Methodology and Overview of Respondents

All models are wrong, but some are useful.
—G.E.P. Box

The ECAR study on IT strategic planning and alignment used a multifaceted research methodology to gather both quantitative and qualitative data from 483 higher education institutions (464 U.S. institutions and 19 Canadian institutions). The data provide a view of one segment of higher education’s collective experience with IT strategic planning and alignment as well as in-depth institution-specific perspectives. Note that some tables presented in this study will have fewer than 483 respondents. The tables were adjusted for missing information.

Research Approach

We undertook five data collection and analytical initiatives: a literature review, a quantitative Web-based survey, qualitative telephone interviews, four case studies, and an in-depth review of IT strategic plans found on the Web.

The literature review helped us identify and clarify issues and create a working set of hypotheses to be tested. Although there is an abundant literature on the subject, the vast majority of both the academic and professional literature focuses on business rather than academe. Exceptions are the publications of EDUCAUSE, the Chronicle of Higher Education, and various studies and reports from academic institutions and business schools in the United States and abroad. A bibliography (Appendix D) appended to this study provides addresses for the Web sites and specifics for the publications we used and found helpful. The bibliography is not intended to be comprehensive.

The quantitative Web-based survey was designed by ECAR fellows. EDUCAUSE staff sent an e-mail invitation with the survey’s Web address and access code information to 1,483 institutions belonging to EDUCAUSE from Canada and the United States. Senior college and university administrators from 483 institutions responded to the survey. Most respondents were CIOs and other IT leaders. Their responses provide a detailed understanding of how higher education approaches IT strategic planning and alignment. The survey questions can be found on the EDUCAUSE Web site at <http://www.educause.edu/ir/library/pdf/ecar_so/ers/ERS0403/esi0403.pdf>. Appendix B lists the names of institutions that participated in the survey. All information collected is confidential.

An in-depth review of 57 IT plans found on the Web started with a randomized list of EDUCAUSE member institutions from
Canada and the United States. We then chose to look at the first 250 institutions on this list, representing more than 15 percent of all EDUCAUSE U.S. and Canadian members. We conducted an initial search of all 250 institutions to determine which of them actually had an IT strategic plan publicly available on their Web site. Among these institutions, we found 64 plans, 16 institutional plans with IT sections, and 15 IT mission statements. On further inspection, we concluded that only 57 of these institutions actually had IT strategic plans available publicly on the Web (listed in Appendix C). In some instances, we were able to find links to strategic plans, but access required authentication.

Qualitative telephone interviews were conducted with 22 IT executives and managers at 22 EDUCAUSE member institutions (see Appendix A for names of participating individuals). To obtain depth and breadth of practice, we chose to interview respondents from institutions of varying size and mission, and included both public and private institutions.

Four in-depth case studies were undertaken. Designed to complement the core study, each case focuses on a single institution’s IT strategic planning and alignment practices. Institutions include Calvin College, the University of Cincinnati, the University of Delaware, and The University of Memphis.

**Carnegie Class as a Distinguishing Factor**

The study grouped the sample by a modified Carnegie Classification of Institutions of Higher Education. The Carnegie taxonomy describes the institutional diversity in U.S. higher education. Most higher education projects rely on this classification to ensure a representative selection of participating individuals and institutions. The study collapsed the categories as follows to obtain larger numbers for statistical and descriptive purposes:

- **Doctoral/research universities (DR).** The study grouped the doctoral-extensive and -intensive universities together. These institutions typically offer a wide range of baccalaureate programs, and they offer graduate education through the doctorate degree. Extensive institutions award 50 or more doctoral degrees per year in at least 15 disciplines. Intensive institutions award at least 10 doctoral degrees per year in three or more disciplines, or at least 20 doctoral degrees per year overall.
- **Master’s colleges and universities (MA).** The study grouped Master’s Colleges and Universities I and II together. These institutions typically offer a wide range of baccalaureate programs and graduate education through the master’s degree. The distinction between Master’s I and Master’s II institutions is in the number of degrees offered.
- **Baccalaureate colleges (BA).** The study grouped the three baccalaureate college groups (baccalaureate colleges—liberal arts, baccalaureate colleges—general, and baccalaureate/associate’s colleges) into a single BA group. Baccalaureate colleges are primarily undergraduate colleges with major emphasis on baccalaureate programs.
- **Associate’s colleges (AA) offer associate’s degree and certificate programs but, with few exceptions, award no baccalaureate degrees.
- **Specialized institutions (Specialized) offer degrees ranging from the baccalaureate to the doctorate and typically award most degrees in a single field. Specialized institutions include theological seminars and other specialized faith-related institutions; medical schools (for medical and other health professions); schools of engineering and technology; schools of business and management (which award most of their degrees in business or busi-
ness-related programs); schools of art, music, and design; schools of law; and teachers colleges. The data presented for these schools must be interpreted in light of the enormous diversity of institutions within this category.

