COMMENTARY

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ELECTRONIC RESEARCH ADMINISTRATION AND THE CULTURE (AND SUBCULTURES) OF HIGHER EDUCATION

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ABSTRACT

At recent workshops on electronic research administration (ERA) conducted by the National Council for University Research Administrators (NCURA) (August 1996 and March 1997) and the Society of Research Administrators (SRA) (January 1997), the author participated in many conversations on the cultural aspects of implementing electronic commerce. While these discussions were on target, the target itself was not always clear. This article examines how several aspects of the culture of contemporary higher education relate to ERA. Discussion draws on the author's 30 years of experience as a faculty member and administrator at three land-grant universities.

INTRODUCTION

ERA can be viewed as a cultural problem, and analyzed according to what anthropologists and social historians call "material culture": the tools, implements, and various material products of a culture. ERA can be examined from the perspective of a narrow segment of the university, the Office of Sponsored Projects (OSP) or the Post-Awards Office (PAO), which can help us understand some of the complexities involved in implementing ERA. Other dimensions of academic culture also should be explored. A detailed picture of the complex culture of public higher education will provide an understanding of cultural impedi-

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ments and inducements affecting the implementation of ERA.

Culture includes behavior, attitudes, values, and institutions as well as language and ideology. The more complex a culture, the greater its diversity. Complex cultures are not homogeneous; the balance between conflict and consensus is always precarious. Cultures include stratification systems, often based on the distribution of wealth. Diversity, exacerbated by an unequal distribution of wealth, means that on careful examination, cultures that appear unitary are really a collection of subcultures. This is the case with American higher education, where such parameters as public or private status and level of wealth tend to define subcultures.

Institutions pioneering the implementation of ERA often are drawn from the ranks of leading private universities, endowed with financial and technical resources (including personnel), and led by people with vision and political skill. Institutions that have spent vast sums developing in-house systems for ERA are role models only for institutions with the same level of resources. Informal conversations with participants at ERA workshops reveal that many research administrators are impressed by the achievements of elite institutions, but depressed because they cannot imagine how these lessons could be applied at their institutions.

At the March NCURA workshop, a panelist from a major West Coast university was asked how much had been spent on reengineering research administration. The answer brought laughter from the audience: between $1 million and $2 million, exclusive of the medical school and college of engineering.

Perhaps the most striking example of cultural diversity occurred at the San Diego workshop, when an administrator from a well-funded Midwestern university was asked how he secured the support of his superiors to implement ERA. The question had no meaning. Support was not problematic at that university; it was a given. But for those closer to the mean, or several standard deviations away, it is very much an issue. Listen carefully to informal conversations at workshops. Repeatedly, they center on the lack of support from top administrators, and a feeling of helplessness because of the difficulty communicating with senior leadership.

Knowing the culture of state universities and state colleges is invaluable in effectively marketing ERA. While painted in broad strokes, the following may help ERA champions understand cultural factors that prevent implementation of ERA, as well as the factors that can be turned to its advantage.

Higher education in the United States is diverse. Material, administrative, and technical resources are not uniformly distributed. While elite institutions are blessed with adequate, if not superior, technological support, other institutions make do with less. A show of hands at a session at the March NCURA workshop suggested that many participants still used 386 microprocessors. The recommendation from the panelists—get new high-end machines—was not really helpful. One audience member responded, "Will you pay for them?"

Higher Education Cultures

Let us begin by looking at an important segment of the academic

population. Administrators preside over a diverse and remarkably independent faculty. In part, this aspect of academic culture can be explained historically. The 3 decades following World War II marked a golden age in American higher education. Universities grew in size, wealth, and power. Responding to Cold War pressures, research in science and engineering was funded at levels undreamed of before 1940. Many faculty members viewed themselves as independent entrepreneurs who owed little to their institutions. Externally funded research became a professor's highest goal, and administrators encouraged and rewarded research.

In the 1990s these values have come under fire from students, taxpayers, and legislators. A national groundswell favors returning public higher education to its pre-World War II commitment to teaching. Consequently, faculty reward systems are being restructured to reward activities other than research. Wise administrators understand that the relationship between teaching and research is not mutually exclusive, but this concept is sometimes difficult for legislators and members of governing boards to comprehend.

Other controversies punctuate contemporary academic life. A debate rages over the future of tenure. The complex discussions range from the need for administrative flexibility to secure expertise in emerging areas to the tired old war horse of academic freedom. Both senior administrators and state legislators are pressing for post-tenure review. The tenure debate will continue to command administrative and political resources, and to distract institutional leaders from other matters.

But the list does not stop with policy debates. Information technology (IT) is not only transforming the way business is done in the OSP or the PAO; IT also is transforming the activities of registrars; directors of admissions; and even the humble, but politically sensitive, area of classroom scheduling. However, it is in teaching that the application of IT is most controversial.

