During the past 3 years, CAUSE and the University of Miami (Florida) have sponsored a survey to identify the most important issues facing information technology managers for the 1990s. Data from previous years were merged with postcard survey data from the 1994 survey. The survey, which was mailed to 1,012 institutions of higher learning and sent electronically to 81 CAUSE member campuses, had a 51.7% response rate (565 postcards). Networking and coping with limited resources are identified as the most critical issues facing higher education, a finding in keeping with the results of previous years. Among the new issues added in 1994, aligning information technology goals with university goals was considered more important than issues of job security and loyalty. Differences among responses of public and private institutions were generally small, with the greatest difference being that "aging systems" was a far greater concern for private institutions than it was for public ones. Forty-four graphs and four tables present response information, including ranking by size, control, and Carnegie classification of the institution. (SLD)
Information Technology Issues in the 1990s: An Analysis from a CAUSE Postcard Survey for 1994

University of Miami, CAUSE

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Information Technology Issues in the 1990s: An Analysis from a CAUSE Postcard Survey For 1994

M. Lewis Temares, Ph.D.
Vice President & CIO for Information Resources
University of Miami

Michael R. Zastrocky, Ed.D.
Vice President
CAUSE

Introduction

During the past three years, CAUSE and the University of Miami have sponsored a survey to identify the most important issues facing IT managers for the 1990s. Each year the questions are gathered from previous surveys and from a review of the literature. While some of the questions remained from the previous surveys, several new questions were added. Where it is possible and profitable, results from all three surveys will be compared and contrasted.

Data from the CAUSE Institution Database (ID) were downloaded and merged with the postcard data. This allowed the researchers to analyze the data based on various institutional characteristics, including size, control (public or private), and Carnegie classification. (For the purposes of this study, institutions have been grouped by the categories used in the classification of US. institutions of higher learning by the Carnegie Foundation for the Advancement of Teaching. Categories Comprehensive I and II were combined under the heading "Comprehensive," Doctoral Granting I and II under "Doctoral," Liberal Arts I and II under "Liberal Arts," and Research I and II under "Research.")

Survey Instrument

One of the many CAUSE member services is the Postcard Survey Service. Members can conduct informal surveys of other CAUSE members to collect information through a survey postcard sent to all member campuses. Members return these pre-addressed postcards either to the member requesting the information or to the CAUSE national office. While this survey was instituted by Dr. M. Lewis Temares, Vice President and CIO at the University of Miami, the survey was mailed back to the CAUSE national office and data entry was handled by Ben Zastrocky, CAUSE Research Assistant for Information Resources. Data analysis was performed by Dr. Temares and Dr. Michael Zastrocky, CAUSE Vice President. This survey was mailed to 1012 institutions of higher learning in the U.S. and electronically via the Internet to 81 CAUSE international member campuses. The response rate was 51.7% with 565 completed postcards received. This compares favorably to the 1993 survey where 1038 surveys were mailed and 548 returned for a 52.8% response rate. The following questions were included on the postcard survey:
1994 CAUSE Postcard Survey:
IT Issues in the 1990s

Rank the following information technology issues in order of importance to you in the 1990s.
(1 = greatest importance. Use the "other" line if an issue you consider important isn't listed.)

[Blank space for ranking] Security Issues
[Blank space for ranking] Reengineering
[Blank space for ranking] Networking
[Blank space for ranking] Training and staff development
[Blank space for ranking] Aging Systems
[Blank space for ranking] Effectively coping with limited resources
[Blank space for ranking] Developing an IS strategic plan
[Blank space for ranking] Quality issues
[Blank space for ranking] Justifying the value of IS
[Blank space for ranking] Downsizing/Rightsizing
[Blank space for ranking] Client/Server
[Blank space for ranking] Aligning IT goals with university goals
[Blank space for ranking] Job security/loyalty
[Blank space for ranking] Other: ________________________________

Institution name: ________________________________
Summary of Results

"Networking" and "Effectively coping with limited resources" are identified as the most critical issues facing higher education during the 1990s as reported in this year's survey of CAUSE institutions. This follows very closely the results from prior surveys. What is interesting is that the ranking of these two issues was generally the same for both surveys regardless of size, Carnegie classification, or control (public versus private).

