

9

CBOs and CIOs

So, let us not be blind to our differences—but let us also direct attention to our common interests and to the means by which those differences can be resolved.

—John F. Kennedy

At the outset of our research, we knew that a study of IT funding would be incomplete if it didn't consider the chief business officer's perspective. There has been much anecdotal speculation about CBOs' views of technology. Are they cynical about technology's value? Do they feel burned by the overhyped promise of ERP? Have they become skeptical about the levels of funding necessary for technology?

Or, do business leaders and technology leaders see the business of technology in similar ways? The relationship between the two is vital to successful IT funding. The institution's chief business officer has critical influence on funding decisions that impact IT and is also one of the IT organization's largest administrative customers. So, how dissimilar are the views of CIOs and CBOs about technology?

This chapter explores the areas of agreement and disagreement between the two executives about technology funding. We examine their views on issues including

- ◆ adequacy of IT funding levels,
- ◆ quality of IT business cases and investment decisions, and
- ◆ perception of IT value.

The remainder of this chapter is organized into the following sections:

- ◆ Overview of the CBO Survey
- ◆ CBO Perceptions of IT Funding

Key Findings

- ◆ Far more areas of agreement than disagreement exist between CIOs and CBOs.
- ◆ CIOs and CBOs hold similar opinions about technology's value and importance.
- ◆ CBOs are more confident than CIOs that institutions are providing adequate funding to maintain technology. This is the greatest area of difference between the two groups.
- ◆ CBOs' views of technology's value have not been changed by their institutions' ERP experiences.
- ◆ CIOs and CBOs agree that IT organizations need to become better at forecasting technology's total cost of ownership.

- ◆ Areas of Convergence and Divergence
- ◆ Summary

Overview of the CBO Survey

With the support of NACUBO, we surveyed chief business officers, presenting them with a subset of the questions contained in the CIO survey so that we could compare their perspectives. We received responses from 386 institutions.

Respondents held various positions, with the vast majority identifying themselves as

their institution’s senior business (financial) officer. Nearly 70 percent served as their institution’s senior business officer, and an additional 14 percent indicated that they were also the institution’s senior IT leader.

As with the CIO survey, responses came from institutions across all Carnegie classes (see Figure 9-1). Also like the CIO survey, responses were more numerous from public institutions (52.6 percent) than from private institutions. However, the difference between the number of public and private respondents is not as great.

Responses also came from institutions with a similar distribution of student enrollments (see Figure 9-2).

Finally, respondents to the CBO survey represent a cross section of institutional at-

titudes about technology:

- ◆ 74 percent saw technology as a source of competitive advantage for their institution,
- ◆ 44 percent agreed that their institution’s identity was tied to technology, and
- ◆ 52 percent saw their institutions as early technology adopters.

CBO Perceptions of IT Funding

We asked CBOs whether they felt the central IT budget was adequately funded at their institution. This survey, unlike the CIO survey, revealed no significant relationship between private and public institutions and attitudes about funding adequacy. As Table 9-1 illustrates, CBO respondents from private and

Figure 9-1.
CBO Responses,
by Carnegie Class
(N = 386)

