

# Research Administration in Colleges and Universities: Characteristics and Resources

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**Abstract.** This article summarizes information from a survey of college and university Chief Research Officers (CROs) conducted in July 1996. The purpose of this survey was to provide comparative data regarding the characteristics of research administration in a modern institution: levels of funding and funding sources, office activities, facilities and staff resources, and other information. To control for institutional characteristics, the respondent data were grouped by Carnegie Classification and control (public and private).

## INTRODUCTION AND METHOD

Stresses on the federal budget have resulted in static or declining federal R&D funding for colleges and universities.<sup>1</sup> This has in turn led to increased competition among colleges and universities for R&D funding. The focal point at most universities for this effort is the Chief Research Officer (CRO). How are CRO offices structured and in what types of activities do they engage? What is the level of resources available to the CRO to procure funding? What are the characteristics and policies that drive such issues as indirect cost distribution and scientific misconduct? How does the level of CRO resources (staff size, office budget) vary with institution type and institution R&D funding? These are some of the questions addressed here.

This paper summarizes information from a survey of college and university Chief Research Officers conducted in July 1996.” The purpose of this survey was to provide comparative data regarding the characteristics of research administration in a modern institution: levels of funding and funding sources, office activities, facilities and staff resources, and other information. Because these data are grouped by institution type, they provide “benchmark” information for comparison purposes,

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A total of 276 survey forms were distributed nationally, and 80 were returned with usable data (29 percent response). These 80 universities conducted over 25 percent of total U.S. academic R&D in 1995.<sup>3</sup> Many of the returned survey forms had missing values; the summary statistics for some of the variables are thus based upon less than 80 respondents.

For comparison purposes, these universities were grouped by Carnegie Classification:<sup>4</sup>

**Research 1 (R1):** Institutions that offer the full range of baccalaureate programs, award 50 or more doctoral degrees annually, and receive \$40 million or more in federal support. There were 24 public and 6 private R1 respondents.

**Research 2 (R2):** Institutions that offer the full range of baccalaureate programs, award 50 or more doctoral degrees annually, and receive \$15.5 to \$40 million or more in federal support. There were 14 public and 3 private R2 respondents.

**Doctoral 1 (D1):** Institutions that offer the full range of baccalaureate programs, award 40 or more doctoral degrees annually in at least 5 disciplines. There were 9 public and 3 private D1 respondents.

**Doctoral 2 (D2):** Institutions that offer the full range of baccalaureate programs and award 10 or more doctoral degrees annually in at least 3 disciplines; or 20 or more doctoral degrees annually in one or more disciplines. There were 9 public and 3 private D2 respondents.

**Master's 1 (MI):** Institutions that offer the full range of baccalaureate programs and award 40 or more master's degrees annually in at least 3 disciplines. There were 6 public and 3 private M1 respondents.

The organization of this paper is as follows. The next section examines R&D funding levels for the responding institutions by Carnegie Classification. This is followed by a discussion of F&A costs (F&A): F&A rates, distribution of F&A within the institution, and F&A policy. The next section examines CRO functions, and how office resources are allocated among the major CRO activities. Finally, the following CRO resources are examined: staff and salary levels, physical office resources, and database systems. The paper concludes with a summary.

## **R&D FUNDING**

Table 1 contains funding data from 79 institutions. Together, these 79 institutions received a total of \$6.4 billion in R&D funding in 1995. However, R&D is concentrated in a few institutions that are major research performers. The top 5 institutions compose only 6 percent of the respondents but received 28 percent of the total R&D funding reported by the respondents.

Overall, the average responding university received 67 percent of its R&D funding from the federal government, 16 percent from private sources, and 17 percent from other sources (e.g., state and local, foundations, donations).<sup>5</sup> With the exception of MI institutions, this distribution was fairly stable across the other Carnegie Classifications. In MI institutions, 50 percent of the R&D funding is from federal sources, 32 percent from other sources, and the remaining 18 percent from private sources.

Funding patterns are different for public and private universities. In public institutions, 63 percent of total R&D funding is from federal government sources compared to 78 percent in private institutions; and 20 percent of funding is from “other” sources compared to only 7 percent for private institutions. If future federal funding is restrained, private institutions are likely to see a disproportionate decline in R&D funding compared to public institutions that rely more on other funding sources.

### **F&A COSTS**

On average, responding institutions indicated that on grant proposal submissions, direct costs composed 77 percent of the grant request and F&A costs 23 percent. These mean values varied little by Carnegie Classification. However, there was considerable range in the direct cost/F&A cost distribution by individual institutions, with direct costs ranging from 50 percent to 90 percent of total costs. Modified Total Direct Cost (MTDC) was the most common cost base used, with 85 percent of the respondents indicating MTDC. Total Direct Cost (TDC) was used by 5 percent, and the remaining 10 percent indicated that they used some combination of MTDC and TDC.

Most institutions perform an internal distribution of F&A cost recovery. Table 2 indicates how F&A cost recovery was distributed within the respondent institutions. The institutions’ general fund received the largest proportion of F&A cost recovery in all classifications save MI institutions. In MI schools, the grantee’s department received the largest share (35.3 percent); the president’s office also received a relatively large share (18.3 percent) compared to other Carnegie Classifications. The CRO offices on average received 12 percent of the distributed F&A cost recovery, with slightly higher percentages in the D1&2 schools and less in the R1&2 schools.

