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The Institution and Its Central IT Organization

Always design a thing by considering it in its next larger context....
—Eliel Saarinen, Architect

Key Findings

- At most respondent institutions, responsibility for IT infrastructure and IT services belongs primarily to a central IT organization.
- Most respondent institutions (68.5 percent) report that central IT’s goal is to provide IT infrastructure and services that further the institution’s strategic goals.
- At only 4 percent of respondent institutions is the goal of central IT to provide infrastructure and services to create institutional competitive advantage, but that group of institutions is significantly more likely than those pursuing other goals to have experienced increasing budgets in the past three years and to be early adopters of new information technologies.
- At most respondent institutions (81.2 percent), the priority placed on deployment of easy-to-support central IT systems is moderate to very high.
- Nearly two-thirds of respondent institutions (64.9 percent) report an overall institutional organizational climate that is either stable or dynamic. The remainder report volatile or turbulent climates.
- Almost two-thirds of respondents characterize their overall institutions as mainstream adopters of new information technologies; only 1 in 10 says the institution is an early adopter. Central IT organizations, however, are twice as likely to characterize themselves as early adopters.

As we will see in Chapter 5, help desk services take a variety of forms on our respondents’ campuses. Anticipating this, our survey asked for various items of basic information about respondents’ institutions and central IT organizations so that we could understand the contexts within which help desk resources, services, and management practices operate.

Central IT and Its Partners

IT services can be provided in a number of ways. At a small liberal arts institution, for example, a single central IT organization may serve all the IT needs of an entire campus. As institution size and mission broaden, a central IT organization may be hard pressed to provide the diversity of services its constituents require.
In some cases this may lead to decentralization—placing the source of IT support closer to the locus of need. Sometimes this decentralization is done under the aegis of the central IT organization, with distributed support providers reporting to central IT managers. Other times, individual academic or administrative units create more or less complete IT organizations that operate more or less separately from central IT. In this report, we refer to these latter, independent IT organizations as “unit-specific.”

Central and Unit-Specific IT Organizations

Almost 9 in 10 (88.5 percent) of our respondents reported that their institutions had only one central IT organization. Of the 39 respondents reporting multiple IT organizations, 32.7 percent were doctorals and exactly a quarter were master’s-level institutions. Bachelor’s-level institutions, at 5.8 percent, were the least likely Carnegie class to have multiple central IT organizations. The associate’s and “other” Carnegie classes made up the remainder. In a few cases, reports of multiple IT organizations are explained by the fact that the respondent was from the system office of a multicampus university. In most other cases, though, we assume that multiple central IT organizations are a reflection of the more complex IT environments of institutions granting advanced degrees.

We were also interested in the distribution of IT responsibilities between central IT organizations and those that we referred to as “unit-specific”—organizations serving a school, college, or department, for example, within an institution. Just over half of our respondent institutions (51.3 percent) had no unit-specific IT organizations at all. The remainder had one or more such organizations.

Distribution of Unit-Specific IT Organizations

Full-time equivalent (FTE) student enrollment, Carnegie class, and institutional control (public/private) were significantly associated with the dichotomy between central and unit-specific IT. Figure 4-1 illustrates the relationship to enrollment. More than 9 in 10 (90.5 percent) institutions larger than 15,000 students had one or more unit-specific IT organizations. Among midsize institutions, 58.6 percent had them, and only 21.9 percent of smaller institutions did.

Looking at Carnegie class, we found that among doctorals 86.4 percent report unit-specific IT organizations. Half that many (43.0 percent) at the master’s level did, while only 28.6 percent at the associate’s level and 22.1 percent at the bachelor’s level reported unit-specific IT organizations. Analysis by institutional control reveals that 59.1 percent of publically controlled institutions had unit-specific IT organizations, while only 34.2 percent of private institutions did.

In summary, then, large institutions, those that grant doctorates, and those under public control were most likely to report unit-specific IT organizations. We speculate that a combination of central and unit-specific IT organizations enables the flexibility and specialization of IT support generally required by the more complex curricula and the more robust research programs common to institutions that grant advanced degrees. The geographical dispersion of many large institutions may also require this mixture of central and unit-specific IT organizations, regardless of Carnegie class. At private institutions the centralization of executive control may make the evolution of unit-specific IT organizations somewhat less desirable, feasible, or necessary.