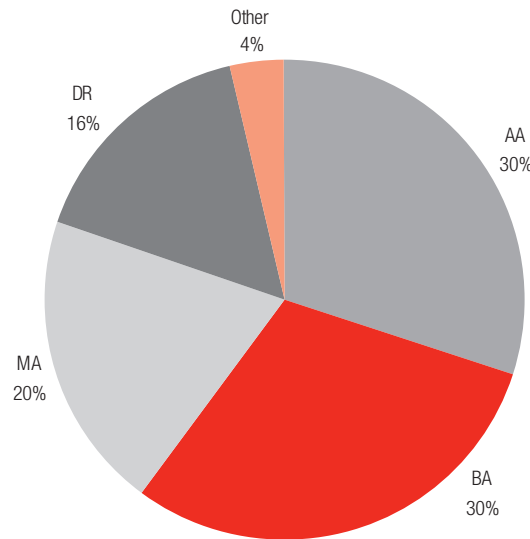
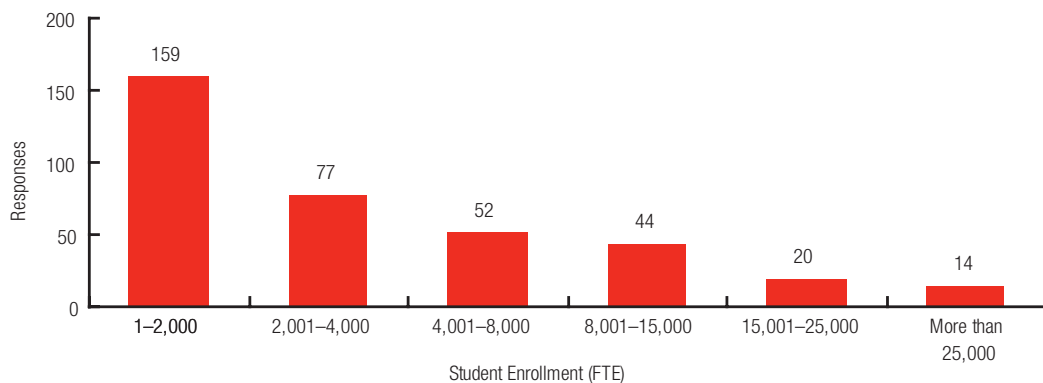


Figure 9-2.
CBO Responses,
by Enrollment
(N = 386)



public institutions agreed in proportionately similar numbers when responding to questions about the adequacy of their institution’s IT funding.

We did observe a greater relationship between institution size and business officer perceptions of funding. There appears to be a relationship between the institution’s student enrollment and the CBO’s confidence in the adequacy of funding to meet strategic technology objectives. Institutions with moderate-sized enrollments were the most confident of their funding, and those with enrollments over 25,000 were the least confident. As Figure 9-3 illustrates, regardless of institution size,

business officers were more confident that their institutions provided sufficient funding to maintain reliable operations than to meet strategic objectives.

Finally, we asked the CBOs if their institutions provided adequate funding to maintain new technology once it was implemented. Figure 9-4 shows the distribution of responses to the statement that the IT budget increases sufficiently to cover the cost to maintain new technology. Overall, respondents were neutral: the mean response of 4.02 indicates that on average respondents neither agreed nor disagreed that their institution’s funding was adequate for this purpose. Here again, we see

Table 9-1. CBO Perception of IT Funding Adequacy, by Control

Goal	Private	Public
My institution provides sufficient funding to meet its strategic objectives for technology.	51.1%	55.0%
My institution provides sufficient funding to maintain critical IT operations reliably.	67.8%	68.5%

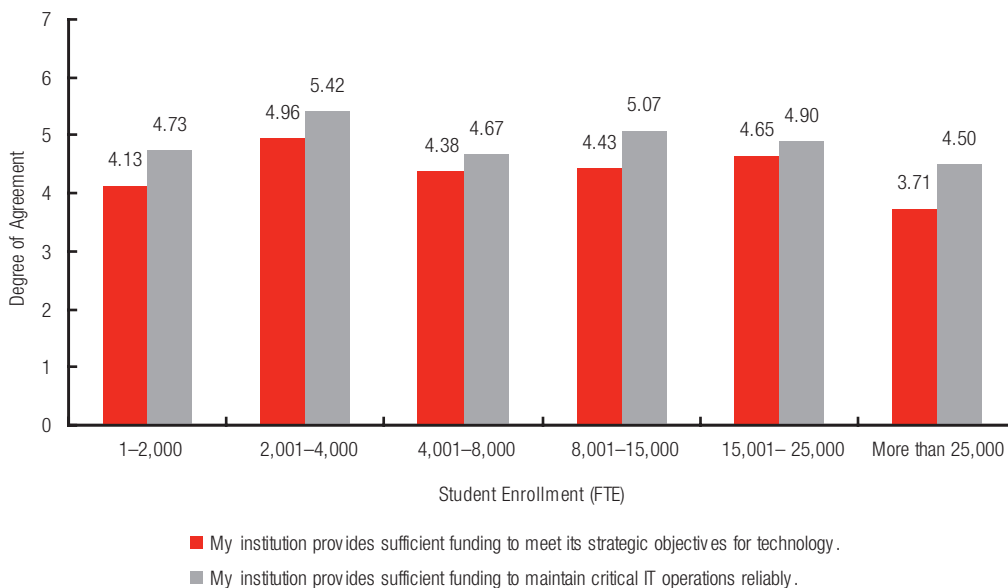


Figure 9-3. CBO Perception of IT Funding Adequacy, by Enrollment (N = 376)