Institutions were asked about the policies that guided the distribution of the F&A cost recovery. Responses included institutional policies and state requirements, seed money/incentive for grants, and “other.” Institutional policy was cited most often, with 70.7 percent of the 75 respondents. The second most cited (14.7 percent) was the use of F&A cost recovery for seed money/grant incentives. These rankings varied little by Carnegie Classification.

Sometimes nonfederal sponsors (e.g., industry, foundations) are unwilling to pay all or part of F&A costs. When institutions were asked how they dealt with this issue, 66 institutions (80.3 percent) indicated that a negotiated rate or waiver was used; only 1 institution would not accept lower F&A cost rates; and 13 institutions indicated “other policy.”

### **CRO OFFICE FUNCTIONS**

Each Chief Research Officer was asked to allocate the CRO office work activity in a typical year among the following five major activities (see Table 3):

**Grant Administration:** functions related to research grants; e.g., proposal development workshops and assistance; approval of outgoing proposals; preparation of F&A cost proposals and approval of waivers/reductions of F&A costs; negotiating awards; and internal grant/seed money awards.

**Research Administration:** functions related to facilitating and supporting research; e.g., research facilities/centers planning and oversight; post-award accounting, tracking deliverables, budget projections; research park administration/planning; management of redistributed funds; economic development; and workshops on research issues.

**Legal/Ethical Oversight:** functions related to intellectual property; scientific misconduct; conflict of interest; patents and trademarks/copyright; technology transfer.

**Graduate School Administration:** functions related to managing the graduate school; e.g., graduate student assistantships; Dean responsibilities.

**All Other Activities:** functions not captured in the above descriptions.

Grant administration (39.5 percent) and research administration (26.4 percent) functions consume most of the staff activity in CRO offices, followed by legal/ethical oversight. It appears that the more “research intensive” the institution, the higher the percent of time spent on legal/ethical oversight (Figure 1).

The more “research intensive” the institution, the less likely the CRO will also have graduate school functions. Of the 30 R1 schools, only 12 (40.0 percent) indicated any time spent in graduate school activities. The comparable statistic for other Carnegie Classifications is: R2, 47 percent; D1 and D2, 67 percent. M1 schools are the exception to this trend, with 33.3 percent of the CRO offices being involved in graduate school functions.

Within grant administration activities, the CROs were asked which subactivity was most important. With the exception of M1 institutions, “approval of outgoing proposals” was most frequently selected. For M1 schools, the subactivity “proposal development assistance” was most frequently selected. Within research administration activities, all Carnegie Classifications indicated “post award accounting, tracking deliverables, budget projections” as the most impor-

tant subactivity. Within legal/ethical oversight activities, the subactivity “intellectual property rights” was most frequently selected (32 percent), although “other” was also chosen frequently (25 percent).

### CRO OFFICE STAFFING AND SALARIES

Table 4 contains information regarding the “annual average” full time equivalent (FTE) CRO office staff by Carnegie Classification. As one would expect, the more “research intensive” the university, the larger the CRO office staff. R1 institutions maintain on average a staff of 30.7 compared to a staff of 5.8 at M1 institutions. The exception to this is the D2 institutions, which on average have a larger staff than D1 institutions.

A simple regression model was estimated to determine the relationship between the level of R&D funding and the FTE staff of the CRO office. The estimated equation was of the following form (R&D Funding is in millions of dollars) :

$$\text{FTE Staff} = 11.5 + 0.11 (\text{R\&D Funding})$$

$$R^2 = .272$$

$$F = 26.89$$

$$t = 5.18$$

$$n = 74$$

Thus an average CRO office administering \$100 million in total R&D funding would employ approximately 22.5 FTE staff. This equation indicates that the average CRO office adds 1 FTE staff for each additional \$9 million in R&D funding.

Most CRO offices share computer specialists with other offices or departments; only R1 schools require more than 1 FTE in computer services annually. The number of support FTE (clerical, computer, students, and other staff) per management and professional staff FTE varies between 0.5 in D1 institutions to 1.1 support per management/professional FTE in M1 institutions.

Each CRO office was asked to provide the direct labor costs per FTE for each of the staff occupations. Table 5 details summary statistics for these data. There is a relationship between the research intensity of the institution and the median salary (i.e., direct labor costs) of the research administration management staff. R1 institutions have a median management salary of \$80,000; the median declines steadily to the median M1 salary of \$69,324 (see figure 2).

There is considerable variance of CRO management salaries within a Carnegie class. For example, the R1 CRO management salaries ranged from \$31,000 to \$125,000 (mean of \$78,700 and median of \$80,000). Do these R1 management salaries vary systematically with 1) total R&D budget and 2) CRO office staff size? Using correlation analysis of these data, there was little evidence that R1 management salaries varied with size of R&D budget or size of staff managed. This finding also held for other Carnegie classifications.

### **CRO OFFICE RESOURCES**

Table 6 details CRO office resources by Carnegie Classification. For example, the “average” R1 institution chief research office is 6,200 square feet to accommodate a staff of almost 31 FTE workers. As one would expect, office resources are directly related to both the CRO FTE staff size and the size of the institution’s R&D budget.

