Service on the Front Line: The IT Help Desk in Higher Education

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A mechanical engineer, a chemical engineer, an electronics engineer, and an IT help desk administrator are riding together in a car when suddenly the engine dies. The mechanical engineer suspects a drivetrain failure. The chemical engineer thinks it must be a problem in the fuel system. The electronics engineer is sure that a control chip is defective. The IT help desk administrator simply asks, “Why don’t we all just get out of the car, then get back inside and see if it works again?”

Actually, in most versions of the joke, the fourth occupant is a computer scientist. But it would be a rare computer scientist who spent his or her day telling dozens of people to reboot their PCs. The joke is funny in part because computers sometimes get balky for no clear reason and then return to normal for reasons that aren’t much clearer. It’s also funny, though, because many of us—most of us, probably—call an IT help desk from time to time and know exactly what the first piece of advice will be.

Maybe the joke isn’t so amusing to help desk professionals, who often have to troubleshoot a subtle problem while exercising the skills of a diplomat, a psychologist, or, occasionally, a saint. But it shows that the work they do is prominent enough to earn a place in pop culture. And that’s a reminder that of all the services that make up the IT portfolio, none has a more direct customer-facing role than the help desk.

IT organizations have provided technical support for as long as there’s been a distinction between administrators and users of computing technology. Technical expertise, of course, is a core competence of user service organizations. But the user service domain has expanded as much with computing’s sociology and culture as with its technical demands. In early data processing days, the interface between information systems experts and their business department clients was fairly intimate and manageable. That changed when personal computing and mass Internet adoption brought two consecutive quantum leaps in user demand, turning technical support from a conversation between near-peers into a large-scale exercise in customer service.

The many challenges of keeping a college or university’s enormously diverse range of users productive while they use an enormously diverse range of technology inspired this ECAR study. In some ways, ours is a story of grace under pressure. Despite the challenges of managing technical support supply and demand, our survey respondents seem almost cheerful in their self-assessment of overall help desk service quality. More than half rate it as very good or excellent, and many others
thought it was at least good. Where they set goals, as they often do, they tend to say that they meet them. Our study clearly reflects respondent pride in help desk organizations that feel they have rolled with the punches, kept up with demand, and made quality support available where it’s needed.

Yet we found signs that the exhilarating task of responding to a whole community’s IT needs has also kept many help desk organizations tactical, conservative, and focused on tried-and-true methods. We found only spotty adoption of the IT service management frameworks that many organizations in the commercial sector have used to achieve tighter IT alignment with strategic goals. Self-service tools were not as widespread or numerous on average as we expected them to be, and perhaps for this reason institutions were ambivalent overall about their effect on reducing help desk demand. We found communications methods surprisingly traditional for an era in which the student population is known for its fast-changing communications culture. And, perhaps explaining much of this, 56 percent of our respondents characterized help desk funding as less than or much less than adequate.

A certain wary focus on proven methods is understandable for an organization that is all too often called on to clean up the mess when gee-whiz technologies prove unreliable or user-unfriendly. Help desk administrators and staff frequently find themselves, in principal investigator Mark Sheehan’s apt phrase, on the front line of higher education IT. But all is not reaction and constraint. As Mark details in the following chapters, we found a complex of practices that tended to move together among the most mature and high-performing help desk organizations. Among our respondents, implementation of service management framework practices (excluding service level agreements), use and communication of performance metrics, and the existence of strategic plans all proved to be associated with higher reported service quality levels. And what’s more, high service quality levels tended to be associated with higher evaluations of the central IT organization’s reputation within the institution.

Acting as scout and intelligence officer in our foray to IT’s front line was ECAR Fellow Mark Sheehan. In his initial mission as principal investigator of an ECAR study, Mark has crafted a broad and deep assessment of higher education help desk practice that reflects his long experience as a CIO and IT professional. The meticulous data presentation and clear, lucid prose of the following chapters testify both to Mark’s scientific training and to the writing skills for which he was already known before joining ECAR. Mark has been aided by ECAR’s talented and collegial fellowship. Bob Albrecht, Judy Caruso, Judy Pirani, Don Spicer, and I helped with qualitative interviews and took part in creating the four case studies that accompany this project. Gail Salaway participated throughout, advising on survey design, data preparation, and analysis, and conducting the “buddy check” of quantitative findings that we perform on all ECAR studies. The incomparable and invaluable Toby Sitko brought it all together as usual, from coding the survey instrument for Web presentation to needling the interim director to finish the Foreword on time. Richard Katz, ECAR’s founder and director, helped conceive of the project, brought it to fruition, and was its steward throughout its initial phases. Finally, transforming ECAR’s digital prose and charts into polished publications has depended on the professionalism, and often the patience, of our EDUCAUSE colleagues Nancy Hays and Gregory Dobbin.

 Appropriately, given the topic, we have also had a great deal of help from higher education colleagues and other professionals. The seed for this study was planted by Betty Leydon, Vice President for Information Technology and CIO at Princeton University, when she suggested at an EDUCAUSE
conference session that we take on IT service management. Proving the principle that no good deed goes unpunished, we also asked Betty to review the study prospectus and survey draft, and she graciously did so. We are also indebted to the user services professionals who assisted us with a review of preliminary findings: Vivianne D. Johnston, Help Center Manager, Regis University; Denise Schuette, IT Customer Support Services, Metropolitan State College of Denver; and Herb Wilson, Director of IT Support at the University of Colorado, Boulder. We are also indebted to HDI (formerly the Help Desk Institute) and its higher education forum steering committee for valuable discussions and observations. In particular, we thank HDI’s Leslie Cook; Mark Fitzgerald, Boise State University; Bill Vriesema, Calvin College; and Jon P. Garvin, Johns Hopkins Bloomberg School of Public Health. Likewise, we are grateful for the assistance of Ann Lamanes of the IT service management consulting firm Pink Elephant.