1=very strongly disagree, 4=neutral, 7=very strongly agree

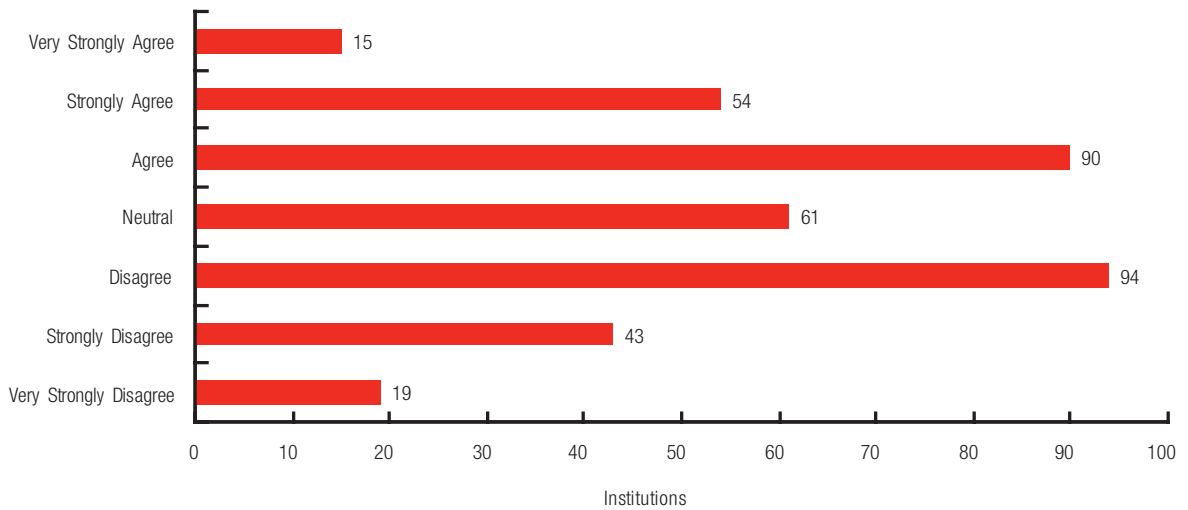
no significant difference of opinion between public and private institutions. There is also no significant relation between institution enrollment and funding adequacy for technology maintenance.

The relatively large standard deviation among responses shown in Figure 9-4 suggests that CBOs do have varying opinions on this question. The mean hovering around neutral and the standard deviation exceeding one and a half means we have significant numbers of responses on both sides of this

question. In fact, the distribution shows that a significant number of CBOs agreed with the statement and an almost equal number disagreed. Fewer actually selected the response choice of neutral. However, what drives CBO perception of adequate maintenance funding is not readily apparent.

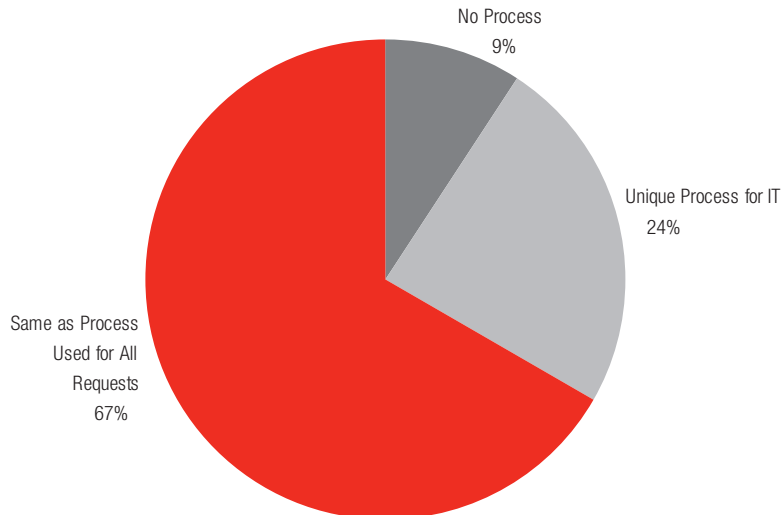
We also asked CBOs about their institution's approach to making IT decisions (see Figure 9-5). More than 90 percent indicated that their institution has a formal process for considering IT projects for funding. Twenty-four percent