When one controls for staff size (i.e., per FTE in Table 6) the level of office resources per FTE becomes very consistent across Carnegie Classifications. The major exception is in CR0 office operating cost per FTE staff, which is substantially higher in R1 institutions (\$62,400 per FTE) compared to other Carnegie classes (ranging from \$44,700 to \$51,200 per FTE). A typical CR0 staff member has approximately 200 square feet of office space and 1 computer. However, there is only 1 office for every 1.4 FTE, 1 computer printer for every 2.5 FTE, and 1 copy machine for every 10 FTE.

On average, the typical R1 CR0 office dwarfs the other Carnegie Classifications, with over twice the level of operating costs and almost twice as much space, as well as 50 percent more staff and equipment. Some of the R1 CR0 offices are very large, with budgets in excess of \$4 million and staffs exceeding 50 workers.

### **GRANT MANAGEMENT SYSTEMS**

Table 7 contains information on the types of management systems used by CR0 offices to manage grants (e.g., track proposals, grant awards, deliverables). Overall, the most popular grant management systems are manual records and files and modified computer database systems, with over half of the responding institutions indicating these types of systems. However, the most popular grant management system used by R1 institutions is a homegrown computer database, with 60 percent of the 30 respondents.

For the **10** institutions that indicated they were very satisfied with their grant management system, 60 percent used some sort of modified computer database system and fewer relied upon manual records and files.

## **ON-LINE INFORMATION**

Table 8 contains information regarding on-line and CD-ROM information sources used by the responding institutions. The information source with the widest access were the NIH Grant web site, the Federal Register, and NSF/STIS.<sup>6</sup> FEDIX/MOLIS and the Commerce Business Daily were also frequently accessed.

In general, the widely accessed information sources were the same regardless of Carnegie Classification. The Community of Science (COS) was a major exception, with access concentrated among top research universities. CD-ROM information sources are not being used as widely as on-line sources. Only 21 of the 80 responding institutions indicated that they used any type of CD-ROM information sources.

In addition to identifying the information sources accessed, the CRO offices were asked to identify the most useful on-line source. Of the 37 institutions who responded, InfoEd SPIN/SPAS was identified most often as the most useful information source (14 institutions); the COS was second (8 institutions). Perhaps because of cost, InfoEd and COS are not among the most accessed information sources.

## **SUBMISSION OF ON-LINE INFORMATION**

Institutions were asked if they submitted faculty or institutional data to any on-line databases or sources. Overall, 37 of the 80 responding institutions (46.3 percent) submitted on-line data, although this varied by Carnegie Classification. In R1 institutions, 21 of the 30 institutions (70.0 percent) submitted on-line data, as did 53 percent (9 of 17) of the R2 institutions. For the other Carnegie Classes, the statistics were: D1, 1 of 12; D2, 3 of 12; and M1, 3 of 9.

Of the 37 institutions that submitted on-line information, 26 submitted the information to the Community of Science. The remaining institutions were scattered over other information databases (FEDIX/MOLIS, Knowledge Express, other).

## **SUMMARY**

The face of academic R&D has changed substantially in the last few years, and budget pressures at the federal level promise a more competitive environment in the future. This paper has examined the types of resources and information that university administrators devote to the R&D grant procurement and administration process.

In general, these data indicate that institution type is a strong determinate of the research administration enterprise. CRO offices in R1 institutions stand out in many ways from the other CRO offices: they are substantially larger in terms of budgets, staff and funding; they pay higher salaries for staff, they devote more resources to legal/ethical oversight and fewer resources to graduate school functions, they use different database systems, and they access different sources of information. Despite this, there is also considerable continuity across CRO offices in many respects, such as office resources per FTE staff and distribution of F&A costs.

## REFERENCES

<sup>1</sup> See for example, American Association for the Advancement of Science, AAAS Report XXII: *Research and Development FY 1998* (Washington, DC: American Association for the Advancement of Science, April 1997)

<sup>2</sup> In 1995, Oak Ridge Associated Universities (ORAU) completed a pilot survey of member institution chief research offices (see “Descriptive Data from the Chief Research Officer [CRO] Survey,” Oak Ridge Associated Universities, Oak Ridge, TN, July 1995). On the basis of this pilot, the survey form was redesigned and the survey universe expanded to include non-ORAU institutions. The following individuals are acknowledged for providing comments and input to this project:

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<sup>3</sup> In 1994, the National Science Foundation estimated that the top 500 R&D universities in the United States had a combined R&D budget of \$21 billion. The responding institutions had a total of \$6.4 billion in 1995 R&D. See Table B-32, “Total R&D Expenditures at Universities and Colleges: Fiscal Years 1987-1994” obtained from the NSF website.

<sup>4</sup> The responding institutions were grouped into Carnegie Classification using the National Science Foundation CASPAR Database System Version 4.7.

<sup>5</sup> These percentages are roughly consistent with an earlier survey that included research administrators. See Irene Johnston Petrick, "Exploratory Research on Funding Information Dissemination Activities at U.S. Colleges and Universities," *Research Management Review*, vol. 7, No. 1 (Spring 1994), pp 14-36.