Several new issues were added to the survey for 1994, "Aligning IT goals with university goals", and "Job security/loyalty". Of the new issues "Aligning IT goals with university goals" was ranked most important of these two. Overall, 33% ranked "Aligning IT goals with university goals" in the top three while only 3% ranked "Job security/loyalty" in the top three. It is also interesting to note that "Aligning IT goals with university goals" was third as the most frequently ranked issue in the top three, second only to "Networking" and "Effectively coping with limited resources".

"Job security/loyalty" was at the bottom of the list, while "Justifying the value of IS" was second from the bottom at 8%, this was down from 14% who ranked it in the top three on the 1993 survey.

It is interesting to note that the greatest spread between the ranking of the top three by size was with the issue of "Reengineering". Thirty-eight percent of the Research universities ranked it in their top three, while only 10% of the small colleges (≤2,000FTE) ranked "Reengineering" in their top three. Another interesting spread was with the issue of "Aging systems". Thirty-five percent of the 2-year colleges ranked this issue in their top three while only 16% of the comprehensive institutions ranked this issue in their top three list.

The differences between public and private institutions were generally small. The greatest difference came with the issue of "Aging systems" which was ranked in the top three by 18% of the private institutions and 33% of the public institutions.

Differences between the categories that were listed at the bottom were quite different. For example, 34% of the Research Universities ranked "IS strategic plan" in the bottom four, while only 6% of the Liberal Arts colleges, 10% of the 2-year, 13% of the Doctoral Granting, and 18% of the Comprehensive Universities placed it in the bottom four.

The first set of charts indicate the ranking of all responses in the top three category based on size, control, and Carnegie classification. The second set indicates the ranking of all responses in the bottom four categories based on the same characteristics. The last set of charts is the actual frequency distributions of all responses. Finally, an alphabetized list of all responses to the "other" category is included and provides another view of the important issues facing the people who manage information technology in higher education during the 1990s.
Percent of All Institutions Who Ranked Each Issue ≤3 (Top Three)  
1994

- Networking: 59%
- Limited Resources: 48%
- Aligning IT Goals: 33%
- Aging Systems: 33%
- Staff: 31%
- Development: 30%
- IS Strategic Plan: 24%
- Client/Server: 17%
- Reengineering: 15%
- Security Issues: 10%
- Downsizing: 9%
- Quality Issues: 8%
- Value of IS: 3%
- Job Security: 2%
- Other: None

- Aligning IT Goals: 33% (1992), 33% (1993), 35% (1994)
- Staff Development: 31% (1992), 28% (1993), 33% (1994)
- IS Strategic Plan: 31% (1992), 31% (1993), 32% (1994)
- Client/Server Reengineering: 30% (1992), 24% (1993), 24% (1994)
- Security Issues: 18% (1992), 17% (1993), 18% (1994)
- Downsizing: 14% (1992), 14% (1993), 14% (1994)
- Job Security: 3% (1992), 3% (1993), 5% (1994)
- Other: 5% (1992), 5% (1993), 5% (1994)
Percent of Institutions Who Ranked All Issues ≤3 (Top Three) by Carnegie Classification 1994