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As professors and publishers roll out interactive, multimedia courses, the nature of teaching and the shape of the curriculum are changing. Institutions are investing in high-tech

classrooms and instructional design laboratories to help faculty create multimedia courses. For some in the academy, this is the long-desired move from the lecture method of instruction; for others, it appears to be the end of civilization. Fiery discussions over mediated courses, curriculum reform, the use of IT for distance learning, and new roles for professors are more intense than those over tenure.

Perhaps now we can see why research administrators have difficulty getting an appointment with the provost or vice president—there is a long line outside the door!

These structural changes are altering the culture of public higher education in the United States. However, changes in the larger culture (at the state and national levels) also affect colleges and universities.

The best that most state university systems can hope for are flat budgets and no rescissions. The public demands accountability and wants higher education to join industry and the federal government in reengineering. These demands are stoutly resisted by many professors and administrators. Opponents of reengineering claim that higher education occupies a unique status in American culture. It is not subject to demands for accountability and, while often dependent on tax dollars, has virtually no responsibility to taxpayers. In short, public confidence in higher education has eroded.

In a time of reduced state resources and increasing enrollments (some states projected a 50% increase in high school graduates in less than a decade), funding from federal and private sector sources takes on new significance (*Chronicle of Higher Education,* 1996). An increase in federal research support and cooperative agreements with the private sector would benefit higher education greatly. But here too, there is no consensus in the academy. Humanists and social scientists often complain that increased activity in technology transfer and university and industry cooperation subverts a university's true mission.

The Argument for ERA

As we sit in the outer office, waiting for our appointment, it is important to marshal our arguments for ERA and tie them closely to cultural conditions in the academy. This will place ERA in a familiar context for senior administrators, and help justify ERA start-up costs.

But first, let us ask why we are waiting for an appointment with a senior administrator. At the SRA and NCURA workshops, several speakers emphasized the following point: Develop a comprehensive ERA implementation plan and then seek support from senior administrators. This approach assumes that lower echelon administrators command resources (time, technical knowledge, and funds) needed to prepare a viable plan. For many public institutions, this is a dubious assumption. The OSP and PAO are low on the administrative food chain. Staff and managers can seldom access informal channels of communication, and are constrained by budgets that seldom contain discretionary funds for paying outside consultants or sending staff to NCURA and SRA meetings.

For many public universities, securing the support (political and financial) of senior administrators is crucial for, and antecedent to, plan-

ning for ERA. This is why we are waiting outside a senior administrator's door, and why we must develop persuasive arguments that relate ERA to contemporary university culture.

Analysis of public higher education suggests several cultural issues that should help as we prepare to discuss ERA with senior administrators. Let's review these issues and see how they help or hinder the cause of ERA.

Faculty Activities

As higher education moves to reclaim traditions of excellence in undergraduate teaching, faculty assignments may be redefined to encourage professors to focus on the activities at which they excel. In this scenario, ERA would enhance the efficiency of research faculty in science and engineering. They would spend less time on paperwork and more time doing science. ERA also might improve an institution's ability to receive federal funding.

A few institutions are considering a more draconian scheme. All faculty research must be funded externally rather than by salaries (as is often the case in the arts, social sciences, and humanities). Supporters argue that since salaries are the largest line in the institutional budget, eliminating unfunded research can refocus faculty efforts. Implementing this plan probably would lead to increased applications for external funding, and ERA would help the OSP cope with the increase.

Tenure

In considering the tenure debate, matters are less promising. If your institution is embroiled in an acrimonious dispute over tenure and post-tenure review, this may not be the time to knock on the door of the chief academic officer or the chief executive officer. In academia (as elsewhere), timing is everything. ERA cannot compete with tenure for the attention of institutional leaders. Bide your time until a more auspicious moment.

Information Technology

As IT transforms the way other areas of the university do business, you have ammunition to justify ERA. Indeed, ERA may be seen as part of a concerted institutional effort to improve efficiency, control costs, and provide better service. This point dovetails nicely with demands that universities follow the private sector and federal government in reengineering and restructuring the way they do business. ERA naturally links with these trends and, in the larger institutional context, has the added benefit of demonstrating to state legislators that your institution is implementing various plans to increase efficiency and productivity.

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Technology Transfer

ERA should help institutions compete in attracting federal dollars. It also may become a potent weapon for selling the services of the university to the business community. Improved efficiency and productivity will make a positive impression on potential industrial partners. If all parties at the table speak the language of reengineering, they share a common bond.

It is time to admit a lot of people out there need ERA 101 rather than ERA 410.

Professional Organizations and ERA

Beyond the culture of the academy, facets of the culture of our professional organizations should be considered.

At the annual SRA meeting in Toronto (October 1996) and at the ERA workshop in San Diego, attendees had interesting discussions concerning best practices. It is important that Websites be developed by SRA and NCURA to report best practices, and that these sites have e-mail links, so participants can query each other. However, elite institutions should not dominate these discussions.

Best practices developed by elite institutions must be translated into the cultural context of the average university. By the same token, any attempt to disseminate success stories (again dominated by the top institutions) must be matched by reports of failures and false starts. Only by telling it like it really is, can we stimulate change.