<sup>6</sup> These three grant sources were also cited by Petrick as the most frequently accessed information sources. See Petrick, "Exploratory Research on Funding," Figure 4.

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## Tables

**Table 1.** 1995 Median Institutional R&D Funds by Source of Funding and Carnegie Classification

| <b>Median R&amp;D Funding in Millions of Dollars, 1995</b> |              |                |                |              |                               |
|--|--------------|----------------|----------------|--------------|-------------------------------|
| <b>Carnegie Classification</b>                             | <b>Total</b> | <b>Federal</b> | <b>Private</b> | <b>Other</b> | <b>Number of Institutions</b> |
| Research 1   | \$ 154.9     | \$ 115.6       | \$ 24.3        | \$ 19.7      | 30                            |
| Research 2   | 45.5         | 23.6           | 5.2            | 9.9          | 16                            |
| Doctoral 1   | 17.0         | 10.2           | 2.4            | 2.0          | 12                            |
| Doctoral 2   | 23.1         | 15.3           | 1.5            | 5.8          | 12                            |
| Masters 1  | 6.3          | 2.7            | 0.7            | 1.3          | 9                             |
| All Institutions   | 43.4         | 25.3           | 5.3            | 6.5          | 79                            |
| <i>Source: Oak Ridge Associated Universities</i>           |              |                |                |              |                               |

Table 2. *Distribution of Indirect Costs*

|   | Carnegie Classification |        |        |        |        | Average<br>All<br>Schools |
|---|-------------------------|--------|--------|--------|--------|---------------------------|
|   | R1                      | R2     | D1     | D2     | M1     |                           |
| Institution   |                         |        |        |        |        |                           |
| General Fund  | 31.6%                   | 48.9%  | 30.0%  | 38.2%  | 15.0%  | 34.2%                     |
| Grantee's   |                         |        |        |        |        |                           |
| College/School  | 25.3%                   | 9.3%   | 21.3%  | 13.5%  | 11.2%  | 17.9%                     |
| All Other   | 14.5%                   | 6.6%   | 15.2%  | 19.4%  | 9.1%   | 13.0%                     |
| Chief Research  |                         |        |        |        |        |                           |
| Office  | 11.7%                   | 7.6%   | 15.3%  | 18.0%  | 10.0%  | 12.1%                     |
| Grantee's   |                         |        |        |        |        |                           |
| Department  | 5.6%                    | 12.7%  | 8.7%   | 6.6%   | 35.3%  | 11.0%                     |
| Returned  |                         |        |        |        |        |                           |
| to State  | 9.7%                    | 0.4%   | 6.7%   | 0.7%   | 1.1%   | 5.0%                      |
| President's   |                         |        |        |        |        |                           |
| Office  | 0.5%                    | 8.9%   | 1.6%   | 2.0%   | 18.3%  | 4.7%                      |
| Libraries, Physical   |                         |        |        |        |        |                           |
| Facilities  | 1.1%                    | 5.7%   | 1.3%   | 1.7%   | 0.0%   | 2.1%                      |
| Total   | 100.0%                  | 100.0% | 100.0% | 100.0% | 100.0% | 100.0%                    |
| Number of   |                         |        |        |        |        |                           |
| Institutions  | 30                      | 17     | 12     | 12     | 9      | 80                        |
| Note: "All Other" includes all categories not listed above. |                         |        |        |        |        |                           |
| Source: Oak Ridge Associated Universities                   |                         |        |        |        |        |                           |

Table 3. Chief Research Office Functions: Percent of Office Resources Allocated by Function

|  | Carnegie Classification |        |        |        |        | Average<br>All<br>Schools |
|--|-------------------------|--------|--------|--------|--------|---------------------------|
|  | R1                      | R2     | D1     | D2     | M1     |                           |
| Grant Administration.                            | 36.7%                   | 36.1%  | 39.8%  | 35.4%  | 60.6%  | 39.5%                     |
| Research Administration.                         | 30.3%                   | 27.9%  | 22.1%  | 24.6%  | 18.7%  | 26.4%                     |
| Legal/Ethical Oversight                          | 20.6%                   | 15.9%  | 13.5%  | 13.5%  | 9.4%   | 16.2%                     |
| Graduate School Functions                        | 7.2%                    | 13.2%  | 17.9%  | 21.3%  | 7.8%   | 12.3%                     |
| All Other Functions                              | 5.1%                    | 6.9%   | 6.7%   | 5.3%   | 3.6%   | 5.6%                      |
| Total  | 100.0%                  | 100.0% | 100.0% | 100.0% | 100.0% | 100.0%                    |
| Number of Institutions                           | 30                      | 17     | 12     | 12     | 9      | 80                        |
| <i>Source: Oak Ridge Associated Universities</i> |                         |        |        |        |        |                           |