<table>
<thead>
<tr>
<th>Category</th>
<th>2-Yr</th>
<th>Liberal Arts</th>
<th>Comprehensive</th>
<th>Doctoral</th>
<th>Research</th>
</tr>
</thead>
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<tr>
<td>Other</td>
<td>1%</td>
<td>0%</td>
<td>4%</td>
<td>2%</td>
<td>4%</td>
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<tr>
<td>Job Security</td>
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<td>1%</td>
<td>4%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Quality Issues</td>
<td>11%</td>
<td>12%</td>
<td>7%</td>
<td>10%</td>
<td>11%</td>
</tr>
<tr>
<td>Value of IS</td>
<td>7%</td>
<td>7%</td>
<td>7%</td>
<td>9%</td>
<td>13%</td>
</tr>
<tr>
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<td>16%</td>
<td>11%</td>
<td>10%</td>
<td>15%</td>
<td>35%</td>
</tr>
<tr>
<td>Downsizing</td>
<td>9%</td>
<td>5%</td>
<td>11%</td>
<td>18%</td>
<td>25%</td>
</tr>
<tr>
<td>Aging Systems</td>
<td>35%</td>
<td>18%</td>
<td>16%</td>
<td>20%</td>
<td>25%</td>
</tr>
<tr>
<td>Security Issues</td>
<td>16%</td>
<td>16%</td>
<td>19%</td>
<td>15%</td>
<td>16%</td>
</tr>
<tr>
<td>Client/Server</td>
<td>24%</td>
<td>20%</td>
<td>21%</td>
<td>24%</td>
<td>35%</td>
</tr>
<tr>
<td>IS Strategic Plan</td>
<td>41%</td>
<td>31%</td>
<td>27%</td>
<td>22%</td>
<td>23%</td>
</tr>
<tr>
<td>Staff Development</td>
<td>41%</td>
<td>35%</td>
<td>30%</td>
<td>26%</td>
<td>20%</td>
</tr>
<tr>
<td>Aligning IT Goals</td>
<td>35%</td>
<td>28%</td>
<td>35%</td>
<td>44%</td>
<td>41%</td>
</tr>
<tr>
<td>Limited Resources</td>
<td>41%</td>
<td>58%</td>
<td>51%</td>
<td>48%</td>
<td>34%</td>
</tr>
<tr>
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<td>66%</td>
<td>58%</td>
<td>66%</td>
<td>50%</td>
<td>46%</td>
</tr>
</tbody>
</table>
Percent of Institutions Who Ranked All Issues ≤3 (Top Three) 1994

- Networking 66%
- Limited Resources 41%
- Aligning IT Goals 35%
- Staff Development 41%
- IS Strategic Plan 41%
- Client/Server 24%
- Security Issues 16%
- Aging Systems 35%
- Downsizing 9%
- Reengineering 16%
- Value of IS 7%
- Quality Issues 11%
- Job Security 3%
- Other

2-Yr

0% 10% 20% 30% 40% 50% 60% 70%

10
Percent of Institutions Who Ranked All Issues ≤ 3 (Top Three)

1994

- Networking: 58%
- Limited Resources: 58%
- Aligning IT Goals: 28%
- Staff Development: 35%
- IS Strategic Plan: 31%
- Client/Server: 20%
- Security Issues: 16%
- Aging Systems: 18%
- Downsizing: 5%
- Reengineering: 11%
- Value of IS: 7%
- Quality Issues: 12%
- Job Security: 1%
- Other: 0%
Percent of Institutions Who Ranked All Issues ≤ 3 (Top Three) 1994

- Networking: 66%
- Limited Resources: 51%
- Aligning IT Goals: 35%
- Staff Development: 30%
- IS Strategic Plan: 27%
- Client/Server: 21%
- Security Issues: 19%
- Aging Systems: 16%
- Downsizing: 11%
- Reengineering: 10%
- Value of IS: 7%
- Quality Issues: 7%
- Job Security: 4%
- Other: 0%

[Diagram showing the percentages of institutions ranking each issue as a top three priority in 1994]
Percent of Institutions Who Ranked All Issues ≤3 (Top Three)

1994

- Networking: 50%
- Limited Resources: 48%
- Aligning IT Goals: 44%
- Staff Development: 26%
- IS Strategic Plan: 22%
- Client/Server: 24%
- Security Issues: 15%
- Aging Systems: 20%
- Downsizing: 18%
- Reengineering: 15%
- Value of IS: 9%
- Quality Issues: 10%
- Job Security: 2%
- Other: 8%
Percent of Institutions Who Ranked All Issues ≤3 (Top Three) 1994

