Chapter 12
Online Strategic and Operational Planning Procedures in the Integrated Management Information Systems for Educational Institutions

Valeri Pougatchev
University of Technology, Jamaica

Ashok Kulkarni
University of Technology, Jamaica

ABSTRACT

This chapter is focused on strategic, operational hierarchical, non-hierarchical, and multi-criteria planning of the educational institutions and illustrated by the case-study example. It, also, describes a practical implementation procedures for the proposed business model and procedures, using mathematical methods of the Liner Algebra. A quantitative approach of the Strategic and Operational Planning, described in this chapter, introduces the V-index numeric indicator as a key measurement of objectives/targets accomplishment for each unit (including an entire institution) and individual of the institution’s planning process and his/her/its role for strategic planning analysis and control. The solutions, presented in this chapter, play a vital role in the Performance-Based Management Systems with the multi-rated feedback (360-degree evaluation). This system is a heart of any Institutional Integrated Management System and provides a comparative analysis of the members of all categories of the institution’s staff—Academic, Administrative, Technical, or Ancillary—including basic requisite information for promotion, tenure, merit pay, and post-tenure review decisions of the appraises. It also creates an opportunity for effective analysis and control for the institution financial aspects, which includes Productivity and Finance Planning, as well as Financial Controls, Budgets, and Audit. This theoretical research has had an effective practical background, at the University of Technology, Jamaica, using the original software developed by the authors and implemented within the university.

DOI: 10.4018/978-1-4666-5974-2.ch012
INTRODUCTION

Challenges of Educational Institution Management Systems and Essential Role of the Strategic and Operational Planning

The twenty-first-century realities of globalization, rapid changes in technology, increasing competition, changing workforce, changing market and economic conditions and resultant resources shortages, all increase the complexity of modern management systems. Whereas strategic planning was a competitive advantage in the past decades, it is a necessity for global thinking in the twenty-first-century (Abbas, 2003). Higher education (as services) is competing in a global marketplace, but globalization has not produced a major world market (Mazzarol, 2001). However, globalization is not a guarantee for a worldwide market with billions of people ready to purchase the goods or services of any business or institutions. It is similar to many of the ‘dot-coms’ companies of the 1990s which subsequently turned into ‘dot-bombs’. Putting an ‘e-’ before everything is no longer a guarantee of success. In a globalized economy, there are increasing requirements for standardized products, services, and technical infrastructure, in addition to need or complex and sophisticated communication systems (Gibbson, 1998). The recent development of standardized solutions for educational institutions is a dominant factor for academia. The Information Technology (IT) environment is very dynamic and fast changing, which suggests changes in current academic environments structures that are more transformational than 2 incremental. All educational institutions may have to adopt a more business-like approach to education and meet the demand of the students and other stakeholders (Cornell, 1999).

The administrators and policy makers need and demand improved data management strategies to support resource management and strategic planning to meet competition and for their survival (Jaynthi, 2008). Education today is also subject to the pressures of the marketplace. Profound changes in competition have made the institutions to think like businesses (Brown, 2000). Educational institutions have been using IT-based systems for admissions, registrations, timetable scheduling, and performance evaluations of their faculty, students, academic, technical, ancillary, administrations staff, etc. in mostly isolated applications. This includes managerial systems, organizational structure, teachers'/faculty members’ input data and is very useful to any academic institution for improving the quality of education process. Researchers show that many IT implementations in educational institutions do not fail because of technology but because of insufficient attention paid to issues related to institution’s culture (Friedman, 2001). It is important as it helps in not only the management and control of the educational institution but also helps to bringing changes in the management processes and style as per requirements of the dynamic market. The cutting edge technologies have led to the increased adaptation of new applications that includes:

- Ranking of the education institutions,
- Assessing the quality of lecture delivery,
- Assessing the programmes and courses,
- Measuring the performance of students, staff, faculties, departments,
- Tracking research and development activities and
- Enhancing faculty development.

The integration of above-mentioned applications enables the sharing of information that is necessary for all educational institutions.

One of the keys to successful management of any organization, including educational institution, is its ability to understand and apply modern management principles and techniques effectively. Institutions that develop new supportive management systems are more likely to succeed (Mazzarol, 2003).