Table 4. Mean FTE Staff by Job Title

|  | Carnegie Classification |      |      |      |     | Average<br>All<br>Schools |
|--|-------------------------|------|------|------|-----|---------------------------|
|  | R1                      | R2   | D1   | D2   | M1  |                           |
| Clerical   | 9.6                     | 5.0  | 2.0  | 3.7  | 2.1 | 5.8                       |
| Computer<br>(hardware,<br>software, LAN)         | 1.8                     | 0.6  | 0.1  | 0.5  | 0.1 | 0.9                       |
| Management<br>(including CRO)                    | 5.1                     | 3.5  | 2.1  | 3.3  | 1.6 | 3.7                       |
| Nonmanagement<br>Professional                    | 10.6                    | 7.4  | 4.4  | 5.4  | 1.1 | 7.2                       |
| Students   | 2.3                     | 1.5  | 0.9  | 1.2  | 0.8 | 1.6                       |
| All Other Staff                                  | 1.4                     | 1.3  | 0.6  | 0.2  | 0.1 | 0.9                       |
| Total FTE  | 30.7                    | 19.2 | 10.0 | 14.3 | 5.8 | 20.1                      |
| Number of<br>Institutions                        | 29                      | 17   | 11   | 11   | 8   | 76                        |
| <i>Source: Oak Ridge Associated Universities</i> |                         |      |      |      |     |                           |

Table 5. Summary Statistics: Direct FTE Labor Cost by Job Title

|  | Mean     | Median   | Minimum  | Maximum  | Standard<br>Deviation |
|--|----------|----------|----------|----------|-----------------------|
| Clerical   | \$24,208 | \$23,450 | \$14,000 | \$47,496 | \$7,159               |
| Computer<br>(hardware,<br>software, LAN)         | 30,926   | 30,000   | 8,790    | 56,000   | 11,655                |
| Management<br>(including CRO)                    | 76,845   | 75,000   | 31,000   | 125,000  | 19,020                |
| Nonmanagement<br>Professional                    | 36,159   | 34,000   | 19,600   | 68,679   | 10,412                |
| Students   | 8,231    | 6,502    | 2,000    | 24,000   | 5,289                 |
| All Other Staff                                  | 25,945   | 24,518   | 2,815    | 70,000   | 18,226                |
| <i>Source: Oak Ridge Associated Universities</i> |          |          |          |          |                       |

Table 6. CR0 Office Resources

|  | Carnegie Classification |         |         |         |         | Average<br>All<br>Institutions |
|--|-------------------------|---------|---------|---------|---------|--------------------------------|
|  | R1                      | R2      | D1      | D2      | M1      |                                |
| <u>Mean Values</u>                               |                         |         |         |         |         |                                |
| Square Feet of<br>Office Space                   | 6,200.4                 | 3,780.0 | 2,139.0 | 2,283.1 | 1,170.8 | 3,985.5                        |
| Number of<br>Offices                             | 21.8                    | 14.2    | 8.0     | 11.0    | 5.0     | 14.5                           |
| Number of<br>Computers                           | 31.4                    | 20.7    | 9.3     | 15.4    | 7.1     | 20.7                           |
| Number of<br>Computer Printers                   | 10.8                    | 12.1    | 5.7     | 6.3     | 4.4     | 8.9                            |
| Number of Copy<br>Machines                       | 3.5                     | 2.1     | 1.7     | 1.7     | 0.8     | 2.3                            |
| CR0 Office<br>Operating Cost<br>(\$1000)         | \$1,914.9               | \$858.6 | \$448.8 | \$730.9 | \$295.0 | \$1,133.4                      |
| Number of<br>Workers (FTE)                       | 30.7                    | 19.2    | 10.0    | 14.3    | 5.8     | 20.1                           |
| <u>Per FTE Staff</u>                             |                         |         |         |         |         |                                |
| Square Feet of<br>Office Space                   | 202.2                   | 196.7   | 214.1   | 159.9   | 203.2   | 198.0                          |
| Number of<br>Offices                             | 0.7                     | 0.7     | 0.8     | 0.8     | 0.9     | 0.7                            |
| Number of<br>Computers                           | 1.0                     | 1.1     | 0.9     | 1.1     | 1.2     | 1.0                            |
| Number of<br>Computer Printers                   | 0.4                     | 0.6     | 0.6     | 0.4     | 0.8     | 0.4                            |
| Number of<br>Copy Machines                       | 0.1                     | 0.1     | 0.2     | 0.1     | 0.1     | 0.1                            |
| CR0 Office<br>Operating Cost<br>(\$1000)         | \$62.4                  | \$44.7  | \$44.9  | \$51.2  | \$51.2  | \$56.3                         |
| <i>Source: Oak Ridge Associated Universities</i> |                         |         |         |         |         |                                |

Table 7. Grant Database Management System Institutions System

|   | Carnegie Classification |       |       |       |       |                  | Very Satisfied |
|---|-------------------------|-------|-------|-------|-------|------------------|----------------|
|   | R1                      | R2    | D1    | D2    | M1    | All Institutions |                |
| Manual Records and Files  | 50.0%                   | 41.2% | 75.0% | 75.0% | 55.6% | 56.3%            | 40.0%          |
| Modified DB (e.g. paradox, dBASE)   | 43.3%                   | 76.5% | 58.3% | 50.0% | 66.7% | 56.3%            | 60.0%          |
| Info-ed software (ISPAS)  | 3.3%                    | 11.8% | 16.7% | 0.0%  | 22.2% | 8.8%             | 10.0%          |
| <b>Homegrown System</b>   | 60.0%                   | 35.3% | 50.0% | 41.7% | 22.2% | 46.3%            | 40.0%          |
| Other Software  | 33.3%                   | 29.4% | 50.0% | 50.0% | 33.3% | 37.5%            | 30.0%          |
| Number of Institutions  | 30                      | 17    | 12    | 12    | 9     | 80               | 10             |
| Mean scores for question: Satisfied with System? 1=not 5=very                           | 2.9                     | 3.3   | 3.7   | 3.3   | 3.4   | 3.2              | 5.0            |
| Institutions checked all that applied; therefore percentages can add to more than 100%. |                         |       |       |       |       |                  |                |
| <i>Source: Oak Ridge Associated Universities</i>  |                         |       |       |       |       |                  |                |