The foundation for this study, of course, is the 454 respondent institutions that took part in our survey, identified in Appendix A. We are profoundly aware that a survey invitation from ECAR can hardly help but impose on our respondents’ time and patience, and we are constantly gratified that so many colleagues see enough value in our work to respond. And we are all the more indebted to the IT professionals who agreed to qualitative interviews that contributed greatly to understanding and interpreting the survey findings. These colleagues—36 individuals at 24 separate institutions—are named in Appendix B.

Other higher education colleagues opened their doors and generously donated their time to collaborate with us on the four case studies that accompany this study. We are especially grateful to

- Bowdoin College and Colgate University for showing us two different but equally compelling ways to optimize the help desk’s strategic value;
- New York University for sharing with us the details of its IT Infrastructure Library implementation;
- the University of Alberta for giving us insight into ways of improving the help desk’s self-service applications and optimizing student workers’ contribution; and
- the University of North Carolina at Chapel Hill, which provided a model for creating and sustaining a highly distributed fabric of IT support services.

We are proud to deliver the first in-depth study of IT help desk practices in higher education, and we firmly believe that the findings here will be of interest and value to IT leaders and line staff alike. One theme running throughout these pages will surprise no one familiar with the topic: the commitment of IT professionals to deliver excellent services that support their communities and advance higher education. We thank them for their contributions and dedicate this study to them.

Ron Yanosky
Boulder, Colorado
Executive Summary

Service on the Front Line: The IT Help Desk in Higher Education is the final report of a research study initiated by the EDUCAUSE Center for Applied Research (ECAR) in July 2006 to explore higher education information technology (IT) support services. The study investigated many aspects of the central IT help desk through a quantitative survey of 454 EDUCAUSE member institutions in the United States and Canada, conducted in January and February of 2007. We later supplemented the survey through interviews with chief information officers (CIOs), help desk administrators, and others selected from our membership.

In higher education, the central IT organization’s help desk is on the front line in at least two senses. First, in many ways, it is the face of central IT. Help desks at institutions of all sizes receive thousands of assistance requests every year, and those contacts represent most or all of their clients’ experience of the central IT organization. The impression the help desk gives of technical competence, cohesiveness with the rest of central IT, and customer service substantially impacts campus perceptions of central IT.

Second, the help desk represents the IT organization’s first line of response to the client community’s demands. The CIOs, help desk managers, and others who made up our survey respondent pool often expressed a sense that client demands were escalating so rapidly as to impact the quality of help desk services. Even as they face growing external demand, help desk staff find themselves on unstable ground as technology changes rapidly and as their back-office IT colleagues change familiar systems and services and release new ones.

These pressures challenge the help desk to change and adapt; those that can’t may become reactive and enter a destructive downward spiral. IT service organizations in general have begun to address the management challenges this situation poses by a proliferation of process frameworks and best practices that can be lumped under the heading of IT service management (ITSM). Foremost among these, and the framework upon which most are built, is the IT Infrastructure Library (ITIL), a trademarked product of the United Kingdom Office of Government Commerce. While ITIL is familiar to IT support managers in Europe and in the U.S. private sector, it is less familiar in U.S. higher education. It was partly with that knowledge gap in mind that this study was conceived.

Defining the Help Desk

The central IT help desk has traditionally been the place to visit or the telephone number to call when one is stumped by some
aspect of IT or needs information about the institution’s IT environment. Typically, campus IT help desks serve all comers in these ways, so the variety of problems they confront is wide. Most help desks attempt to resolve their clients’ questions on the spot but escalate thornier problems to specialists, usually staff reporting elsewhere in the central IT organization. Some higher education organizations outsource the first tier of help desk support, but we found this to be rare among our higher education respondents.

The help desk goes by many names; we chose to use this term in our study because we felt it would be most recognizable. Institutions also refer to it as a support center, call center, or hot line. Some use the term service desk, but that has taken on new meaning as the ITSM literature grows: the ITSM service desk embraces help desk functions as well as the responsibility for first-line client contact about all central IT services. The mature service desk is proactive as well as reactive in that it “pushes” communications about the IT environment and central IT services to the client community. While we know many campuses are moving their help desks in this direction, not all have done so, and not all would recognize the full implications of the term.

We measured help desk success in several ways:

- the number of goals the help desk pursued and the frequency with which it met them,
- overall service quality and perceived client satisfaction in specific service areas, and
- the help desk’s perceived positive impact on the institution’s various constituencies and mission.

Because of the help desk’s unique position in the IT organization—between central IT systems and their users—we agree with the ITSM doctrine that the help desk must be integrated into central IT organization planning and management activities. While communication is necessary to the help desk/central IT partnership, alone it is not sufficient for the partnership’s success. Help desk management and staff are uniquely aware of the consequences to the client community of central IT decisions, and thus their involvement in central IT decision making is essential. We were gratified to see that so many of our survey respondents said the help desk was adequately included in various central IT planning and management activities.

**Methodology**

ECAR applied a multipart research approach to this study, which involved

- a literature review to identify issues and establish the research questions;
- consultation with a select group of CIOs to identify and validate the research questions;
- a quantitative Web-based survey of IT administrators (mostly CIOs and help desk administrators) at 454 higher education institutions among the EDUCAUSE member base;
- postsurvey qualitative interviews with 36 executives and staff members involved in help desk management at 24 institutions; and
- four case studies examining help desk and service management practices at a total of five higher education institutions.