- Networking: 46%
- Limited Resources: 34%
- Aligning IT Goals: 41%
- Staff Development: 20%
- IS Strategic Plan: 23%
- Client/Server: 35%
- Security Issues: 16%
- Aging Systems: 25%
- Downsizing: 25%
- Reengineering: 35%
- Value of IS: 13%
- Quality Issues: 11%
- Job Security: 2%
- Other: 1114

Research
Percent of Institutions Who Ranked All Issues ≤3 (Top Three) by Carnegie Classification 1993

- Networking
- Limited Resources
- Staff Development
- IS Strategic Plan
- Client/Server
- Aging Systems
- Security Issues
- Value of IS
- Downsizing
- Quality Issues
- Reengineering
- Other
Percent of Institutions Who Ranked All Issues ≤3 (Top Three)
1994

- Networking: 58% (Public), 50% (Private)
- Limited Resources: 47% (Public)
- Aligning IT Goals: 33% (Public)
- Aging Systems: 18% (Public)
- Staff Development: 30% (Public)
- IS Strategic Plan: 28% (Public)
- Client/Server: 19% (Public)
- Reengineering: 14% (Public)
- Security Issues: 17% (Public)
- Downsizing: 8% (Public)
- Quality Issues: 8% (Public)
- Value of IS: 7% (Public)
- Job Security: 4% (Public)
- Other: 0% (Public)
Percent of Institutions Who Ranked All Issues ≤3 (Top Three) by Control

1993

- Networking: 64% (Private), 62% (Public)
- Limited Resources: 53% (Private), 58% (Public)
- IS Strategic Plan: 37% (Private), 35% (Public)
- Staff Development: 34% (Private), 32% (Public)
- Client/Server: 29% (Private), 31% (Public)
- Aging Systems: 22% (Private), 20% (Public)
- Reengineering: 13% (Private), 17% (Public)
- Security Issues: 20% (Private), 17% (Public)
- Quality Issues: 16% (Private), 15% (Public)
- Value of IS: 12% (Private), 15% (Public)
- Downsizing: 14% (Private), 14% (Public)
- Other: 4% (Private), 6% (Public)
Percent of Institutions Who Ranked All Issues ≤3 (Top Three)

1994

<table>
<thead>
<tr>
<th>Issue</th>
<th>FTE&gt;18,000</th>
<th>8,000&lt;FTE≤18,000</th>
<th>2,000&lt;FTE≤8,000</th>
<th>FTE≤2,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>4%</td>
<td>2%</td>
<td>3%</td>
<td>1%</td>
</tr>
<tr>
<td>Job Security</td>
<td>1%</td>
<td>4%</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>Value of IS</td>
<td>10%</td>
<td>9%</td>
<td>8%</td>
<td>6%</td>
</tr>
<tr>
<td>Quality Issues</td>
<td>9%</td>
<td>11%</td>
<td>9%</td>
<td>8%</td>
</tr>
<tr>
<td>Aging Systems</td>
<td>23%</td>
<td>14%</td>
<td>17%</td>
<td>20%</td>
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<tr>
<td>Security Issues</td>
<td>11%</td>
<td>16%</td>
<td>19%</td>
<td>13%</td>
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<tr>
<td>Downsizing</td>
<td>21%</td>
<td>16%</td>
<td>8%</td>
<td>9%</td>
</tr>
<tr>
<td>Reengineering</td>
<td>38%</td>
<td>22%</td>
<td>12%</td>
<td>10%</td>
</tr>
<tr>
<td>IS Strategic Plan</td>
<td>18%</td>
<td>22%</td>
<td>33%</td>
<td>32%</td>
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<tr>
<td>Staff Development</td>
<td>23%</td>
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<td>33%</td>
<td>35%</td>
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<tr>
<td>Client/Server</td>
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<td>34%</td>
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<tr>
<td>Aligning IT Goals</td>
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<td>31%</td>
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<td>55%</td>
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<td>Networking</td>
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<td>67%</td>
<td>59%</td>
<td>60%</td>
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</tbody>
</table>
Percent of Institutions Who Ranked All Issues ≤3 (Top Three) 1994