Table 8. Electronic Information Sources Used by CR0 Offices

|  | Number of Institutions Accessing Specific Information Sources |    |    |    |    | Total<br>Institutions |
|--|---|----|----|----|----|-----------------------|
|  | R1  | R2 | D1 | D2 | M1 |                       |
| Community of Science                             | 21  | 8  | 0  | 0  | 1  | 30                    |
| Commerce Business Daily                          | 22  | 15 | 7  | 10 | 4  | 58                    |
| NIH Grant web site                               | 29  | 17 | 10 | 11 | 6  | 73                    |
| Federal Register                                 | 27  | 17 | 12 | 11 | 6  | 73                    |
| Dialog   | 7   | 5  | 5  | 1  | 2  | 20                    |
| NSF/STIS   | 27  | 16 | 11 | 11 | 8  | 77                    |
| FEDIX/MOLIS                                      | 23  | 15 | 7  | 9  | 7  | 61                    |
| IRIS   | 5   | 7  | 2  | 5  | 5  | 24                    |
| Knowledge Express                                | 1   | 2  | 0  | 1  | 0  | 4                     |
| InfoEd SPIN/SPAS                                 | 17  | 11 | 6  | 4  | 3  | 41                    |
| Legi-Slate                                       | 3   | 5  | 1  | 0  | 0  | 9                     |
| LEXIS/NEXIS                                      | 5   | 1  | 1  | 1  | 0  | 8                     |
| Grant Opportunities CD-ROM                       | 1   | 1  | 1  | 0  | 0  | 3                     |
| Grants on Disk CD-ROM                            | 1   | 3  | 1  | 0  | 0  | 5                     |
| Dialog on Disk CD-ROM                            | 2   | 3  | 0  | 1  | 1  | 7                     |
| Other On-Line system                             | 5   | 2  | 1  | 2  | 0  | 10                    |
| Other CD-ROM                                     | 2   | 3  | 2  | 1  | 0  | 8                     |
| Number of Institutions                           | 30  | 17 | 12 | 12 | 9  | 80                    |
| <i>Source: Oak Ridge Associated Universities</i> |   |    |    |    |    |                       |

Figure 1:

Percent of Total CR0 Office Activities Devoted to Legal/Ethical Oversight

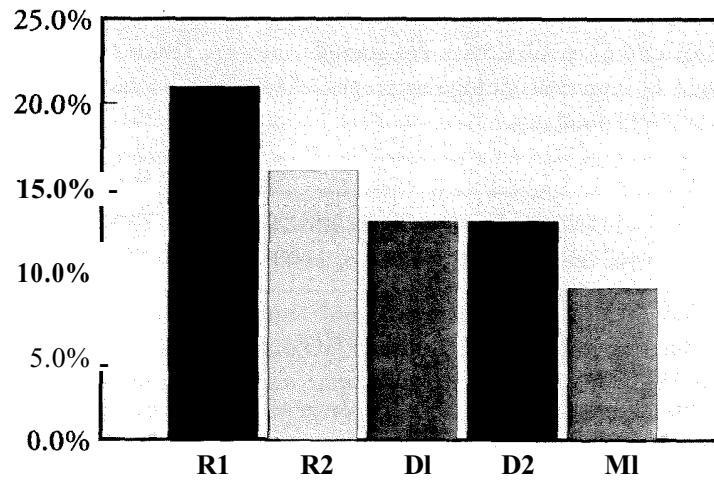
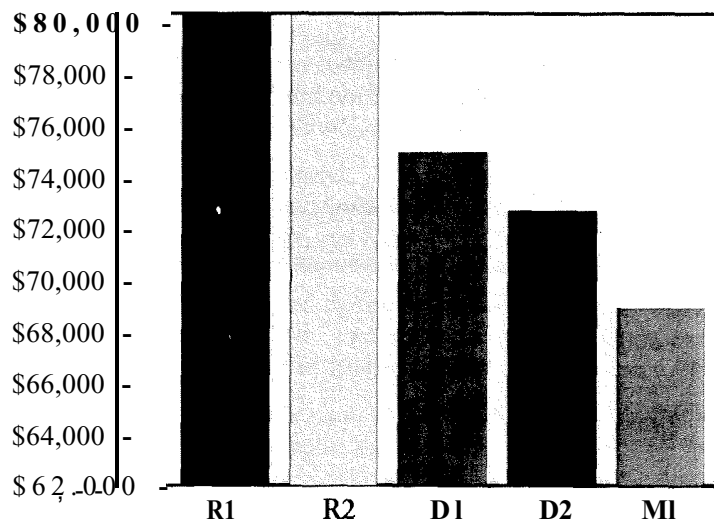


Figure 2:

Mean Management Labor Costs by Carnegie Classification



### **Survey Form and Mean Values**

Below is the survey form used in the CR0 survey. In most cases, the mean values for the responses are indicated in bold.