**Key Findings**

The central IT help desk is a complex enterprise operating within a dynamic environment. For this reason, our study looked at many aspects of the help desk, including

- the central IT organization, its goals, and its culture;
- the help desk’s scope, resources, and services;
- service level agreements between help desk and clients;
practices in place for evaluating and improving help desk services; and
- perceived success of the help desk organization.

Throughout our analysis we related our findings to principles and practices represented in the ITSM literature and sought reinforcement—or refutation—of their value in the higher education context. In the following sections we summarize and synthesize our findings.

The Institutional Context

Among our respondent institutions, IT services are still highly centralized. At most of them (88.5 percent), there is only one central IT organization. As Figure 1-1 shows, at most of our institutions, central IT provides nearly all IT infrastructure and three-quarters of IT support services.

In all institutional size categories, as measured by FTE enrollments, independent IT organizations exist outside central IT but are much more common in large institutions (90.5 percent) than at small ones (21.9 percent).

For just over two-thirds of central IT organizations, the primary goal is to provide infrastructure and services that further the institution’s strategic goals. At only 4.0 percent of institutions is it central IT’s goal to provide infrastructure and services to create institutional competitive advantage; at such institutions the pace of adoption of new technologies is higher, and budget increases in the past three years have been more common.

Only 10.4 percent of respondents characterized their institutions as early adopters of new technologies. About twice that many felt that description fit their central IT organizations. About 70 percent characterized both their institutions and their IT organizations as mainstream adopters. Late adopters made up the remainder in each category.

The Help Desk and Its Resources

As is the case with IT services in general, help desk services are highly centralized within our respondent population. About three-quarters of respondent institutions provide all
help desk services from one or more central IT help desks; about three-quarters of these have only one. Only about a quarter of our respondents’ help desk managers report directly to the CIO; most of the rest report to the head of a central IT service area.

Majorities of our respondents’ help desks support a wide range of infrastructure and identity-related services and common instructional, administrative, and personal productivity applications. Least supported are privately owned hardware, programming languages, research applications, and applications hosted off campus.

In traditional fashion, the help desk is most likely to ply its trade over the telephone or via e-mail. Walk-in interactions and assistance delivered at the client’s location are also very common. Surprisingly, help desks use interactive text communication (chat, instant messaging, and text messaging) infrequently or not at all to provide support—this despite the fact that 84.1 percent of students in The ECAR Study of Undergraduate Students and Information Technology, 2007 said they used instant messaging applications, with half that number using them at least daily.

Although the commercial sector increasingly “offshores” customer service functions, few of our respondent institutions outsource any of their help desk services. Only 2.6 percent outsource 75 percent or more of their services; 13.7 percent outsource between 1 and 75 percent of them, and the remainder (83.7 percent) outsource none.

Larger institutions have a lock on the practice of providing help desk services 24 hours a day, seven days a week; just under 5 percent of respondents’ help desks are this available, and more than half of these are at institutions with more than 15,000 FTE. About two-thirds of respondents’ help desks are available beyond standard campus business hours, while a surprisingly high 30.5 percent are available only during standard business hours. Reassuringly, only 1.3 percent report less availability than that.

Most of our respondents were unenthusiastic at best about help desk funding. Over half (55.7 percent) rated funding as less than or much less than adequate; only 3.2 percent said it was more or much more than adequate. For almost two-thirds of respondents, funding for the help desk is at or below 10 percent of the central IT budget.

Despite user populations in the thousands and tens of thousands, help desks provide their services with remarkably few staff. At small institutions the mean number of full-time equivalent help desk staff is about seven, at medium-size institutions it is about 10, and at large institutions it is just under 18. These figures include student employees.

Institution size, Carnegie class, and institutional control are all associated with the number of FTE students served per FTE help desk staff member. Overall, the mean is 1,264 and the median is 861. Even with their generally larger numbers of help desk staff, larger institutions served more students per staff member than small ones. Each help desk staff member at doctoral and associate’s institutions serves a mean of almost 1,800 students, three times as many as at bachelor’s institutions; the number for master’s institutions is around 1,100. On average, each public institution help desk staffer serves twice as many students as those at private institutions.

More than two-thirds of respondent institutions are using an integrated suite of help desk automation tools. Web-based help documents are common for both help desk staff and users, but the many other tools we asked about were in much less common use. Opinion is fairly evenly divided about the effectiveness of the help desk’s use of self-service tools to reduce help desk demand, though it is significantly more positive among institutions where more such tools are in use.
Adoption of ITSM Practices

We asked about five representative ITSM practices:
- capacity planning,
- availability planning,
- change management,
- release management, and
- service level management as represented by the use of service level agreements (SLAs).

Except for service level management, a majority of respondents use each of the five practices. Only 20.5 percent of respondent institutions use SLAs, and a surprisingly high 38.1 percent of respondents said they had no plans to implement them. When we asked why, the most common reasons given were that the practice is incompatible with institutional culture and that help desk staff have higher priorities than developing SLAs. We also learned that over 90 percent of SLA development projects now under way have neither funding nor completion dates, suggesting that these projects have low priority.

On a more positive note, well over three-quarters of respondents have adopted at least one of the other four basic ITSM practices. While just over a third of the entire respondent pool had adopted all four, among those who had adopted SLAs half again as many (52.7 percent) had done so, supporting our assumption that organizations often adopt ITSM practices in concert. The practice of strategic planning for the help desk is also more common where the four ITSM planning and management practices and SLAs are in use.