The Roles of Central and Unit-Specific IT Organizations

For the 220 respondents who reported unit-specific IT organizations, we wondered what those organizations’ relative roles might be. We asked respondents to indicate which type of organization provided
IT infrastructure such as data networks, Web and e-mail servers, and administrative data systems. We also asked which type of organization provided IT support services such as application support, remote troubleshooting, and username/password assistance. For each service category, we offered a range of three provider options: mostly central IT organizations, a roughly equal mix of unit-specific and central IT organizations, and mostly unit-specific IT organizations.

The results, depicted in Figure 4-2, show that IT infrastructure is provided in a highly centralized way. More than 9 in 10 respondent institutions reported that infrastructure was provided mostly by the central IT organization.

IT support services, on the other hand, were somewhat less centralized. Almost 2 in 10 respondents said they were provided by a roughly equal mix of central and unit-specific providers. As with infrastructure, very few respondents reported that support services were provided mostly by unit-specific providers. These results reinforce our perception that higher education institutions almost always seek economies of scale by centralizing infrastructure, but in the case of client support services they are somewhat more likely to trade economy for service quality by distributing that responsibility.

**Central IT’s Goals and Strategies**

Consideration of the context in which institutions provide central IT services (including help desk services) requires that we understand what central IT hopes to accomplish and how it has chosen to do it. While a comprehensive profile of the IT organization would be impossible to extract from the responses to a few general questions, we can get a sense of an organization’s help-desk-related choices by viewing central IT in terms of its goals and strategies.
What Central IT Hopes to Accomplish

To get a glimpse into the central IT organization’s priorities, we asked respondent institutions to select from a set of four alternatives the one that best described their central IT organization’s goals for IT. The alternatives were:

- “Provide reliable IT infrastructure and services at the lowest possible cost,” which we anticipated would be chosen by IT organizations focused on bottom-line productivity and perhaps less on customer service.

- “Provide appropriate IT infrastructure and services to different users, based on their needs,” which we anticipated would be chosen by IT organizations oriented primarily toward customer service.

- “Provide IT infrastructure and services that further the institution’s strategic goals,” which we anticipated would be chosen by more outward-looking IT organizations, where partnering with other key institutional units was paramount.

- “Provide IT infrastructure and services to create institutional competitive advantage,” which we anticipated would be chosen by IT organizations that are careful to align their activities with the institution’s higher-level business strategies.

Figure 4-3 illustrates the distribution of responses. More than two-thirds (68.5 percent) of respondents selected alternative 3, furthering the institution’s strategic goals. Those selecting alternatives 1 and 2, goals related to reliable, low-cost services and services appropriate to user needs, represented 12.0 percent and 15.5 percent of the respondent population, respectively. Respondents selecting alternative 4, the goal most closely aligned with higher-level business strategies, represented only 4.0 percent of the study population.

These responses may indicate that there is
a generally “right” answer to our goals question—that institutions whose IT organizations exist to further the institution’s strategic goals are following a de facto best practice. On the other hand, the responses may suggest only that alternative 3 was the “safe” or politically correct answer. If an institution has strategic goals, it would be difficult to fault an IT organization for working to further them.

While the response pattern to this question is significantly associated with those of a few other questions (as we will discuss later), it is unusual in not being significantly associated with such positive help desk outcomes as the overall quality of help desk services or the frequency with which the help desk meets its own goals. This reinforces our suspicion that responses to this question may have reflected respondents’ views of what was correct or safe.

Deployment of Easy-to-Support Central IT Systems

We asked respondents to describe the priority the central IT organization places on deploying systems that are simple for the help desk to support. When the central IT organization deliberately deploys systems that are relatively easy for the help desk to support, it exhibits concern not just for the help desk staff but for the systems’ users as well.

Responses are portrayed in Figure 4-4. “Very low” and “low” responses accounted for almost 2 in 10 respondent institutions, while “high” and “very high” accounted for almost 4 in 10. The 20-percentage-point low/high contrast suggests a healthy respect among our respondents for central IT’s efforts. Those saying the central IT organization places moderate priority on the deployment of easy-to-support systems represented 42.7 percent of the survey population.

The mean priority that central IT places on deploying easy-to-support systems varies significantly by student enrollment, as Figure 4-5 shows. While the mean is fairly consistent where enrollments are 4,000 or less and between 4,001 and 15,000, for larger institutions the mean drops about half a point on our five-point scale.