We also provide data, where appropriate, for U.S. higher education system offices and for the 19 Canadian institutions in our study, recognizing that they vary by size and mission.

**Overview of Respondents**

Figure 3-1 compares the distribution of the responding institutions by their 2000 Carnegie class, EDUCAUSE membership, and the universe of higher education institutions in the United States. The responding schools mirror much more closely the EDUCAUSE membership than the national population of institutions by Carnegie class. Proportionally, we have strong participation from doctoral institutions (45 percent) and weaker participation from the other Carnegie classifications.

Note also that because participating institutions are drawn from the EDUCAUSE membership rather than from a random sample of all higher education institutions, results are not generalizable to all higher education institutions. Nevertheless, the overall 33 percent response rate from EDUCAUSE member institutions gives us confidence that the study's respondents portray a reasonable image of the EDUCAUSE membership, especially for doctoral and master's institutions.

A statistical analysis of the data's representativeness proved inconclusive. The findings do not support the conclusion that the institutions surveyed represent the population as a whole. Nor do they support the conclusion that the respondents fail to represent the EDUCAUSE membership. Neither is statistically significant.

The mean student enrollment of institutions we studied was 6,811. For analysis purposes, we divided the institutions into six groups, as shown in Figure 3-2. Smaller institutions dominated our study, as they do higher education: slightly over 50 percent have 4,000 students or fewer.
or fewer enrolled students, and only 3.9 percent have more than 25,000 students.

The survey was completed largely by senior IT leaders and reflects their experiences, observations, and opinions about IT strategic planning and alignment (see Figure 3-3). In fact, 80.1 percent of respondents say they are officially designated as their institution’s top IT leader or CIO. We emphasize that this study largely represents a CIO/IT management perspective moderated by other institutional leaders’ observations obtained through complementary in-depth qualitative surveys.

Table 3-1 shows the scope of responsibility of our responding institutions’ central IT organizations. As we would expect, the most common areas of responsibility are administrative information systems (93.6 percent), data communications (92.3 percent), and academic computing (84.3 percent). And 86.7 percent of institutions report that their central IT organization includes both administrative and academic computing.
Table 3-1. Areas of Responsibility (N = 483, Multiple Responses Allowed)

<table>
<thead>
<tr>
<th>Area</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Information Systems</td>
<td>452</td>
<td>93.6%</td>
</tr>
<tr>
<td>Data Communications</td>
<td>446</td>
<td>92.3%</td>
</tr>
<tr>
<td>Academic Computing</td>
<td>407</td>
<td>84.3%</td>
</tr>
<tr>
<td>Voice Communications</td>
<td>363</td>
<td>75.2%</td>
</tr>
<tr>
<td>Instructional Technology</td>
<td>335</td>
<td>69.4%</td>
</tr>
<tr>
<td>Distance Education</td>
<td>137</td>
<td>28.4%</td>
</tr>
<tr>
<td>Teaching and Learning Center</td>
<td>119</td>
<td>24.6%</td>
</tr>
<tr>
<td>High-Performance Research Computing</td>
<td>110</td>
<td>22.8%</td>
</tr>
<tr>
<td>Library</td>
<td>86</td>
<td>17.8%</td>
</tr>
</tbody>
</table>

academic computing. The median annual operating budget of respondents’ central IT organization(s) is US$3 million.

Our respondents bring much experience to our study and provide a broad view of IT strategic planning and alignment from a variety of IT positions and institutions within higher education. We are gratified by the number of respondents, which makes the findings more than simply the observations of a small subset of the industry. In the chapters that follow, we present respondents’ collective view of IT strategic planning and alignment in higher education.

**Endnotes**

1. We obtained qualitative data both for respondents agreeing that IT was aligned at their institution and for those disagreeing that IT was aligned at their institution.

2. See <http://www.carnegiefoundation.org/Classification/CIHE2000/defNotes/Definitions.htm>. The study notes that the Carnegie Classification of Institutions of Higher Education recognizes 1,669 associate’s institutions, whereas the American Association of Community Colleges (AACC) membership currently includes 1,171. The AACC numbers are based on the definition of colleges eligible for membership in the AACC constitution: colleges that award the associate’s degree and are regionally accredited. The Carnegie count includes career colleges and colleges accredited by the Accrediting Council for Independent Colleges and Schools.