- Networking: 52%
- Limited Resources: 36%
- Aligning IT Goals: 41%
- Client/Server: 33%
- Staff Development: 23%
- IS Strategic Plan: 18%
- Reengineering: 3%
- Downsizing: 21%
- Security Issues: 11%
- Aging Systems: 23%
- Quality Issues: 9%
- Value of IS: 10%
- Job Security: 1%
- Other: 11%
Percent of Institutions Who Ranked All Issues ≤3 (Top Three) 1994

- Networking: 67%
- Limited Resources: 39%
- Aligning IT Goals: 37%
- Client/Server: 34%
- Staff Development: 23%
- IS Strategic Plan: 22%
- Reengineering: 22%
- Downsizing: 16%
- Security Issues: 16%
- Aging Systems: 14%
- Quality Issues: 11%
- Value of IS: 9%
- Job Security: 4%
- Other: 

Legend:

- 8,000<FTE≤18,000
Percent of Institutions Who Ranked All Issues ≤3 (Top Three)

1994

- Networking: 59%
- Limited Resources: 51%
- Aligning IT Goals: 30%
- Client/Server: 19%
- Staff Development: 33%
- IS Strategic Plan: 33%
- Reengineering: 12%
- Downsizing: 8%
- Security Issues: 19%
- Aging Systems: 17%
- Quality Issues: 9%
- Value of IS: 8%
- Job Security: 4%
- Other

0% 10% 20% 30% 40% 50% 60%

2,000<FTE≤8,000
Percent of Institutions Who Ranked All Issues ≤3 (Top Three)

1994

- Networking: 60%
- Limited Resources: 55%
- Aligning IT Goals: 31%
- Client/Server: 22%
- Staff Development: 35%
- IS Strategic Plan: 32%
- Reengineering: 10%
- Downsizing: 9%
- Security Issues: 13%
- Aging Systems: 20%
- Quality Issues: 8%
- Value of IS: 6%
- Job Security: 3%
- Other: 0%

[Bar chart showing percentages for each issue]
Percent of Institutions Who Ranked All Issues ≥10 (Bottom Four)
1994

- Aligning IT Goals: 19%
- Job Security: 58%
- Reengineering: 26%
- Downsizing: 36%
- Value of IS: 41%
- Aging Systems: 24%
- Security Issues: 21%
- Client/Server: 16%
- Quality Issues: 16%
- IS Strategic Plan: 16%
- Staff Development: 6%
- Networking: 4%
- Limited Resources: 7%
- Other: }

0% 10% 20% 30% 40% 50% 60%
Percent of Institutions Who Ranked All Issues ≥8 (Bottom Four)

Percent of Institutions Who Ranked All Issues $\geq 10$ (Bottom Four)

1994

<table>
<thead>
<tr>
<th>Issue</th>
<th>2-Yr</th>
<th>Liberal Arts</th>
<th>Comprehensive</th>
<th>Doctoral</th>
<th>Research</th>
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<td>2%</td>
<td>8%</td>
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<tr>
<td>Limited Resources</td>
<td>9%</td>
<td>5%</td>
<td>6%</td>
<td>7%</td>
<td>11%</td>
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<tr>
<td>Other</td>
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<td>6%</td>
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<tr>
<td>IS Strategic Plan</td>
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<tr>
<td>Quality Issues</td>
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<tr>
<td>Security Issues</td>
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<td>23%</td>
<td>27%</td>
<td>26%</td>
<td>24%</td>
</tr>
<tr>
<td>Client/Server</td>
<td>15%</td>
<td>24%</td>
<td>16%</td>
<td>15%</td>
<td>14%</td>
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<tr>
<td>Reengineering</td>
<td>35%</td>
<td>28%</td>
<td>35%</td>
<td>34%</td>
<td>17%</td>
</tr>
<tr>
<td>Downsizing</td>
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<td>44%</td>
<td>37%</td>
<td>37%</td>
<td>24%</td>
</tr>
<tr>
<td>Value of IS</td>
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<td>45%</td>
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<td>48%</td>
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<tr>
<td>Job Security</td>
<td>56%</td>
<td>52%</td>
<td>59%</td>
<td>67%</td>
<td>73%</td>
</tr>
</tbody>
</table>
Percent of Institutions Who Ranked All Issues ≥10 (Bottom Four)
1994