Above, we emphasized the importance of active help desk participation in the ITSM activities of the central IT organization. Our findings support this by revealing that the priority central IT places on deployment of easy-to-support systems is significantly higher where respondents agree that the help desk is adequately included in ITSM activities.

As we will see, the quality of help desk services is closely associated with the institution’s perception of the central IT organization. For this reason we were surprised that only 18.4 percent of our respondents had implemented customer relationship databases; while another 42.0 percent had implementations under way or in the planning stages, the remainder, nearly 40 percent, said they had no plans to do so.

Measuring Performance

We did not find widespread use of help desk performance metrics. Overall, those most commonly reported are demand for help desk services and the time it takes to resolve clients’ problems. These metrics are typically reported within the IT organization; fewer than 40 percent of respondent institutions report them to non-IT senior administrators and only 20.1 percent to deans.

Overall, only about 40 percent of respondents agree or strongly agree that their help desks use these metrics effectively to improve user services. However, among those who report their metrics more widely, agreement is more frequent, as it is among those who have adopted more basic ITSM practices.

Our respondents’ assessment of their help desks’ maturity enabled us to uncover a constellation of practices that appear to be associated with maturity level. Most respondents (40.0 percent) characterized their help desk’s maturity as “standardized,” the middle level in our five-point scale. As Table 1-1 shows, those who chose the higher levels of “managed” or “optimized” tend to have adopted more basic ITSM practices. They also agree more strongly that the help desk is adequately involved in basic ITSM activities, have a strategic plan for the help desk, regularly analyze more metrics, and agree more strongly that help desk costs and value are well understood on their campuses.

Evaluating Success

As one measure of success, we asked respondents to evaluate their help desks’ positive impact on various service areas. By a
wide margin, the two areas of greatest positive impact are, in a sense, self-serving: More than 80 percent said the help desk had high positive impact on campus perception of central IT services’ value and of its reputation. While these good public relations indicators suggest the help desk is “doing things right,” other findings from this series of questions raise some doubts that it is “doing the right things.”

Following a theme that began in the earlier section “The Help Desk and Its Resources,” respondents rate the help desk’s positive impact lowest for research support, with only 8.1 percent saying the help desk has high positive impact upon that aspect of the institutional mission. Though considerably higher for two other strategic areas, instructional activities (53.4 percent) and administrative activities (68.2 percent), ratings still significantly lag those for the more tactical public relations areas.

Respondents are upbeat about overall help desk service quality; more than half rate their service quality as very good or excellent. Asked for specifics, they tell us their clients would rate help desk service quality highest in technology areas such as identity management, desktop computing essentials, and communication applications and lowest in three core areas of higher education: instruction, administration, and research.

This finding, in concert with the reputation-oriented positive impact findings reported above, suggests that the help desk’s importance to the institution may be more tactical than strategic. We saw earlier that the goal of most of our respondents’ central IT organizations is to provide infrastructure and services in support of the institution’s strategic goals; the findings introduced here suggest that the help desk’s services, while thought to be of generally high quality, may be too far removed from the institution’s core business processes to be of more than tactical value.

This distinction aside, within the help desk’s sphere of influence we find service quality to be positively associated with central IT’s adoption of—and inclusion of the help desk in—basic ITSM practices, the use of metrics to document help desk performance, and the existence of a strategic plan for the help desk. Finally, as Figure 1-2 shows, service quality varies dramatically with help desk maturity level.

**Conclusion**

As the face of the central IT organization, the campus IT help desk plays an important role in enabling, facilitating, and supporting the use of technologies in pursuit of the institution’s mission. While they may not be crucial to the success of every help desk, the practices and functions outlined in the IT service management literature appear to be consistently associated in our data set with the positive impact the help desk has and with the overall quality of its services. Similarly, respondents who report a higher degree of help desk maturity are more likely not only to have adopted ITSM practices but also to report substantially higher overall service quality than less mature organizations.

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<th>Std. Deviation</th>
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<td><strong>Total</strong></td>
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Our respondents’ main message is that they feel good about the quality of their services. Their help desk organizations set goals and, more often than not, meet them. Nevertheless, many respondents tell us the help desk feels constrained in its pursuit of improvement. The barriers that most concern them are ever-increasing client expectations and less-than-adequate resource pools. While most help desks have adopted integrated automated toolsets for managing their operations, their client communications and service technologies are behind the times—certainly behind the adoption curve of undergraduate students, their most abundant clients.

This conservatism may be understandable as a reaction to the pressure-cooker atmosphere of the help desk during the first week of classes, but it may also be one of the factors that limit the help desk’s strategic impact. As Web 2.0 applications cause paradigm shifts in information sharing, the help desk that limits itself to traditional, hierarchical customer service modes could find itself eclipsed by a campus IT support wiki. As mobile computing, virtual classrooms, and asynchronous learning liberate higher education from time and space constraints, the help desk that is available only from 8:00 a.m. to 5:00 p.m. could find its relevance evaporating.

Whatever changes the future of IT brings, one thing is certain: The coming generation of help desk leaders will have their work cut out for them.
Introduction

As higher education information technology professionals, we’re tempted to look at our organizations’ IT resources and services from the inside out. In this networked age, our connections to the Internet and more specialized networks such as Internet2 and the National LambdaRail are our umbilicus, the cord that connects us to the world beyond the campus. On our campuses, radiating from this nexus along the network backbone, are the infrastructure elements on which our services are based—the servers, the local area networks, and ultimately the workstations by which our clients connect with us. When we think about security, as we so often do these days, we build our first lines of defense around the “core” systems and data managed by central IT.

