Innovation in IT Education - Practising What We Preach

JANICE M BURN
Edith Cowan University

LOUIS C K MA
The Hong Kong Polytechnic University

The changing skills requirements for the information systems professionals of the nineties has forced many universities to reconsider their curriculum. The concept of a generic curriculum to meet the educational needs of all future IS professionals is obsolete and IS curriculum design must be targeted at specific career tracks. This paper describes the development of an innovative program to cultivate the “hybrid” business and information systems manager who can play a major role in strategy formulation for effective use of information technology. In order to sustain a high degree of relevancy to the needs of the business community, an action research approach is used which allows the students to build up case portfolios through an organizational cultural audit. These cases have initiated and supported considerable research work from Faculty and provide a longitudinal study of IS development, application and growth. In particular, they have been invaluable as input to our research program on IS strategy formulation as significant patterns of change have been seen to evolve. These relate to a number of contingent factors which would have been impossible to explore through individual research studies.

An on-going concern for information systems (IS) curriculum designers is to strike the right balance between the technical, people and business skills required (Rogow, 1993, Farwell et al 1992, Chau and Tye 1993). Many would suggest that the manager who possesses a firm understanding of the role of IS in an organization coupled with a sound management training and sufficient human relations skills is vital to the development of effective IS in the new global environment (Carlson and Wetherbe, 1989, Leitheiser 1992, Trauth et al 1993, Earl and Feeny 1994, Burn et al 1994). This “hybrid” however, remains a very elusive species.

Lee et al (1995) suggest that the current IS curricula in many universities are not well aligned with business needs and that IS curriculum design must be targeted at specific career tracks relevant to the restructured IS services. This gap between organizational requirements and IS professionals is the focus for an innovative program offered at post-graduate level at Hong Kong Polytechnic University. The program recruits business managers who wish to improve their understanding of the strategic application of IS and who will be in a position to influence the decision making process surrounding the use of information technology (IT).

The main focus of the curriculum is the strategic use of IT in organizations and the development of effective IS and business strategies to support this. While there are many strategic frameworks which can be explored within the syllabus, it is often difficult to show students how these can be practically applied in a real environment. One solution has been to use extensive case study material but in order to be effective these have to be large scale and fairly complex. A further problem in the use of case studies relates to the “customization” of case material which may be required, particularly when transportation across cultures takes place, and the amount of work involved to maintain currency. The course team have developed a novel approach which eliminates these problems but furthermore, provides a very rich base of case material relevant to the working environment. The approach not only facilitates student learning but has had
considerable impact on research developments. The approach is not restricted to programs specializing in IS but can also be applied effectively in the MBA program with an IS stream since the focus is on the organizational context of IS strategy.

The approach centers around an Organizational Cultural Audit (OCA) which is introduced within the taught course and then applied within the students’ own organizational environment. The OCA is a novel framework which introduces students to a number of organizational theories on strategic alignment (phase 1) and relates these to strategy formulation for information systems (phase 2). These two phases are combined into a structured methodology and by following this, the students can perform a comprehensive audit on their own organization. The audit identifies organizational strategies, IS strategies and their interdependencies. Using this, it is then possible to identify problems of alignment and future changes which may be required to draw these together.

This paper describes the changes in the marketplace which provided the impetus to develop this innovative program in IS; reviews the Masters Degree course and the student population; discusses the role of the integrated case study approach within the course; describes the OCA approach and its application within the organization and; identifies some of the more important implications for future IS research.

A Changing Paradigm for IS Management

The studies conducted by Farwell et al (1992), Trauth et al 1993 and Lee et al (1995) suggest that a new paradigm for IS is redefining the information management function within industry such that the ideal IT professionals will be multifaceted individuals. They will possess a combination of interpersonal, technical and business skills that will allow them to analyze problems, integrate applications, and implement new business processes built around IT. Lowest-level IS jobs are rapidly disappearing and IS staffing and activity patterns are shifting from a traditional, central IS organization toward a more decentralized, end-user-focused orientation. As a result, IS professionals will increasingly find themselves moving into very distinct career tracks (aligning IS solutions with business goals and needs, and building the infrastructure for technological integration) and will be expected to possess business functional knowledge and interpersonal/managerial skills as well as technological capabilities. Many of these will have to assume major responsibilities to drive IT as a vehicle for organizational change (Ma and Burn, 1994). In order to participate effectively as change managers, they will have to understand the impact of IT on organizations.

IT has revolutionized the way we communicate, the way we do business, and the way we live. This is particularly important for economies facing rapid growth of services sectors and globalization of market competitions where organizations are highly dependent on the effective use of information as a key to business success. However, many organizations’ automated systems operate in almost the same way as their old (manual) systems, which improve their operating efficiency and may bring in marginal benefits. IT can affect competitive relationships, enable drastic redesign of internal and external business processes, extend the “range” of products/service and the “reach” of the organization toward suppliers and customers (Keen, 1991). Hence, it can be argued that major business benefits are more likely to be achieved when the business processes, organizational structure and IT infrastructure be reengineered in order to optimize the more significant reward of integrating business and technology opportunities (Ma and Burn 1994).

This is reinforced by Earl and Feeny (1994), when they propose five key messages for the CEO to support the CIO in effective IT management: (i) position IT and the CIO as agents

![Figure 1: Strategic Alignment Model](Henderson & Venkatraman 1990)
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