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Implementing Relational Database Systems: Implications for Administrative Cultures and Information Resource Management

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INTRODUCTION

Traditionally, administrative computing has been the main, or often only, unit in a campus developing and maintaining the basic operating systems of an institution (McKinney et al., 1987). Information resources have been confined to an infrastructure, such as a mainframe computer or minicomputers, which processes registration, financial aid, and other services (Van Dusen, 1997). The advent of increasingly sophisticated software and hardware tools has challenged the centralization of the control and manipulation of information resources. Crow and Rariden (1993) describe an ideal information resource management model as follows:

Powerful software tools are available that can essentially eliminate the technical expertise necessary to process either university-wide data or off-campus research databases. ... Students, faculty, and administrators will be able to ask and answer their own data-related questions from their desks without the assistance or intervention of a computer center's staff (p. 467).

To date, no institution has achieved this ideal (Van Dusen, 1997). However, colleges and universities are making progress toward it. This chapter describes the experiences of two institutions, University of Redlands and Cabrillo College, as they implement similar relational database systems. It describes the effects of the implementation process on the institutional administrative cultures, and the implications for information resource management.

CASE QUESTIONS

- What factors drive an institution to replace its existing administrative information system (AIS)?

- What are the elements and phases of the implementation process?
- What are the expected benefits of implementing a new AIS? What are the potential risks?
- When replacing an existing AIS, in what ways should an institution consider changing the organizational structure that was supported by the original system?

CASE NARRATIVE

Background

Founded in 1907, the University of Redlands (UOR) is a private institution, located 60 miles east of Los Angeles. The organizational structure of the University includes the Board of Trustees, the President and Vice Presidents for Finance and Administration, and Academic Affairs. The University has two colleges—the College of Arts and Sciences (CAS) and the Alfred North Whitehead College of Lifelong Learning (ANWC). CAS offers more than 25 majors in liberal arts and programs of study in professional and pre-professional fields to over 1,500 residential students. ANWC offers undergraduate and graduate programs to more than 2,200 students. The University has a main campus and five adult learning regional centers throughout Southern California. The structure and size of the University have fostered a climate of high-quality, personalized education for both traditional-aged students and adult learners.

Cabrillo College is one of the 107 California community colleges and enrolls almost 14,000 students on three campuses. The main campus conducts most of the classes and all of the administrative business. The organizational structure includes a Governing Board with decision-making authority over all site functions, the President, and Vice Presidents of Business Services, Instruction, and Student Services. The Cabrillo community college district is a supportive environment characterized by extensive collegiality in both instructional and administrative areas.

Cabrillo College is a union organization in both the academic and nonacademic domains. In this aspect, it differs sharply from most private institutions of higher education, including UOR. Whereas private schools generally allow and even encourage employees to contribute extra time, this is not an option for a unionized organization. Union employees are required to work no more than eight hours per day unless prior approval is granted. One result of this has been that there are often longer implementation times when urgent and intensive project efforts are required.

The operations of the two colleges share some commonalities. The registration, student billing, and financial aid processes are located in the main campuses. However, UOR's adult college is decentralized. Each regional center conducts recruitment and admissions, academic advisement, enrollment services, and degree audit and graduation checks. Additionally, Cabrillo has two small branches in nearby cities.

History

Both institutions have relied on traditional administrative computing environments with the Information Technology Services (ITS) at UOR and the Computing Resources (CR) at Cabrillo to manage the structure, processing, and reporting of institutional information through mainframe and minicomputer systems. In 1987, UOR acquired and installed the Information Associates' (IA) suite of administrative software to support most of its administrative information processing needs. The implementation of IA was completed in 1990. However, some offices never fully converted to IA and continued to maintain

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