- Value of IS: 49%
- Downsizing: 34%
- Reengineering: 35%
- Client/Server: 15%
- Aging Systems: 16%
- Security Issues: 24%
- Aligning IT Goals: 23%
- Quality Issues: 12%
- IS Strategic Plan: 10%
- Other: 2%
- Limited Resources: 9%
- Networking: 3%
- Staff Development: 24%
Percent of Institutions Who Ranked All Issues ≥10 (Bottom Four)
1994

- Job Security: 52%
- Value of IS: 45%
- Downsizing: 44%
- Reengineering: 28%
- Client/Server: 24%
- Aging Systems: 23%
- Security Issues: 17%
- Aligning IT Goals: 17%
- Quality Issues: 13%
- IS Strategic Plan: 6%
- Other: 6%
- Limited Resources: 5%
- Networking: 3%
- Staff Development: 1%
### Percent of Institutions Who Ranked All Issues ≥10 (Bottom Four)

1994

<table>
<thead>
<tr>
<th>Issue</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Job Security</td>
<td>59%</td>
</tr>
<tr>
<td>Value of IS</td>
<td>37%</td>
</tr>
<tr>
<td>Downsizing</td>
<td>37%</td>
</tr>
<tr>
<td>Reengineering</td>
<td>35%</td>
</tr>
<tr>
<td>Client/Server</td>
<td>16%</td>
</tr>
<tr>
<td>Aging Systems</td>
<td>27%</td>
</tr>
<tr>
<td>Security Issues</td>
<td>17%</td>
</tr>
<tr>
<td>Aligning IT Goals</td>
<td>18%</td>
</tr>
<tr>
<td>Quality Issues</td>
<td>18%</td>
</tr>
<tr>
<td>IS Strategic Plan</td>
<td>18%</td>
</tr>
<tr>
<td>Other</td>
<td>6%</td>
</tr>
<tr>
<td>Limited Resources</td>
<td>6%</td>
</tr>
<tr>
<td>Networking</td>
<td>4%</td>
</tr>
<tr>
<td>Staff Development</td>
<td></td>
</tr>
</tbody>
</table>
Percent of Institutions Who Ranked All Issues ≥10 (Bottom Four) 1994

- Job Security: 67%
- Value of IS: 41%
- Downsizing: 37%
- Reengineering: 34%
- Client/Server: 15%
- Aging Systems: 26%
- Security Issues: 20%
- Aligning IT Goals: 19%
- Quality Issues: 18%
- IS Strategic Plan: 13%
- Other: 5%
- Limited Resources: 7%
- Networking: 2%
- Staff Development: 0%
Percent of Institutions Who Ranked All Issues ≥10 (Bottom Four) 1994

- Job Security: 73%
- Value of IS: 48%
- Downsizing: 24%
- Reengineering: 17%
- Client/Server: 14%
- Aging Systems: 24%
- Security Issues: 24%
- Aligning IT Goals: 19%
- Quality Issues: 25%
- IS Strategic Plan: 34%
- Other: 2%
- Limited Resources: 11%
- Networking: 8%
- Staff Development: 2%
Percent of Institutions Who Ranked All Issues ≥10 (Bottom Four) 1994

- Job Security: Private - 53%, Public - 61%
- Value of IS: Private - 37%, Public - 43%
- Downsizing: Private - 32%, Public - 41%
- Reengineering: Private - 28%, Public - 26%
- Security Issues: Private - 16%, Public - 24%
- Aging Systems: Private - 12%, Public - 23%
- Aligning IT Goals: Private - 15%, Public - 21%
- IS Strategic Plan: Private - 12%, Public - 18%
- Quality Issues: Private - 17%, Public - 20%
- Client/Server: Private - 18%, Public - 16%
- Staff Development: Private - 3%, Public - 7%
- Limited Resources: Private - 3%, Public - 7%
- Networking: Private - 2%, Public - 4%
- Other: Private - 0%, Public - 4%
Percent of Institutions Who Ranked All Issues ≥8 (Bottom Four) 1993