In Part III Office Functions, the subactivity percentages indicate the percent distribution of the top subactivity. For example, under A. Grant Administration, the subactivity "approval of outgoing proposals" was the top subactivity for 48.6 percent of the respondents.

### **SURVEY OF CHIEF RESEARCH OFFICERS FUNDING, RESOURCES, AND FUNCTIONS**

INSTRUCTIONS: Please complete and return to Ann Farler, Office of Higher Education Initiatives, P.O. Box 117, Oak Ridge, TN 3783 1-01 17 or fax (423 576-3643). If you do not have accurate responses for some items, please *estimate*. Data will be considered confidential and only summary information will be released. Any questions should be addressed to Ann Farler, ORAU (423 576-1898).

Thank you for completing this survey.

**Please return survey by Monday, July 15, 1996.**

## PART I. BACKGROUND INFORMATION

1. Please fill in information about Chief Research Officer at your institution:

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Institution: \_\_\_\_\_  
Address: \_\_\_\_\_  
Address: \_\_\_\_\_  
City, State, Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
E-mail Address: \_\_\_\_\_

## PART II. RESEARCH FUNDING

2. In CY1995, what were the total outside research and development funds for which your office had responsibility? *Include all direct, indirect, incidental, or related costs resulting from or necessary to performance of research and development by private individuals and organizations under grant, contract or cooperative agreement.*

(In 1000s)

\$56,166 \_\_\_\_\_ A. Federal  
\$13,429 \_\_\_\_\_ B. Private  
\$14,269 \_\_\_\_\_ C. All other  
\$83,865 \_\_\_\_\_ TOTAL (sum of A, B, and C)

3. Did your institution receive additional outside research funds in CY1995 for which your office did not have responsibility (e.g., funds through a research foundation, medical school, or special research center)?

\_\_\_ A. No additional research funds  
\_\_\_ B. Additional research funds (please estimate): \$ \_\_\_\_\_  
(in \$1000s) mean for additional funds= \$8,954

4. In grant proposals submitted by your institution, **please estimate** the approximate average percent of the total requested grant in the following categories (A and B should add to 100%):

|             |   |
|-------------|---|
| 77.3%       | <b>A. Direct costs:</b> labor and fringe benefits, travel, equipment, materials and supplies etc. |
| 22.7%       | <b>B. Indirect costs:</b> administrative overhead costs   |
| <u>100%</u> | Total of A and B  |

4a. Regarding indirect costs (part B of Question 4), what type of cost system does your institution use?

- Total Direct Cost (TDC) (5.2%)
- Modified Total Direct Cost (MTDC) (84.4%)
- Both (10.4%)

5. Of the indirect costs (question 4, part B) that are redistributed, **please estimate** how these funds are typically redistributed within your institution (*should add to 100%*):

- |                   |                                    |
|-------------------|------------------------------------|
| <b>4.7%</b>       | A. Presidents office               |
| <b>12.1%</b>      | B. Chief Research Officer's office |
| <b>17.9%</b>      | C. Grantee's college/school        |
| <b>11.0%</b>      | D. Grantee's department            |
| <b>34.2%</b>      | E. Institution's general fund      |
| <b>5.0%</b>       | F. Returned to State               |
| <b>2.1%</b>       | G. Libraries, physical facilities  |
| <b>13.0%</b>      | H. Other: Please describe _____    |
| <hr/> <b>100%</b> | Total of A-H                       |

6. What policy guides the redistribution of these funds (Rank all that apply with 1 = most important, etc.):

- Institution policy (70.7%)
- State requirements (12.0%)
- As incentive to develop research grants/seed money (14.7%)
- Other: Please describe (2.6%) \_\_\_\_\_

7. Often non-government sponsors (e.g., industry, foundations) are unwilling to pay all or part of indirect costs. How does your institution resolve this? (*Please check one*):

- Negotiated indirect cost rate or waiver of indirect cost (82.5%)
- Our institution will not accept grants with lower indirect cost (1.3%)
- Other: Please describe (16.2%) \_\_\_\_\_

### PART III. OFFICE FUNCTIONS

8. For a typical year, **please provide estimates** of the percent of your office's work that is expended in the following major activities (Sum of activities A, B, C, D, and E should be 100%). For the activities listed under each major activity, please rank the top three in terms of importance to your office mission (*with 1 = most important, etc.*) and check any other activities that your office engages in.