Figure 9-4.
Adequacy of
Base IT Operating
Budget for New
Technology
Maintenance
(N = 386)



Q: The base IT operating budget always increases sufficiently to maintain new technology.

Figure 9-5.
IT Investment
Decision Process
(N = 386)



reported that their institutions have a unique process for evaluating IT investment decisions, and 67 percent use the same evaluation process for all investment decisions.

Responding business officers confirmed what we found in the CIO survey: institutions have embraced the use of business cases to support IT investment proposals. Nearly all of the CBOs surveyed reported that IT proposals are accompanied by a business case. Only 8 percent reported that their institutions did not prepare business cases to support their IT proposals. This is the same percentage reported by CIO respondents.

As Table 9-2 illustrates, CBOs report that IT business cases most frequently contain an analysis of one-time costs and qualitative benefits. About half the respondents also reported that their institution's IT business cases routinely contained an analysis of potential cost savings from the investment, proposed a funding strategy, and discussed alternative scenarios to making the proposed investment.

CBOs reported that in the IT cases they reviewed, the components they saw least frequently were an analysis of the investment's life-cycle costs and the potential for realizing new revenue. These results are very

similar to those reported by the CIO survey respondents.

We also asked the CBOs to evaluate the quality of their institution's IT business cases (see Table 9-3). Overall, they were satisfied with the quality and agreed that an IT investment proposal with a business case was more successful in acquiring funding than one without a case. They agreed that business cases contain accurate cost and benefit projections. Further, they felt that business cases present an adequate roadmap to achieving projected benefits.

CBO respondents strongly disagreed with the suggestion that an IT business case is viewed with greater skepticism than a case to support a non-IT project. Our hypothesis had been that ERP project costs had made CBOs wary of IT business cases. We anticipated finding business officers who doubted the accuracy of both the projected benefits and the projected costs of any IT investment proposal. This is not the case.

The CBOs also generally agreed that business cases accurately presented the recurring costs of technology. This despite the finding, identified earlier, that relatively few business cases contain an explicit analysis of recurring costs. So, it may be that when estimates are

Table 9-2. Components of IT Business Case (N = 386)

Component	Percentage of CBOs Reporting
One-time costs	87.0
Summary of qualitative benefits	57.5
Analysis of alternative scenarios	55.7
Funding strategy for the project	53.9
Analysis of potential cost savings	52.6
Life-cycle costs	47.7
Analysis of potential revenue gains	28.2

Table 9-3. CBO Assessment of IT Business Cases

Statement	Mean	Standard Deviation
It is easier to obtain funding for a project presented with a business case.	5.25	1.240
Business cases for IT projects are viewed more skeptically than others.	3.46	1.353
Business cases effectively identify how to capture benefits of new technology.	4.36	1.131
Business cases accurately predict benefits.	4.35	1.117
Business cases accurately present one-time costs of the project.	4.83	1.238
IT business cases accurately present recurring support costs of technology.	4.22	1.264

1=very strongly disagree, 4=neutral, 7=very strongly agree

prepared, they are accurate. However, too often cases go forward without this analysis having been done.

The business officers' assessments of IT business case quality did not vary significantly by institutional control, enrollment, Carnegie class, or budget philosophy. Nor does the peer relationship of the CIO and CBO appear to have any effect on the CBO evaluation of IT business cases. We found no relationship between whether the CIO is a member of the president's cabinet (and presumably a peer of the CBO) and the CBO's assessment of the quality of the institution's business case.

