

CHAPTER 13

Information Age Challenges to Research Libraries

Crisis in the University of California Library System

Charles F. Kennel, with the collaboration of Sharon E. R. Franks

This contribution to the Glion Colloquium focuses on a crisis in the University of California (U.C.) library system. The predicament, faced by research institutions throughout Western industrialized countries, is the struggle to maintain access to scholarly publications in the face of concurrent growth in the quantity and cost of this material. In terms of its underlying causes, stakeholders, and potential solutions, the U.C. library crisis mirrors challenges facing higher education in general. A principal component of the problem is financial. Funding levels that have traditionally supported libraries are now insufficient to purchase and manage a growing volume of increasingly costly scholarly output. The present imbalance in funds and costs has deeper roots in an unsustainable system of scholarly publication, as well as broadening demands on university libraries in the Information Age, factors that are forcing a restructuring of the information marketplace. Players in this complex situation have diverse goals and expectations: faculty who expect access to journals in their fields of study regardless of cost, senior administrators and library directors responsible for library budgets, commercial publishers who dominate a monopoly-like marketplace in which prices have risen dramatically, and an increasingly diverse set of users. Finally, as with other issues confronting academic research institutions, addressing the library crisis requires involvement of all stakeholders and a search for creative solutions beyond campus boundaries.

Charles F. Kennel would like to thank Richard Lucier, the U.C. digital librarian, for his guidance in these matters.

SCOPE OF THE CRISIS

The crisis in the U.C. library system has manifested itself in reduction in acquisitions, staff cuts, and diminished diversity in collections at all nine U.C. campuses: Berkeley, San Francisco, Davis, Santa Cruz, Santa Barbara, Riverside, Los Angeles, Irvine, and San Diego. Managed by the Office of the President, the principal officers on each campus have forged beneficial collaborations among the nine research libraries, even though acquisitions have been historically handled independently. For the U.C. libraries, the fundamental survival issue has become how to rise to the new challenges of the Information Age in the face of diminishing resources for traditional functions.

Both the volume and price of scholarly work have increased nearly three-fold in the last decade (Association of Research Libraries et al. 1998), curtailing the libraries' ability to acquire new publications. Between 1992 and 1996, the price of materials purchased by U.C. libraries rose 30 percent while acquisition budgets increased only 10 percent. In the three-year period ending in 1996, acquisitions of monographs declined 13 percent (Kennel 1998). Drastic reductions have also been made in serial acquisitions, and this is not surprising considering that since 1986 median prices for scholarly journals increased at least 169 percent—more than three times the rate of inflation (Malakoff 1998). The rise in costs of scientific serials purchased by U.C. libraries has averaged 12 percent annually since 1992 (Kennel 1998). Costs of subscriptions to online databases grew even more rapidly—in one case 350 percent in a single year (Association of Research Libraries et al. 1998). Hesitant to fuel continued cost increases, but obliged to address faculty concern over acquisition reductions, U.C. chancellors have only reluctantly agreed to increase library acquisition budgets.

Along with shortfalls in collection budgets, U.C. libraries have also suffered staff reductions. U.C. Los Angeles, U.C. Davis, and U.C. Berkeley each lost 20 percent of their staff since 1991 (Kennel 1998). Pressure to acquire high-usage materials has also reduced the diversity of library collections. Campus acquisitions are becoming less comprehensive and more duplicative. Consequently, requests for interlibrary loans rose 50 percent since 1991, while requests for photocopies of material outside U.C. collections jumped 84 percent (Kennel 1998).

UNDERLYING ISSUES

A look into the causes of rising publication prices reveals an unstable system of scholarly communication. The commercialization of scholarly publication several decades ago has led to an arrangement where publishers control access to intellectual property produced by university faculty whose institutions,

though they and their governments have subsidized the research on which these publications are based, are forced to pay for access to this information. In the case of digital information, publishers are now attempting to place restrictions on distribution and use that have not previously been applied to scholarly publications. While libraries have been the first partners in the scholarly communication system to feel the ill effects of this model, in the long term it will restrict the flow of scholarly discourse at all levels of university research and education.

At the same time they struggle to deal with the financial crunch imposed by increasing book and periodical costs, university libraries face the new and inescapable challenge of procuring and managing a burgeoning array of digital (electronic) information. They are also under new pressures to serve an expanding set of users, including distance and lifelong learners, in addition to traditional students and faculty. Developing strategies to meet the demands of the Information Age and serve an increasingly diverse student body are recurrent themes among leaders of institutions of higher education.

Within the U.C. system, libraries have struggled with increasingly severe financial difficulties for more than a decade, and they have exhausted their ability to deal with these problems using available resources. The library crisis has now become a university crisis. The U.C. Library Planning and Action Initiative Advisory Task Force concluded in its March 1998 *Final Report* that to solve the libraries' problems the university community would have to change, particularly in the area of scholarly communication (Kennel 1998). Libraries are becoming agents of change for universities in the Information Age.