- Downsizing: 41% Public, 40% Private
- Value of IS: 25% Public, 40% Private
- Reengineering: 33% Public, 40% Private
- Aging Systems: 24% Public, 28% Private
- Security Issues: 22% Public, 28% Private
- IS Strategic Plan: 12% Public, 25% Private
- Quality Issues: 13% Public, 18% Private
- Client/Server: 18% Public, 16% Private
- Staff Development: 7% Public, 8% Private
- Networking: 4% Public, 5% Private
- Limited Resources: 5% Public, 5% Private
- Other: 2% Public, 3% Private
Percent of Institutions Who Ranked All Issues ≥10 (Bottom Four)

<table>
<thead>
<tr>
<th>Issue</th>
<th>FTE&gt;18,000</th>
<th>8,000&lt;FTE≤18,000</th>
<th>2,000&lt;FTE≤8,000</th>
<th>FTE≤2,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>1%</td>
<td>2%</td>
<td>5%</td>
<td>3%</td>
</tr>
<tr>
<td>Networking</td>
<td>5%</td>
<td>4%</td>
<td>2%</td>
<td>6%</td>
</tr>
<tr>
<td>Staff Development</td>
<td>10%</td>
<td>6%</td>
<td>6%</td>
<td>2%</td>
</tr>
<tr>
<td>Limited Resources</td>
<td>14%</td>
<td>8%</td>
<td>7%</td>
<td>3%</td>
</tr>
<tr>
<td>Client/Server</td>
<td>12%</td>
<td>12%</td>
<td>15%</td>
<td>24%</td>
</tr>
<tr>
<td>Reengineering</td>
<td>12%</td>
<td>17%</td>
<td>34%</td>
<td>31%</td>
</tr>
<tr>
<td>Quality Issues</td>
<td>32%</td>
<td>18%</td>
<td>18%</td>
<td>15%</td>
</tr>
<tr>
<td>Aligning IT Goals</td>
<td>29%</td>
<td>20%</td>
<td>19%</td>
<td>14%</td>
</tr>
<tr>
<td>Security Issues</td>
<td>31%</td>
<td>22%</td>
<td>20%</td>
<td>17%</td>
</tr>
<tr>
<td>IS Strategic Plan</td>
<td>26%</td>
<td>27%</td>
<td>13%</td>
<td>8%</td>
</tr>
<tr>
<td>Downsizing</td>
<td>26%</td>
<td>28%</td>
<td>37%</td>
<td>41%</td>
</tr>
<tr>
<td>Aging Systems</td>
<td>21%</td>
<td>29%</td>
<td>26%</td>
<td>18%</td>
</tr>
<tr>
<td>Value of IS</td>
<td>46%</td>
<td>59%</td>
<td>41%</td>
<td>35%</td>
</tr>
<tr>
<td>Job Security</td>
<td>75%</td>
<td>68%</td>
<td>67%</td>
<td>47%</td>
</tr>
</tbody>
</table>
Percent of Institutions Who Ranked All Issues ≥10 (Bottom Four) 1994

- Job Security: 75%
- Value of IS: 46%
- Aging Systems: 21%
- Downsizing: 26%
- IS Strategic Plan: 26%
- Security Issues: 31%
- Aligning IT Goals: 29%
- Quality Issues: 32%
- Reengineering: 12%
- Client/Server: 12%
- Limited Resources: 14%
- Staff Development: 10%
- Networking: 5%
- Other: 0%