39.5% **A. Grant administration:** functions related to winning research grants. (*Please rank top 3 and check all other subactivities that apply*)

- Proposal development workshops (0.0%)
- Proposal development assistance: funding sources/matching funds/collaborators (29.2%)
- 5 Proposal development assistance: editing/writing (1.4%)
- Proposal development assistance: budgets (13.9%)
- Approval of outgoing proposals (48.6%)
- Preparation of indirect cost proposals: waivers/reductions in indirect cost (0.0%)
- Negotiating awards (5.6%)
- Internal research grant review and awards; seed money (1.4%)
- Other: Please list (0.0%) \_\_\_\_\_

26.4% **B. Research administration:** functions related to facilitating and supporting research. (*Please rank top 3 and check all other subactivities that apply*)

- Research facilities/centers/institutes planning and oversight (25.0%)
- Post award accounting, tracking deliverables, budget projections (42.7%)
- Research park and/or foundation oversight (4.4%)
- Redistributed funds management (10.3%)
- Economic development (4.4%)
- Workshops on research issues, award management etc. (8.8%)
- Other: Please list (4.4%) \_\_\_\_\_

**16.2% C. Legal/ethical oversight functions.**

*(Please rank top 3 and check all other subactivities that apply)*

- Intellectual property rights (32.4%)
- Scientific misconduct (4.4%)
- Conflict of interest (**13.2%**)
- Patents, trademarks and copyrights (**11.8%**)
- Technology transfer (**13.2%**)
- Other: Please list (25.0%) \_\_\_\_\_

**12.3% D. Graduate school functions** (e.g., graduate assistantships, Dean responsibilities)

5.6% **E. All other activities.** Please list \_\_\_\_\_

**100%** Total of A-E

**PART IV OFFICE RESOURCES**

**9. Please provide estimate** of the total annual FTE and annual direct labor cost per FTE in your research administration office in CY1995. *(For computer staff please include those responsible for servicing computer systems: software, hardware, LAN, programming).*

| Annual FTE | Annual Average Direct Labor Cost Per FTE | Occupation                                  |
|------------|--|---|
| 5.8        | \$ 23,892                                | Clerical                                    |
| 0.9        | 30,926                                   | Computer                                    |
| 3.7        | 73,538                                   | Management (include chief research officer) |
| 7.2        | 35,546                                   | Non-management professional                 |
| <b>1.6</b> | 7,944                                    | Student                                     |
| 0.9        | 25,945                                   | Other staff                                 |

10. For the total FTE staff in question #9, **please provide estimates** of the following resources:

|             |                                     |
|-------------|-------------------------------------|
| 3,985.4     | Total office space (in square feet) |
| <b>14.5</b> | Total number of offices             |
| 20.7        | Total number of computers           |
| 8.9         | Total number of computer printers   |
| 2.3         | Total number of copy machines       |

11. Excluding rental or lease costs of space, **estimate** the total CY 1995 operating cost (e.g., salaries, benefits, indirect costs, travel, materials and supplies, etc) for your research administration office:

**\$1,133.4 (in \$1000s)**

**PART v. ELECTRONIC INFORMATION**

12. What type of computer system or software does your office use to manage grants (e.g., track proposals, grant awards, deliverables)? (Check all *that apply*)\*

- Manual records and files (56.3%)
- Modification of database software (e.g., Paradox, FoxPro, Dbase) (56.3%)
- InfoEd software (SPAS) (8.8%)
- Other software. (37.5%) Please list \_\_\_\_\_
- Homegrown system (46.3%)

13. How satisfied are you with the system you use to manage grants?

(Not Satisfied) 1    2    3    4    5 (Very Satisfied) (3.2)

14. Of the following information sources, please circle the top source (i.e., *the most useful to* your office) and check all others that you have access to.

**On-Line Sources:**

- Best North America/Community of Science (37.5%)
- Commerce Business Daily (72.5%)
- NIH Grant web site (**91.3%**)
- Federal Register (**91.3%**)
- Dialog (25.0%)
- NSF/STIS (**91.3%**)
- FEDIX/MOLIS (76.3%)
- IRIS (30.0%)
- Knowledge Express (5.0%)
- InfoEd SPIN/SPAS (on-line or CD-ROM/disk) (51.3%)
- Legi-Slate (**11.3%**)
- LEXIS/NEXIS (**10.0%**)
- Other online information system (12.5%) (list) \_\_\_\_\_

**CD-ROM/Disk Sources:**

- Grant Opportunities Newsletter (3.8%)
  - Grants on Disk (6.3%)
  - Dialog on Disk (8.8%)
  - Other CD-ROM/disk information system. **(10.0%)**
- Please list \_\_\_\_\_

15. If there are any web sites and/or listservs that you have found to be of value to you in your work, please list \_\_\_\_\_

16. Do you submit faculty or institutional data to any on-line databases and/or services?

- Yes (46.3%)**
- No (53.7%)**

16a. If yes, please check the on-line data you submit:

- | Faculty Data                            | Institutional Data                      |   |
|---|---|---|
| <input type="checkbox"/> <b>(32.5%)</b> | <input type="checkbox"/> <b>(13.8%)</b> | Best North America/Community of Science |
| <input type="checkbox"/> <b>(2.5%)</b>  | <input type="checkbox"/> (5.0%)         | FEDIX/MOLIS                             |
| <input type="checkbox"/> <b>(2.5%)</b>  | <input type="checkbox"/> <b>(1.3%)</b>  | Knowledge Express                       |
| <input type="checkbox"/> (7.5%)         | <input type="checkbox"/> (6.3%)         | Other (list) _____                      |

**THANK YOU FOR RESPONDING**