PROPOSED SOLUTIONS

Acknowledging that the library crisis is multifaceted and ongoing, the University of California has formulated a set of strategic initiatives that include measures to strengthen resource sharing, acquire and distribute electronic materials, and even transform scholarly communication.

Resource Sharing

While the U.C. will continue to fund growth and maintenance of traditional print collections, economic constraints make it no longer practical for each campus library to build and maintain a comprehensive print collection. Striving for comprehensive *access* to scholarly publications, however, is a realistic goal. The U.C. Library Planning and Action Initiative Advisory Task Force has advocated an approach based on the philosophy of "one university, one library" (Kennel 1998). Collaboration among the nine U.C. campuses, as well as partnerships with other libraries, museums, and industry, will facilitate cost-

effective access to diverse print and electronic materials. While the human and managerial problems of realizing these collaborations are challenging even for a relatively well-integrated multi-campus system like the U.C., resource sharing must leverage limited resources to build diverse collections at the systemwide level. This approach necessitates development and support of a system to facilitate expeditious access to printed materials from users' desktops. Overnight transport of print materials, collective purchasing of print materials and licensing of digital products, development of specialized local collections, and extensive digital networking within and beyond the U.C. system are key components of strengthening resource sharing.

The California Digital Library (CDL)

To provide leadership in support of a vision that integrates digital technologies into the creation of collections and improved access to information, the U.C. established the California Digital Library (CDL) in October 1997 as the "colibrary" of the University of California. President Richard C. Atkinson made it a priority to secure a new appropriation from the State of California specifically for the CDL. A collaborative effort of all nine campuses, managed and coordinated by a small group at the Office of the President, the CDL acquires and manages electronic content in support of academic programs, supports digitization of paper-based materials, encourages new forms of scholarly communication, and assists campuses by providing user support and training.

As the key strategic initiative for meeting the challenges facing the U.C. libraries, the CDL is responsible for providing new services and extending existing ones to successfully transform the library system over the next decade. Successful polling of U.C. faculty resulted in digital collection priorities for the Science, Technology, and Industry Collection, the CDL's charter collection. This framework for making selection decisions for digital collections is being replicated for other disciplines. Negotiation of systemwide licenses at favorable discounts, innovative arrangements to share collections with other California-based institutions, and ongoing leadership in the effort to transform scholarly publishing are among the noteworthy accomplishments of the CDL. In the first year alone, the CDL has made access available to thousands of scholarly journals that would have cost the university more than \$2 million in additional funds if the campuses had tried to provide the same level of access separately.

Transforming Scholarly Communication

University-wide support of a strong information infrastructure may encourage a much needed change in the current unsustainable model of scholarly communication. At the U.C., a Copyright Task Force has been appointed to

examine redefinition of academic intellectual property rights. Proposed changes would protect intellectual property—both print and digital—from commercial exploitation to the detriment of the institution and its faculty. Transformation plans must provide for certification of scientific and scholarly work (e.g., peer review), as well as widespread dissemination of the results of research.

Reallocation of the \$680 million spent annually by North American research libraries on acquisitions can exert a powerful influence on shaping the market for scholarly information (Association of Research Libraries et al. 1998). With such steps as expanded resource sharing and establishment of the CDL, the U.C. is attempting to regain a measure of control over the flow of scholarly information that sustains its research and teaching missions. Parallel courses undertaken by universities worldwide—possibly in partnerships with scholarly societies—could reshape the entire system of scholarly communication and potentially motivate changes in academic culture. In anticipation of times when forms of publication are more diverse than conventional books and journals, universities should encourage faculty leaders to begin thinking about broader criteria and more flexible processes for academic promotion.

Continuous Planning

In developing and articulating its multi-pronged approach to easing the library crisis, U.C. leaders anticipate that continuous innovation will be required over a decade-long transition from completely print-based holdings to integrated digital and paper collections. To be successful, plans must be created with contributions from all stakeholders in the university's library system—faculty, students, librarians, information technologists, and administrators. Library planning must be coordinated with the universities' technical and academic planning to address the needs of increasingly diverse and more numerous users. The cultural changes within the university are so great that no strategic plan for transformation is possible. Response to the library crisis will require continuous planning supported at the highest institutional levels. Conducted with vision and long-term commitment to innovation, the evolution of university libraries can serve as an instructive model for guiding the university in this complex transition and addressing other issues challenging institutions of higher education.

REFERENCES

- Association of Research Libraries, Association of American Universities, Pew Higher Education Roundtable. (1998). "To Publish and Perish," *Policy Perspectives*, 7 (4), pp. 1-11.
- Kennel, C. F. (1998). *Final Report of the Library Planning and Action Initiative Advisory Task Force*. Berkeley: University of California.
- Malakoff, D. (1998). "New Journals Launched to Fight Rising Prices," *Science*, 282, pp. 853-54.