This finding suggests that at small and medium-size institutions, central IT and the help desk are better able to find common ground concerning the support impacts of central IT’s technology choices. The drop in mean priority among the largest respondent
institutions may reflect the fact that as the scale of central information systems increases, the programming and maintenance costs of modifying them to improve ease of use become high enough to override support concerns.
The Impact of Institutional Culture

Each higher education institution has its own culture. No matter how focused central IT and the central IT help desk may be on facilitating the use of technologies, they will find that they are limited in what they can do by the institution’s prevailing attitudes and by the resources available to them. To further understand the contexts in which our respondents’ IT organizations operate, we asked a series of questions about three aspects of culture: overall organizational climate, budget climate, and the pace of adoption of new information technologies.

Organizational Climate

Like several prior ECAR surveys, this one asked respondents to indicate the overall organizational climate at their institutions. We offered four choices:

- Stable: Change is slow or rare.
- Dynamic: Change is continuous, orderly, planned, and navigable.
- Volatile: Change is episodic, is discontinuous, and requires care.
- Turbulent: Change is often driven by events, is unpredictable, and can disrupt ongoing operations.

The results, depicted in Figure 4-6, show that the bulk of respondents (48.2 percent) judged their organizational climate to be dynamic. Those considering the climate volatile made up 22.7 percent of the respondent population, and those considering it stable made up 16.7 percent. The smallest group, at 12.4 percent of the sample, was those who thought their overall organizational climate was turbulent.

This distribution of results, skewed toward the “dynamic” response, deviates from the more even distribution we expected to see. The fact that the most favorable-sounding response was the most frequent and the least favorable-sounding was the least frequent may suggest that at least some respondents sensed there were “right” and “wrong” answers and chose to respond in the most favorable way. Or it may suggest, as do other data we will discuss later, that a majority of respondents are inclined to “see the glass as half full”—to take an optimistic point of view.

Budget Climate

Along with our organizational climate question, we asked more specifically about the central IT organization’s budget climate.

Figure 4-6. Overall Organizational Climate at Respondents’ Institutions (N = 450)
in the past three years. As Figure 4-7 shows, decreasing budgets were the least commonly reported, by 17.7 percent of respondents. In most cases (47.6 percent) IT budgets were flat during that period, although in almost 35 percent of cases, budgets had increased. Of course, in the face of rising costs a flat budget is essentially the same as a decrease, so these figures may not be as positive as they appear at first glance.

We found an association between the IT budget climate of the past three years and the IT organization’s goals. As illustrated in Figure 4-8, respondents who said their goal was to provide IT infrastructure and services to create institutional competitive advantage were more likely to report a climate of increasing budgets than those identifying other goals. This suggests that at institutions where IT is considered a strategic partner, central IT is more likely to be funded at levels that keep pace with technological change.

**Pace of Adoption of New Information Technologies**

We asked respondents about the pace of adoption of new information technologies by the central IT organization and by the institution as a whole. The response options were early adopter, mainstream adopter, and late adopter. The results presented in Figure 4-9 indicate that both IT organizations and institutions as a whole were most likely to be mainstream adopters of new information technologies. Central IT organizations, at 21.1 percent, were about twice as likely to be early adopters as institutions (10.4 percent). Conversely, institutions, at 18.2 percent, were about twice as likely as central IT organizations (9.3 percent) to be late adopters.

As might be expected, the association between these two measures is strong. Looking only at institutions that reported being early adopters, 8 in 10 had central IT organizations that were also early adopters. The same level of commonality existed among institutions that reported being mainstream adopters. In these two categories it appears that “as the institution goes, so goes central IT.”

The pattern of like-mindedness among early and mainstream adopters did not hold for institutions that reported being late adopters. There, fewer than half of central IT organizations adopted new technologies at the same pace as the institution. Most of the...
Figure 4-8. Central IT Budget Climate, by Central IT Goals

Figure 4-9. Pace of Adoption of New Information Technologies
remainder exceeded the institutional pace as mainstream adopters, and two respondents at late-adopter institutions even reported that central IT is an early adopter. If our findings for early and mainstream adopters suggest mutually reinforcing relationships between the institution and central IT, the data for late adopters suggest instead that at these institutions the central IT organization often takes the initiative to pick up the pace.