My experience is that organizers of workshops and conference sessions continue to overestimate the technical knowledge of the average participant. Technical discussions start on page 3 or 4, omitting what is obvious to insiders—the nature of the project and its goals. The tendency is to assume listeners have the necessary background to jump into a complex "bits and bytes" discussion. Sometimes, a technical glossary is appended to the slides, but it is seldom discussed. It is time to admit a lot of people out there need ERA 101 rather than ERA 410.

Workshop and conference sessions organizers might consider the following experiment. Many learned societies use commentators who raise questions and engage panelists in a dialogue. What if commentators from non-elite institutions engaged in a dialogue with speakers from elite institutions or technical experts? This would open the discussion of ERA to a wider range of institutions. The March 1997 NCURA workshop did include a session on implementing ERA at smaller schools.

Other rewards can be gained. Meetings that become more interactive and involve forms of collaborative learning move away from the passive lecture mode. Members of the audience become active learners. Current research suggests that in the active, collaborative mode, more is learned, and learning is certainly more fun (Slavin, 1991).

In addition, there are options for different kinds of panels and presentations. For example, "Obstacles to Implementing ERA at . . . ." (let the program committee fill in the blank), or "Minimum Technical Requirements for ERA." Also, the various solutions offered by vendors to help smaller institutions implement ERA should receive greater attention.

These suggestions entail some obvious ideas for restructuring conference planning committees, which should include a significant number of representatives from smaller institutions that have not yet implemented ERA. This ensures that the problems of smaller institutions are acknowledged publicly and discussed.

Agency/university cooperation is one of the most important characteristics of both SRA and NCURA. So, the following comments are directed to representatives from the federal side.

Focusing on the success of elite institutions will result in standards and best practices that many universities can never meet. In the spirit of diversity that marks American academic institutions, it is time to think about best practices that can be adapted across the economic and cultural spectrum. The one-size-fits-all approach does not reflect the cultural realities of higher education.

Smaller Institutions

The concluding section is addressed to smaller academic institutions—those which generate external research funding up to $50 million a year. This group includes both public and private colleges and universities, and comprises an important component of the academic research effort.

While we can ask that large affluent institutions, federal agencies, and our professional organizations work closely with smaller and less endowed colleges and universities, smaller schools must become proactive. You simply cannot adopt a wait-and-see attitude. The timetable is set; ERA is not some fly-by-night idea that will soon fade. For example, in February 1997, the Department of Defense (DOD) announced it was requiring all of its contractors (including colleges and universities) to register by Sept. 30, preferably using electronic registration. ERA marches forward! Watchful waiting is no longer an option.

What are the basic steps that smaller institutions should take now? While no sessions at NCURA or SRA workshops have yet been dedicated to this question, the following provide preliminary guidelines for purposeful action.

Get Up and Running on FastLane

FastLane, the poor man's solution to the challenge of ERA, provides experience with a Web-based system. The Web can be accessed with a modest outlay for hardware and software. Despite Cassandra-like predictions that the World Wide Web is doomed (Metcalfe, 1996), the Web is here to stay. Higher education will soon have access to Internet2, with such benefits as increased bandwidth.

The sooner the OSP staff can start experimenting with a FastLane system, the sooner they can begin thinking about how to reengineer research administration. Make no mistake: a system like FastLane or the NIH ESNAP is not an end, but a beginning. Reorganization is the inevitable next step.

However Modestly, Start Planning to Reengineer Now

One of the important themes in the history of technology is that hardware is not a stand-alone object, but part of a system. If this point is not understood and acted upon, the best technology has few lasting benefits. Technology may make the operation more efficient, but the ultimate goal is an effective system, in which both quantitative and qualitative improvements enhance customer services.

Reengineering Must Be Institution-Specific

One shoe does not fit all. Reengineering must respect an institution's culture. If you opt for the help of an outside consultant, select one whose background and experience are in the academy, rather than in business and commerce.

Reengineering Must Be Phased In

Small institutions cannot write big checks. Thus, reengineering must be phased in across a clearly defined timeline. Begin with the technological infrastructure, then move to implement other aspects of reorganization.

Reengineering Must Be Based on Institution-Wide Consensus

Without consensus, you will not have the resources or the will to reengineer research administration. Often, outside consultants have a better chance than staff members of focusing senior administrators' attention and helping them see the significance of reengineering.

Reengineering Goals

The goal of reengineering research administration is to achieve greater efficiency and effectiveness to increase institutional productivity, improve product quality, and enhance customer satisfaction.

Conclusion

Research administration serves various populations—PIs, federal agencies, the higher university administration. The challenge is how to meet the needs of these diverse groups. We will have succeeded when we can point to increased satisfaction for both research administrators and the populations they serve.

The activities of our professional organizations and government agencies should be geared to making the benefits of ERA available to all institutions (large and small) engaged in federally sponsored research in the sciences and engineering. Let us work together to explore different levels and configurations of hardware and software, as well as methods of reengineering business practices that fit the diverse culture and subcultures of higher education in America.

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