These results challenge several hypotheses we formed at the study's outset. We had expected that many research universities' ERP experiences would make their CBOs more skeptical about IT business cases. Additionally, we expected CBOs to be more critical of IT business cases at institutions where the CBO was a peer and therefore a potential rival of the CIO. In all cases, the data refute these hypotheses.

Areas of Convergence and Divergence

As discussed earlier, CBO respondents generally were fairly positive about technology's value and IT business case quality. Now we explore the similarity and differences of views between CIOs and CBOs. In addition to comparing the overall responses from the CIO and CBO surveys, we look at the paired responses we received. Specifically, we obtained 63 responses from CIOs and CBOs working at the same institution. This lets us compare the responses of CIOs and CBOs operating within the same set of institutional factors. By doing these paired comparisons, we can examine whether CIO and CBO perspective differences are attributable to institutional difference or positional differences.

The CIO–CBO paired responses also represent a wide variety of institutions in terms of total technology expenditures:

- ◆ 6 percent had budgets less than \$1 million,

- ◆ 27 percent had budgets between \$1 million and \$3 million,
- ◆ 16 percent had budgets between \$3 million and \$5 million,
- ◆ 24 percent had budgets between \$5 million and \$10 million, and
- ◆ 19 percent had budgets over \$10 million.

In the remainder of this section, we examine the areas of agreement and disagreement on the following topics:

- ◆ adequacy of technology funding,
- ◆ IT budget management,
- ◆ IT cost containment, and
- ◆ value of technology.

Adequacy of Technology Funding

On the question of whether present technology funding levels are adequate, the CIOs and CBOs surveyed had similar perspectives. In general, CBOs agreed more strongly than their CIO counterparts with statements asserting that IT was sufficiently funded. Specifically, CBOs agreed more

strongly than CIOs with the statements that IT was funded adequately to maintain critical operations and to meet strategic objectives for technology. However, the differences were small, and we found no statistically significant differences in the comparison of paired respondents (see Table 9-4).

The widest disparity concerned funding to maintain new technologies. CIOs are significantly more concerned that their budgets aren't increasing adequately to maintain the new technologies they implement. The CBOs from the same group of institutions feel their IT maintenance funding is adequate.

The results from the CIO–CBO pairs correspond with the overall results from both the CIO and CBO surveys. As Table 9-5 indicates, responses from the paired institutions were similar to the overall CBO and overall CIO mean responses.

We see similar divergent patterns in CIO and CBO assessments of funding adequacy. In each case, CBOs express greater confidence that technology funding levels are

Table 9-4. CIO–CBO Pairs Assessment of Funding Adequacy

Statement		Mean	Standard Deviation	Standard Error Mean
The central IT budget contains adequate funding to implement the institution's strategy for technology. (N = 57)	CIO	4.14	1.329	0.176
	CBO	4.61	1.532	0.203
The central IT budget contains adequate funds to maintain critical IT operations reliably. (N = 57)	CIO	4.89	1.205	0.160
	CBO	4.61	1.532	0.203
The base IT operating budget always increases sufficiently to maintain new technology. (N = 58)	CIO	3.34	1.332	0.175
	CBO	4.33	1.515	0.199

1=very strongly disagree, 4=neutral, 7=very strongly agree

Table 9-5. Paired and Overall Respondents' Assessment of Funding Adequacy

Statement	Overall Responses		Paired Responses (N = 57)	
	CIO Mean (N = 477)	CBO Mean (N = 375)	CIO Mean	CBO Mean
The central IT budget contains adequate funds to maintain critical IT operations reliably.	4.51	4.02	4.89	4.61
The central IT budget contains adequate funding to implement the institution's stated strategy for technology.	3.79	4.38	4.14	4.61
The base IT operating budget always increases sufficiently to maintain new technology.	3.17	4.02	3.34	4.33

1=very strongly disagree, 4=neutral, 7=very strongly agree

adequate, with the greatest perspective disparity on the question of adequate funding to maintain new technology.