Most of us are members of a central IT organization, with a nucleus of executives, directors, and managers participating in a web of internal relationships and leading the teams that manage our IT infrastructure and applications—the teams that ultimately interact with our clients at the periphery of our organization.

But that’s just us.

Unless we’ve brought them inside as, for example, members of our advisory committees, our clients see us very differently. To them, the center of the IT organization is the point at which they contact it. From their workstations, they see a web of connections to services such as e-mail or administrative applications. Through their browser software they connect to a universe of possibilities—information, interaction, entertainment—on “the network.” And when they contact us directly, either electronically or face to face, the person who responds becomes the center of the IT organization for them for the duration of the contact. The lines of information and influence that our clients see within the central IT organization radiate from that central point.

Importance of the Help Desk

On most campuses, the central point of contact for clients with IT problems is a formal client service organization. These organizations go by many names, among them help desk, support center, call center, service desk, and customer hot line. Here we use the term help desk to refer to the entire array of IT client service organizations, following conventional IT usage in higher education and elsewhere.

For our clients, the help desk is the face of central IT, its eyes, ears, and voice on campus, and when it is effective, it is where clients direct their attention when they need support.
It would be difficult to overestimate the help desk’s importance in the higher education context. During ECAR’s 2007 study of undergraduate students’ IT usage and attitudes, student respondents offered hundreds of comments about the help desk. The study report summarizes those comments as follows: “While there were some positive comments about the helpfulness of staff in fixing technical problems, negative comments were far more frequent. These pointed most often to a lack of customer service orientation, but also addressed problems with help desk availability, wait times, and fees. This suggests that the help desk function appears to be relatively high priority for many students, and is an important finding for IT leaders.”

At a more general level, Samuel J. Levy, vice president and CIO at the University of St. Thomas, observes, “At some institutions, I suppose, the help desk is not a high priority in the institution. Either the community does not value it or they don’t need it or the leadership simply says there are more important ways to direct their resources. For me, it is the single most important thing. I can’t imagine anything of greater value that we can bring to the institution.”

**The IT Support Challenge**

Like public and private sector enterprises everywhere, higher education institutions continue to place increasing reliance on information technology. Whether IT supports administration, instruction, or research, complex webs of hardware and software resources underlie an even more complex web of services. As complexities in these environments increase, service providers often find it challenging to maintain high customer satisfaction levels. Because support resources do not always keep pace with support demands, service providers can find themselves spiraling downward into a reactive operation mode, adapting to new challenges only with great difficulty, and missing opportunities to enhance the variety and quality of the services their constituents require.

The help desk is on the front line of the struggle between support demands driven by rapidly evolving information technologies and the central IT organization’s efforts to mobilize the resources necessary to meet that demand. Often the help desk finds itself in a kind of crossfire, pinned down from the outside by seemingly insatiable client demand and threatened from the inside by changes to central IT systems and services in which the help desk may have had no voice and of which, in the worst case, it may not even have been informed.

Until recently, IT organizations have had few resources for resolving these tensions. They can temporarily offset growing user demands by investing in additional IT staff, staff training, and new technologies to help staff perform more efficiently. Enlightened leadership can facilitate better internal communications between the help desk and the rest of central IT. Help desk managers can establish forums in which clients and service providers work together to agree upon reasonable expectations of—and limits to—help desk services. At some institutions, these agreements are codified internally in the form of operational level agreements and externally in the form of service catalogs and service level agreements.

Outside assistance with help desk management issues has long been available through the conferences and publications of professional associations such as EDUCAUSE and the Association for Computing Machinery’s Special Interest Group on University and College Computing Services. Both organizations encourage practitioners to share their successes and lessons learned with their higher education colleagues. Another resource is HDI (formerly the Help Desk Institute, http://thinkhdi.com), a membership organization whose training events,
Consulting activities, and publications assist help desk managers throughout the public and private sectors. In support of its higher education members, HDI has established a Higher Education Forum made up of representatives from 25 U.S. and Canadian colleges and universities.

Recently, numerous structured, formal IT service management models have become available and include sections specific to help desk management. These are dominated by the United Kingdom’s Information Technology Infrastructure Library (ITIL), now codified in the ISO/IEC 20000 documents of the International Organization for Standardization and the International Electrotechnical Commission. These documents provide a framework for integrating an institution’s IT services with its strategic directions; for constructing an agile, proactive, successful IT service infrastructure based on documented best practices; and for ensuring that sustainable, high-quality IT services remain available as the technology landscape evolves. Many organizations—ranging from high-profile IT companies such as IBM, Microsoft, and HP to university business schools to small private consulting firms—have developed instructional and consultative services to help IT service organizations implement ITIL structures and practices.

The blanket term IT service management (ITSM) has emerged in the literature to identify the superset of IT service-related standards and best practices of which ITIL is an important component.4

This ECAR Study

Colleges and universities worldwide are incorporating ITSM elements into their central and distributed IT service organizations, but with the exception of occasional conference papers4 and trade-publication articles, this work is going largely undocumented among their higher education community peers. To help fill the gap, ECAR has undertaken this study to document the current state of the higher education IT help desk, investigate the extent of adoption of certain key ITSM practices, evaluate their costs and benefits, gauge their success, and provide guidance to institutions that may be considering implementing them.

The detailed questions that framed this study include the following:

- What are the respective roles of centralized and decentralized IT support organizations?
- What are the goals and strategies of central IT and the central IT help desk?
- How are help desk services organized and provided?
- How is the help desk funded and staffed?
- What support tools are available to the help desk, and what tools does it make available to its clients?
- What are the drivers of and barriers to improvement of help desk services?
- What is the adoption status of service level agreements and other basic ITSM practices?
- By what means does the help desk measure its performance and what does it do with that information?
- What are the outcomes of the help desk’s efforts to improve its practices and its services?

