

Chapter I

Visualizing ICT Change in the Academy

Gale Parchoma

University of Saskatchewan, Canada

ABSTRACT

This chapter introduces complexity theory as a theoretical framework for analyzing the influences of information and computer technologies (ICTs) on the structures, cultures, economies (reward systems), and pedagogical praxes within the Academy. An argument is made that the strategic adaptation of the academy's structures, cultures, economies, and pedagogical praxes to the knowledge economy can help build a future where Academy-based distributed learning networks will transmit ICT-mediated learning opportunities around the world, thus providing flexible access for a wide range of learners to fully participate in the global learning society. The author posits attunements to policies and practices to support institution-wide involvement in ICT initiatives.

OVERVIEW

This chapter addresses the technology management and change theme through the application of complexity theory to information and communications technologies (ICT) change initiatives directed toward enhancing learners' access to higher education, opportunities to succeed, and experiences with human computer interaction (HCI). Academic organizational structures, cultures, economies, and pedagogies are analyzed for their alignment with successful integration of human computer interaction into learning experi-

ences as a core activity within higher education. A variety of challenges to achieving institution-wide involvement in HCI are addressed. A series of adjustments to policy and practice is posited.

INTRODUCTION

The contemporary global learning society's demands upon individuals for life-long learning are now transforming and will continue to transform the traditional Academy. The adoption of information and computer technologies (ICT)

to provide flexible access to distributed learning opportunities for working adults underpins this transformation. The external economic forces of the new economy and its information technology paradigm may be the most powerful influence for this change. Simultaneously, the social forces of postmodernism, the interpretive turn, identity politics, and globalization are affecting change in the organizational culture of higher education and increasing demands for collaborative and distributed learning opportunities. At this juncture, traditional research universities may need to re-examine their policies and practices to effectively adapt to a complex, ambiguous, and dynamic, and technologically driven external environment. University leadership may need to strategically respond to these external pressing demands for change.

Internal organizational structures, cultures, economies (reward systems), and pedagogical praxes may need to be attuned to changing academic times. At the heart of this need for adjustment of university policies, procedures, and customs is the groundswell of demands for lifelong, personalized, customized, and distributed learning opportunities (Daniel & Mohan, 2004; McCalla, 2004; Tjeldvoll, 1998). Strategic responses to these demands are required to ensure that ICT-mediated solutions provide flexible access to high quality higher education and forestall the potential of models rapidly being developed by new for-profit higher education competitors (DiPaolo, 2003) from becoming disruptive technologies and eclipsing the role of traditional universities in the higher education sector (Archer, Garrison, & Anderson, 1999; Christensen, 1997). The Academy needs to embrace ICT solutions and their associated service orientation to ensure its ongoing position as the best option for higher education.

In order to achieve this transformation, leaders in traditional research universities may need to increase their capacity to effectively manage complexity. Control and direction need to be

abandoned in favor of influence. Contextualized solutions to complex problems need to be determined via inclusionary, polycultural approaches to change (Sackney & Mitchell, 2002; Suter, 2001). Faculty members need to be engaged and willing to take innovative risks (Bates, 2000; Brown & Jackson, 2001; Olcott & Schmidt, 2000). Cost-effective, scalable innovations need to be researched and developed (Daniel & Mohan, 2004). To make this transformation possible, individual institutions need to more thoroughly understand their current situations and collegially create effective visions for the future—a future where Academy-based distributed learning networks will transmit ICT-mediated learning opportunities around the world, thus providing flexible access for a wide range of learners to fully participate in the global learning society.

THEORETICAL FRAMEWORK

Structural, cultural, economic, and pedagogical value positions within the Academy may not be closely allied to the potential for successfully increasing access to higher education via ICT-mediated learning opportunities (Brown & Jackson, 2001; Graves, 2001; Hanna, 2000a). Dealing with the complexity of issues in this range of value positions “does not mean controlling or eliminating them. It means tapping the power of complexity by accepting it, understanding its principles, and working with it as academic institutions work with faculty to transform teaching and learning” (Suter, 2001, p. 25).

Suter (2001) applies complexity theory in her development of five principles for transforming the Academy into a postmodern, technologically advanced organization. She argues, “When the speed of change (in demographics, demand, workforce, technology, economics) leads us to the edge of chaos, the command-and-control model” of organizational structures and functions “is not only counterproductive, it is simply not

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