So, the greatest difference between CBOs and CIOs appears to be over the question of technology life-cycle funding. This gap in perspective seems to reinforce early findings about the inadequacy of technology maintenance funding at most survey respondents' institutions. In many ways, technology finds itself in a position similar to where the institutional physical plant was 10 or 15 years ago. Institutions faced a growing deferred maintenance problem because they lacked a plan to finance the life-cycle costs of their buildings. The problem only began to be addressed when facilities officers and business officers (with presidential and board support) came together to design effective financial strategies for deferred and preventive maintenance. We see a similar opportunity for IT. CIOs need to work with their CBO counterparts to establish the cost of technology renewal and replacement and then devise financial strategies to address them.

IT Budget Management

We asked both the information officers and the business officers to assess how well the annual IT budget was managed. Specifically, we asked respondents to assess how well the budget anticipated true costs and whether frequent surprises arose that generated supplemental funding requests. Finally, we asked both groups to comment on how well they felt their institution managed its total IT spending, including spending by colleges and departments outside central IT.

On statements regarding IT budget effectiveness, we see both convergence and divergence between the two groups of respondents (see Table 9-6). CIOs and CBOs agreed that IT organizations at their institutions rarely request supplemental funding. CBOs agreed to an even greater extent than did their CIO counterparts that the IT budget anticipates all the costs of providing IT services.

We found it interesting that business officers agreed much more strongly than CIOs that their institutions were actively managing

the entire IT budget even if it did not reside in a single budget unit. CIOs, in fact, on average disagreed with this statement. The same difference by perspective on this question appears among the paired responses. Indeed, as Table 9-7 illustrates, the gap appears even more significant.

This division of opinion among key resource managers is significant, especially for highly decentralized organizations. Recall that more than half of the IT spending by these institutions tends to be outside the central IT organization's control. For these institutions, the CIO can only influence how these expenditures are made. As institutions try to

manage their IT costs for things like server maintenance, security, and desktop support, they must look to contain both their central and distributed costs.

Managing distributed decisions in a decentralized environment is always difficult. Only a strong partnership between the CIO and CBO as well as with provosts and deans will bring about change. However, progress cannot begin until all executives see the problem the same way.

IT Cost Management

CIOs and CBOs agree that their institutions are actively trying to contain IT costs. Nearly

Table 9-6. Effectiveness of IT Budget, by Position

Statement	CIOs (N = 479)		CBOs (N = 370)	
	Mean	Standard Deviation	Mean	Standard Deviation
The annual IT budget always anticipates all the costs of providing central IT services.	3.85	1.403	4.23	1.465
The IT organization rarely requests supplemental funding for items not included in its original budget.	4.11	1.478	3.99	1.699
The institutional senior leadership actively manages its total technology expenditures even if they do not reside in a single budget unit.	3.82	1.516	4.95	1.497

1=very strongly disagree, 4=neutral, 7=very strongly agree

Table 9-7. Effective Management of Total Technology Spending, by Position

Statement	Paired Respondents	Mean	Standard Deviation
The institutional senior leadership actively manages its total technology expenditures even if they do not reside in a single budget unit. (N = 57)	CIO	3.89	1.718
	CBO	5.00	1.581

1=very strongly disagree, 4=neutral, 7=very strongly agree

every institution surveyed acknowledged that they were actively exploring one or more cost-containment strategies. Both CIOs and CBOs agreed that cost reductions were possible without cutting service and indicated that their institutions would pursue other means to contain costs.

We asked both CIOs and CBOs their opinion of several cost-containment strategies. Specifically, we sought their opinions of strategies regularly pursued by the corporate sector, including outsourcing, use of external software development firms (such as offshore development), and shared services. As Table 9-8 illustrates, with one exception, the CIOs and CBOs had similar assessments of these strategies' promise. While business officers had slightly more positive views of these strategies, they shared CIOs' view that none of them had great potential to contain costs. Both respondent groups saw more potential for cost savings from shared services with other institutions than from either outsourcing or the use of external software development firms. Neither group felt that either of these latter two strategies was critical to future

cost reduction, despite their prominence in the corporate sector.

The responses from the CIO–CBO pairs were similar to overall survey responses. The only statistically significant difference in responses among the CIO–CBO pairs was on the question of the potential cost savings from external software development. CIOs from the paired institutions were in fairly strong disagreement that this strategy could reduce costs. Their CBO counterparts were neutral on this topic. This might just indicate that CBOs are less aware of the pros and cons of using external development firms and are therefore neutral on the topic.