Central IT’s pace of adoption of new information technologies varied significantly with the institutions’ overall organizational climate. Figure 4-10 clearly reflects the preponderance of mainstream adopters seen in Figure 4-9. Not surprisingly, where the organizational climate was dynamic, we found the highest proportion of early adopters (29.9 percent). In such an organizational climate, risk taking is likely to be encouraged, and our data suggest that this carries over into IT initiatives.

For institutions, the overall pattern of the association between pace of adoption of new technologies and the institution’s overall organizational climate resembles the pattern shown in Figure 4-10 for central IT organizations. Even so, as we might expect, institutions reflected a greater conservatism than central IT organizations in all organizational climates. In general, institutions were less likely to be early adopters and more likely to be late adopters.

The pace of the central IT organizations’ adoption of information technologies varied significantly depending on the respondents’ central IT goal (see Figure 4-11). Institutions whose goal was to provide reliable IT infrastructure and services at the lowest cost exhibited the most conservative pace. Only 7.7 percent reported being early adopters, while more than 30 percent reported being late adopters. The most aggressive adopters were institutions whose goal was to provide IT infrastructure and services to create institutional competitive advantage. There, two-thirds of respondents characterized themselves as early adopters, and one-third said they were mainstream adopters. Late adopters were not represented at all in this category.

Mainstream adopters were predominant among those institutions whose central IT organization’s goal was to provide IT

![Figure 4-10. Pace of Central IT Adoption of New Technologies, by Institution’s Overall Organizational Climate](image-url)
infrastructure and services to further the institution’s strategic goals. A similar pattern, but with a lower percentage of mainstream adopters, emerged among those whose goal was to provide IT infrastructure and services to different users on the basis of their needs.

**Summary and Implications**

We expect the nature and quality of central IT help desk services—the topic of the remainder of this report—to be determined in large part by the institutional context. Our respondents were remarkably uniform in some contextual areas and divergent in others.

Well over three-quarters of the institutions we surveyed had a single central IT organization; the remainder had more than one. Nearly half of our respondent institutions also had one or more IT organizations operating outside the sphere of central IT. This diversity of approaches to IT support suggests that at many institutions IT support services are not uniform. For example, a campus department with its own IT organization may experience services that are more highly available and more personal than those experienced by a department that relies only on the central IT organization. We found that noncentral, unit-specific IT organizations were most common at midsize and large institutions—those with more than 4,000 FTE enrollments.

At institutions with unit-specific IT organizations, IT infrastructure resources were more highly centralized than support services. While about three-quarters of those respondents reported that the central IT organization provided most IT support services, more than 90 percent reported that IT infrastructure, which benefits more from economies of scale and may require more stringent security, was provided centrally.

Respondents showed surprising uniformity in their selection of a summary goal for their central IT organizations. More than two-thirds of respondents agreed that their goal was to provide IT infrastructure and services to further the institution’s strategic goals. While this may have seemed the most politically correct response to some respondents, data summarized later in this section suggest that by some measures this goal may not attract...
the same level of support that we found associated with the goal of providing IT infrastructure and services to create institutional competitive advantage.

Nearly two-thirds of respondents reported a relatively positive (“stable” or “dynamic”) organizational climate for the entire institution. In terms of budget climate, however, nearly two-thirds reported that central IT budgets in the last three years had been either flat or decreasing. Stability in overall organizational climate is relatively easy to perceive as a good—or at least benign—thing; a flat (“stable”) budget, however, in a resource-constrained area like IT is more difficult to see in a positive light.

Budgets were reported to be on the rise at more than a third (37.7 percent) of institutions that selected the most common goal—that of providing IT infrastructure and services to further the institution’s strategic goals. By contrast, budgets had risen for a majority (55.6 percent) of those institutions that said the goal of central IT was to help create competitive advantage for the institution. Increasing budgets were least common (13.2 percent) at those 53 institutions where providing reliable infrastructure and services at the lowest cost is the goal. This suggests to us that institutions reward IT organizations that see themselves as partners in the institution’s competitive success.

Finally, most respondents said their central IT organization was a “mainstream adopter” of new information technologies, as was the institution when considered as a whole. On the other hand, central IT was more than twice as likely as the whole institution to be termed an “early adopter.” When viewed in the context of central IT’s goals, the highest percentage of early-adopter IT organizations (just over two-thirds) was reported within the relatively small group that said their goal was to provide IT infrastructure and services to create institutional competitive advantage.