FTE>18,000
Percent of Institutions Who Ranked All Issues ≥10 (Bottom Four) 1994

- Job Security: 68%
- Value of IS: 59%
- Aging Systems: 29%
- Downsizing: 28%
- IS Strategic Plan: 27%
- Security Issues: 22%
- Aligning IT Goals: 20%
- Quality Issues: 18%
- Reengineering: 17%
- Client/Server: 12%
- Limited Resources: 8%
- Staff Development: 6%
- Networking: 4%
- Other: 34

8,000<FTE≤18,000
Percent of Institutions Who Ranked All Issues ≥10 (Bottom Four) 1994

- Job Security: 67%
- Value of IS: 41%
- Aging Systems: 26%
- Downsizing: 37%
- IS Strategic Plan: 13%
- Security Issues: 20%
- Aligning IT Goals: 19%
- Quality Issues: 18%
- Reengineering: 34%
- Client/Server: 15%
- Limited Resources: 7%
- Staff Development: 6%
- Networking: 2%
- Other: 0%

Legend: 2,000<FTE≤8,000
Percent of Institutions Who Ranked All Issues ≥10 (Bottom Four)

1994

- Job Security: 47%
- Value of IS: 35%
- Aging Systems: 18%
- Downsizing: 41%
- IS Strategic Plan: 8%
- Security Issues: 17%
- Aligning IT Goals: 14%
- Quality Issues: 15%
- Reengineering: 31%
- Client/Server: 24%
- Limited Resources: 3%
- Staff Development: 2%
- Networking: 6%
- Other: 0%
Percent of Institutions Who Ranked All Issues ≥8 (Bottom Four)
By Size

- Value of IS
- Security Issues
- Downsizing
- IS Strategic Plan
- Reengineering
- Aging Systems
- Quality Issues
- Client/Server
- Staff Development
- Limited Resources
- Other
- Networking

Legend:

- FTE≤2,000
- 2,000<FTE≤8,000
- 8,000<FTE≤18,000
- FTE>18,000
Frequency Distributions
For All Institutions

Security Issues

Reengineering
Networking

Training and Staff Development
Aging Systems

Effectively Coping With Limited Resources
Developing an IS Strategic Plan

Quality Issues
Justifying the Value of IS

Downsizing

42  45
Client/Server

Aligning IT Goals With University Goals

43 46
Other Responses (Sorted Alphabetically)

Academic computing
Appropriate funding levels for IT
Assessing what to buy now in a rapidly changing market
Central vs Distributed
Changing IS focus from a technology orientation to a marketing orientation
Combining IT with the library fully
Cost-effective software licensing
Customer Services Issues
Dealing with change
Developing a campus-wide information system
Developing a leveraged support model
Developing systems internally, or "outsourcing"
Development Productivity
Development productivity
Disaster recovery
Distance Education Support
Distance education
Distance learning and multimedia technologies
Distance-learning technology
Documentation
Educational Technology
End user (student, faculty, admin, supporting staff) access to (relevant) centrally stored information
Enterprise-Wide Systems Management
Equipment depreciation and replacement
Funding
Funding adequate staff support
Getting faculty to incorporate technology into their instruction
How to partnership the IT staff and user developers
Institution wide data management
Integrated Telecommunications
Integration of Library/Technology services
Integrative Technology & Education
Internet
IT & Accreditation Process
Justifying the value of IT customer satisfaction
Keeping current with technology
Keeping system upgraded
Keeping up with technology changes and how to use them appropriately
Lack of vendor choices for strategic systems
Linking all technology for acad/adm missions
Maintaining team appreciation and focus
Multimedia
Multimedia development and classroom technology
Multimedia in academics
Multiplatform issues of networking, enterprise management
Network infrastructure

4548
Other Responses (Sorted Alphabetically)

Network Management
New methods of serving clients
New technologies and what they imply about changes in our work
Paper reduction
Providing support for non mainstream products
Redefining Services
Replacement funding
Replacement/removal of experienced computer people with PC users in management and critical administrative roles
Strategic investment/funding of IT
Student development, community outreach
Systems integration
Technology and Education e.g. multimedia classrooms
TQM
User Support