IT Value

Finally, we looked at whether CIOs and CBOs held differing opinions on the value of technology. Once again, we found significant convergence in perspectives. We asked both groups to assess technology's role in creating a competitive advantage for the institution, whether technology investments returned commensurate value, and the degree to which technology generates new revenue

Table 9-8. Paired and Overall Respondents' Views of Reduction Strategies

Statement	Mean Responses			
	Overall CIO (N = 477)	Overall CBO (N = 374)	Paired CIO (N = 58)	Paired CBO (N = 58)
Reducing the cost of information technology will always require cuts in service.	3.51	3.27	3.59	3.15
Outsourcing holds the potential to provide IT services at a lower cost.	3.36	3.53	3.36	3.47
The use of external software development firms is critical to containing costs in the future.	3.34	3.97	3.34	4.08
My institution will become more likely to pursue shared IT services to contain IT costs.	4.25	4.22	4.34	4.14

1=very strongly disagree, 4=neutral, 7=very strongly agree

Table 9-9. IT Value, as Seen by CBOs and CIOs

Statement	Mean Responses			
	Overall CIO (N = 477)	Overall CBO (N = 372)	Paired CIO (N = 58)	Paired CBO (N = 58)
Technology is a source of competitive advantage for my institution.	5.23	5.15	5.26	5.19
My institution is receiving substantial value for its investments in information technology.	5.51	5.29	5.61	5.08
Information technology initiatives support new revenue opportunities for the institution.	4.44	4.15	4.34	4.03

1=very strongly disagree, 4=neutral, 7=very strongly agree

opportunities. As Table 9-9 illustrates, CIOs and CBOs saw each of these value questions similarly. This held true for both overall and paired responses.

CIOs and CBOs agreed to a similar degree that technology was a source of competitive advantage for their institutions. Both groups agreed even more strongly that their institutions received substantial value from their technology investments. Finally, both CIOs and CBOs agreed mildly that technology was supporting new revenue opportunities for their institutions.

Once again, our original hypothesis that CBOs were overly skeptical about technology's value and CIOs were overly optimistic appears not to hold true. Rather, the data suggest that both groups are generally positive about technology's value and hold rather similar views.

Summary

IT organizations in higher education face serious financial issues. The remedies will require effective collaboration and common understanding between CIOs and CBOs. In one sense, our research results offer hope. We found significant areas of common per-

spective between CIOs and CBOs in terms of technology's importance and value. CBOs are not antitechnology, nor have they lost faith in technology's promise to create benefits for the institution. CIOs are not spendthrifts who embrace technologies for their own sake. They are committed to weighing the business case for investment and to demonstrating technology's value.

As in any relationship, communication seems to be the key. Dr. Carl Powell, vice president of technology of Cuyahoga Community College, suggests that CIOs place themselves in their CBO's shoes. "You need to have a genuine willingness to look at a problem from the CBO's perspective," he said. "CIOs need to demonstrate that they are aware of the broader institutional financial pressures that the CBO is trying to manage."

Jim Stevens, CIO of Sam Houston State University, offers an even more direct approach. "Spend less and produce more than your peer institutions," he advises. "That is what makes a CIO's life easier."

So, there is much common ground to support a greater partnership. CIOs and CBOs do need to come together on the one area of

significant difference: funding for the maintenance or life-cycle costs of technology. This is perhaps the greatest financial issue facing higher education technology. The two groups must collaborate to evaluate accurately the total cost to implement, operate, and maintain technologies, and they need to devise strategies to fund technology renewal and replacement.

The CBO should also ally with the CIO in the quest to create more flexibility in the IT

budget. The value of flexibility is clear, but the path to transition from our current state of high fixed costs will be complex. CBOs need to support CIOs in their efforts to revise budget processes and execute cost-containment strategies. Both executives' expertise and perspectives will be essential to evaluate emerging IT management and sourcing strategies such as open-source technology, outsourcing, shared services, and the use of external development firms.