Study Scope and Objectives

Because relatively few higher education IT organizations are formally implementing ITIL practices, a study focused on those practices per se would have borne little fruit. To include the largest number of institutions in our study and gather the most broadly applicable findings about their help desks, we elected to couch our questions in general terms that would be recognizable to respondents familiar with the ITSM literature but also have meaning for those who weren’t.
Within the ITIL framework, the help desk entity is referred to as the service desk. A service desk differs from the traditional help desk in that it serves as a single point of contact between the client and the IT organization. In the higher education context, this implies a role that goes beyond that of resolving computer users' technical problems. For example, the service desk’s role also includes communicating with users about the IT organization through newsletters, Web pages, or blogs; cataloging and promoting all central IT services; and accepting and handling (or routing) users’ requests for assistance of all types.

As defined in the ITSM literature, the service desk operates as the interface between clients and central IT through five basic processes:

- incident management, in its traditional reactive role in dealing with clients' technology problems;
- configuration management, by verifying or recording information about the client’s IT resources;
- change management, by facilitating or troubleshooting IT environment changes;
- release management, by participating in the deployment of new or modified software and hardware; and
- service level management, by representing the central IT organization in matters relating to the service agreements it has made with the campus.

In framing our survey questions, we asked about two of these ITSM processes by name: change management and release management. We also asked specific questions about availability planning and capacity planning. Each of these four processes profoundly impacts help desk clients, yet the central IT organization sometimes conducts some or all without the help desk’s participation. We hypothesized that help desks in more mature IT organizations would be included in these four basic processes, and so we based our ITSM questions around them.

Finally, we asked a series of detailed questions about service level agreements to investigate the service level management process.

We did not use the term incident management in our survey. Instead, because this process is at the core of the traditional help desk’s responsibilities, we asked many detailed questions about the help desk’s processes for dealing with incident-related service requests. We omitted mention of configuration management as well, except to inquire about the help desk’s use of a configuration management database.

Despite our qualitative interview findings that formal ITSM implementations are not standard practice among higher education IT help desks, many of the results we present in the following chapters show that progress is being made. Most respondent institutions have implemented one or more ITIL-derived processes, and planning for others such as service level management is well under way.

Our respondents clearly take pride in the quality of their services and in their ability to meet their many diverse goals. They are aware of at least some of their shortcomings—in research computing, for example. Nevertheless, on the whole, they are concerned about rapidly growing demand for their services and feel somewhat constrained in their responses by the cultural contexts in which they must operate. In a field of shifting boundaries and at a time of constant change, the help desk is expected to be both stable and agile, and because it is the face of IT on campus, the stakes are high. If our findings suggest that the help desk is a somewhat conservative organization, we need only look to these stresses to see why.
Endnotes

4. When we began this study, the current version of ITIL was version 2. During the summer of 2007, version 3 was released, with many substantial changes. In this report all references to ITIL are to version 2.
Methodology and Respondent Demographics

This ECAR study used a multipart methodology to gather quantitative and qualitative data about our respondent institutions’ practices surrounding IT help desk management. We investigated the state of college and university help desk organizations, services, tools, resources, and management practices, and how these and assorted other measures relate to desirable help desk outcomes.

Research Approach

Our research proceeded along four major pathways: a literature review, a quantitative Web-based survey of IT leaders at higher education institutions among the EDUCAUSE member base, qualitative interviews with IT executives and other staff from selected institutions, and case studies.

The literature review helped identify and clarify issues, suggest hypotheses for testing, and provide supportive secondary evidence. Besides examining articles and studies from journalistic, academic, and IT practitioner sources, we relied heavily on IT service management standards and frameworks to develop study objectives and survey questions. Among these sources, we relied especially on the U.K. Office of Government Commerce’s Information Technology Infrastructure Library (ITIL) service delivery guidelines1 and the publications of the IT Service Management Forum.2,3 Also important was Barbara Czegel’s Running an Effective Help Desk.4

With input from CIOs and IT staff, the ECAR research team designed the Web-based survey for IT administrators. We sent invitations for the survey to 1,649 EDUCAUSE member institutions and received 454 responses (a 27.5 percent response rate). Appendix A lists respondents to this survey, which can be found at http://www.educause.edu/SurveyInstruments/1004.

ECAR used qualitative interviews to gain deeper insights into findings from the quantitative analysis and to capture ideas and viewpoints we might otherwise have missed. We interviewed 32 individuals involved in IT help desk concerns, including higher education CIOs, help desk managers, and others. (Appendix B lists the interviewees.) We conducted most interviews by telephone and several at the 2007 ECAR Symposium hosted by HP and EDUCAUSE. The event was held in Boulder, Colorado, in June 2007.

The case studies that accompany this report provide an in-depth look at several topics that emerged from the research as particularly interesting, including

- the challenges and rewards of two approaches to transforming campus perceptions of IT at Bowdoin College and Colgate University;

Grown-ups love figures.
—Antoine de Saint-Exupéry, Le Petit Prince
the deployment of a widely distributed IT support framework at the University of North Carolina at Chapel Hill;

- a help desk–centered methodology for developing client self-service applications at the University of Alberta; and

- the adoption of best practices in IT service support and delivery from the IT Infrastructure Library at New York University.

