they will be global content providers, based on the judgment that there is a promising demand for that service.

THE VU'S CONTEXTUAL FOCUS OF KNOWLEDGE SHARING

Organization transformation in the direction of a virtual learning university to provide customized educational services worldwide for lifelong learners, is indeed a continuous process of creating, acquiring, and transferring knowledge (be it individual or organizational), which is often accompanied by a necessary modification of individual and organizational behaviors, to reflect the new knowledge and insight produced. Such a process itself if managed appropriately could mean an important asset for the organization to be included in her e-Portfolio publishable over the Internet around the globe (Hakel, Gromko, & Blackburn, 2006). Today the view that knowledge (human brainpower) is a valuable organizational resource has fueled interest in researching into the various activities of knowledge sharing. The key lies in collaboration (Vat, 2005), which attempts to address the issues of capitalizing on individual know-how in a collective knowledge so that others do not have to relearn what the enterprise already knows, leading to the improvement of organizational work processes and productivity (O'Leary, 1998).

An e-Portfolio Model of Knowledge Creation

Internally, the VU must have a number of objectives (Vat, 2000a) set in operational terms of knowledge sharing. First, we have to ensure an effective and efficient development of new knowledge and improvement of existing knowledge, throughout the organization. Second, we need to ensure a specific distribution of new knowledge to other departments and to new employees through knowledge transfer or relocation of knowledge bearers. Third, we must ensure an effective securing of knowledge, which is also made accessible to the whole organization. Fourth, we must ensure the effective and efficient combination of the best knowledge available within an organization or network of organizations. Overall, we need a process model for implementing knowledge sharing. In fact, we must be aware of the cyclic nature of this model (Spek & De Hoog, 1995; Spek & Spijkervet, 1997), composed roughly of such iterative activities as review, conceptualize, reflect, and act. 'Review' means checking what has been achieved in the past, and what the current state of affairs is. 'Conceptualize' is trying to get a view on the state of the knowledge in the organization, and analyzing the strong and weak points of the knowledge household (an organization relying on its knowledge flow to survive). 'Reflect' is directed toward improvements: selecting the optimal plans for correcting bottlenecks and analyzing them for risks that accompany their implementation. 'Act' is the actual effectuation of the plans chosen. Obviously, the analysis, plans and actions are usually formulated to aim at an integration of strategy formation and executive tasks where learning about the application and development of targeted knowledge assumes a central role within the organization.

An e-Portfolio Scenario of Knowledge Work

One of the university's learning experiences is to enable knowledge development and transfer among teachers and students in an interactive and collaborative atmosphere (Vat, 2002b; 2004). Actually, in the context of a VU, there are different stakeholders behind this simple statement of purpose. Firstly, there

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