**Classification Schemes**

For purposes of comparison, we grouped institutions using categories derived from the 2000 edition of the Carnegie Classification of Institutions of Higher Education, developed by the Carnegie Foundation for the Advancement of Teaching. To obtain adequate numbers for statistical and descriptive purposes, we collapsed the Carnegie 2000 classifications as follows:

- Doctoral (DR) institutions group the doctoral-extensive and doctoral-intensive universities together.
- Master’s (MA) institutions group master’s colleges and universities I and II together.
- Baccalaureate (BA) institutions combine the three Carnegie 2000 baccalaureate groups.
- Associate’s (AA) institutions are the same as the Carnegie 2000 associate’s category.

In addition, for demographic purposes we report an “Other Carnegie” category that includes specialized institutions and U.S. higher education offices. Owing to the diversity and small size of this category, it does not figure in our detailed data analysis by Carnegie class. We also tracked Canadian institutions in a separate, single category.

In November 2005, the Carnegie Foundation for the Advancement of Teaching introduced a new classification scheme employing additional institutional characteristics. We have not provided a crosswalk to the new scheme, in large part because we suspect that our readers, at least in the near term, will be more familiar with the older 2000 taxonomy.

**Analysis and Reporting Conventions**

We adhered to the following conventions in analyzing the data and reporting the results:

- Some tables and figures presented in this study have fewer than 454 respondents and have been adjusted for missing information.
- Percentages in some charts and tables may not add up to 100.0 percent due to rounding.
- We analyzed the data for each online survey question for differences in response patterns among Carnegie classes, private and public institutions, and institutions of varying size. Institution size is determined by the number of full-time equivalent (FTE) enrollments. We also looked for associations between other combinations of variables as appropriate. We noted differences that were both meaningful and statistically significant in the text and/or the supporting figures and tables. Note that a statistically significant relationship between variables does not necessarily indicate a causal relationship.
- The Likert scales used in the online surveys are footnoted in the tables and figures showing results for these survey questions.

**Overview of Respondents**

We distributed the Help Desk Management Survey to the EDUCAUSE institutional representative at each member institution. In most cases, this was the CIO. Of the 454 respondents, 428 were from the United States or its territories and 26 were from Canada.
Figure 3-1 compares the distribution of CIO survey responses using the Carnegie class categories described above, alongside EDUCAUSE membership and overall population size in each category. The responding schools mirror the EDUCAUSE membership much more closely than the overall population by Carnegie class. Proportionately, we had the strongest participation from doctoral institutions (29.1 percent of respondents).

The median FTE student enrollment of our survey institutions was 4,278, while the mean, reflecting the weight of the largest responding institutions, was 7,804. Overall, however, smaller institutions made up the bulk of this survey’s respondent base. Figure 3-2 shows the distribution of respondents by student enrollment. Institutions of 4,000 or fewer students accounted for 46.0 percent of respondents, those of more than 15,000 accounted for 16.8 percent, and those in between made up 37.1 percent.

Among respondent institutions, 57.8 percent were publicly controlled and 42.2 percent were under private control. As Figure 3-3 illustrates, control was strongly associated with FTE enrollments, with control more commonly public as enrollments increased.

Our survey was completed mainly by respondents holding the position of CIO (51.3 percent of the total). Highest-ranking help desk administrators accounted for another quarter of the respondents, with other IT administrators and staff making up most of the remainder (see Figure 3-4). With, at most, 4.1 percent of respondents representing non-IT positions, we emphasize that the survey results reflect a CIO and IT management point of view.

Study Organization

The remainder of this report presents our findings and investigates the factors that we found to be associated with help desk success.

Chapter 4 examines the institutional context that shapes the help desk’s mission and goals. In Chapter 5, we look at the help desk itself, its organization, the services it...
offers, and its availability. Chapter 6 reports our findings on help desk funding and staffing, and the alignment of client expectations and help desk resources.

In Chapter 7, we examine the tools used by help desk staff as well as the tools the help desk makes available to its clients. Chapter 8 looks at the use of service level agreements (SLAs) by help desks, including current and planned status, constituencies, barriers to implementation, and management practices. In Chapter 9, we investigate
help desk goals, the factors driving and inhibiting those goals, the status of strategic planning for the help desk, and the central IT organization’s use of a set of formal IT service management practices.

Chapter 10 discusses the means by which help desks measure their effectiveness, assess user satisfaction, and communicate the help desk’s costs and value to various constituencies; we also report on the overall maturity level of help desk processes at respondent institutions. Chapter 11 considers a range of help desk–related outcomes and how they are associated with other variables from the survey. Chapter 12 concludes the study with a look at the future of the IT help desk in higher education as derived from survey responses, ECAR’s qualitative interviews with selected respondents, and insights from HDI, a prominent membership association for IT support service providers.

**Endnotes**

4

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 publicly 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.
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 infrastructure and services at the lowest cost. 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.

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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.
5
Methods of Implementing Help Desk Services

People seldom refuse help, if one offers it in the right way.
—A.C. Benson

Key Findings
- Most institutions provide all help desk services from a single central IT help desk.
- Most help desk managers report to the head of a central IT area, not the CIO.
- Help desk services are most frequently offered by telephone, e-mail, and in-person interaction either at the help desk location or at the user’s location. Interaction at the user’s location is significantly more common at smaller institutions.
- Outsourcing of help desk services is relatively rare, with just over 16 percent of respondents outsourcing any help desk services. Among those, a strong majority is outsourcing 25 percent of services or less.
- Over two-thirds of help desks are available more than standard campus business hours, including nearly 5 percent that are available 24 hours a day, seven days a week.

In this chapter, we report on the characteristics of our respondents’ central IT help desks. While details vary, in terms of mission and focus, they have much in common, as we will see. We asked about the number of help desks at each respondent institution and their organizational affiliations. For the help desk with which each respondent was most familiar, we asked for details about management reporting line, the services offered (and not offered), the status of outsourcing of help desk services, and the availability of those services along several dimensions.

Help Desk Organization
The term help desk means different things at different institutions. All of our respondent institutions recognized the term and were able to answer questions that assumed the existence of a discrete help desk entity. Not all institutions refer to the help desk by that name, though. At some institutions, the help desk is called the technology support center; at others it may be called the IT service desk. At some institutions, the help desk may be more a functional entity than an organizational one, and may not have a name of its own but rather be subsumed under a broader entity, such as customer service or user support.

As we saw in Chapter 4, 11.5 percent of respondent institutions have multiple central IT organizations. In some cases, each of these
organizations has its own help desk. Nearly half of respondent institutions have unit-specific (not central) IT organizations. Some of these IT organizations also have help desks of their own. Where there are multiple help desks, we assume there may also be different policies, practices, and priorities.

Rather than ask our respondents to attempt to aggregate information about all their campus help desks, we asked them to answer our survey questions from the perspective of that central IT help desk with which they were most familiar.

How Many Help Desks?
Just under three-quarters (73.6 percent) of our respondents reported having only central IT help desks and no unit-specific ones (see Figure 5-1). The remainder had at least one central and at least one unit-specific help desk. Because 11.5 percent of our respondents reported having more than one central IT organization, it follows that some respondents might also have more than one central IT help desk. We asked that question and found that almost 24 percent of all respondents have more than one (see Figure 5-2). That is almost twice the percentage that reported having more than one central IT organization. In general, we find that when a single central IT organization has multiple help desks, they differ from each other mainly in the constituencies they serve or the services they offer.

The number of central IT help desks varies significantly with FTE enrollment. While 83 percent of respondent institutions with enrollments of 4,000 or less have only one central IT help desk, three-quarters (75.3 percent) of those between 4,001 and 15,000 do. At institutions with more than 15,000 FTE enrollments, only two-thirds (66.2 percent) have a single help desk. We found no significant association between number of central IT help desks and Carnegie class.

Who’s in Charge?
We inquired about the reporting line of the central IT help desk manager and found that at the majority of respondent institutions (54.0 percent) the manager reports to the head of a central IT service area but not the CIO (see Figure 5-3). Those reporting directly to the CIO or equivalent make up another 3 in 10, while nearly all the remainder (17.3 percent) report to another IT supervisor or manager. At two respondent institutions

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**Figure 5-1.**
Presence of Central and Unit-Specific Help Desks
(N = 451)
the help desk manager reports to a non-IT manager, and at two others the help desk manager has yet a different reporting line.

The central IT help desk manager’s reporting line was significantly associated with FTE enrollment, as Figure 5-4 shows. It was nearly twice as common at smaller institutions for the help desk manager to report directly to the CIO (40.8 percent) as at medium-size institutions (21.6 percent), and almost four times as common as at large institutions (10.8 percent). Presumably this reflects flatter IT organizational structures at smaller institutions. As we will see in later chapters, though, several help desk service outcomes are also associated with FTE enrollments; the finding reported here hints that the help desk manager’s direct responsibilities to the CIO may influence some of those enrollment-related outcomes.

**Help Desk Services**

Not all central IT help desks provide the same services. To get an idea of the scope of services provided by the help desks our respondents were reporting on, we asked...
how frequently that help desk provided assistance with 12 common infrastructure and identity management elements and 11 common IT applications.

**What the Help Desk Does**

Nearly all respondent institutions’ central IT help desks offer their clients assistance with most of the items we asked about. Considering infrastructure/identity items, 72.5 percent of respondents said they offered assistance with all 12; 18.9 percent offer assistance with 11 of them. Considering application items, 63.9 percent of respondents said they offered assistance with all 11; 17 percent assist with 10 of them.

Figures 5-5 and 5-6 present detailed results. Note that the percentages in these charts are for respondent institutions that offer assistance with the infrastructure/identity element or application in question. When calculating these percentages, we excluded respondents who said their institutions did not offer assistance with an item. (We discuss these in the next section.)

Two identity management items, password changes and user account generation, top the list of infrastructure/identity assistance mean frequencies. Numerous institutions have automated both of these processes,7 but the findings here suggest they still consume substantial help desk resources. The third identity management service element we inquired about—username changes—was relatively less frequently provided. Also provided very often or often by majorities of our respondents are assistance with operating system software, central hardware, and the data network. These relatively high values are not unexpected, given the complexities of operating systems (and the security vulnerabilities of Microsoft Windows in particular), the users’ relative inability to self-help with central hardware issues, and the criticality of the data network to most IT applications.

Reported frequencies for voice network assistance top the lower half of our findings, perhaps reflecting that while the voice network is arguably as crucial as the data network, it is also usually less complex, more stable, and more familiar, thus requiring less help desk assistance. The slightly lower frequency of assistance with other university-owned hardware suggests that user-
owners of the current generation of desktop hardware, in particular, can self-help with considerable frequency.

Both security consultations and security incidents tend to be episodic phenomena, and so their relatively low assistance frequencies are not surprising. Relatively low frequencies of assistance with presentation technologies may reflect their more limited penetration or relative reliability, or both.

Providing assistance with personally owned hardware is a particularly difficult issue for public institutions, as we discuss below in “Choosing What Not to Do.” This may help explain the relatively low frequencies with which our respondents provide assistance for it.

Of all the applications we inquired about (Figure 5-6), electronic mail is the most frequently supported by our respondents’ central IT help desks. The percentage of “very often” and “often” responses exceeds those for any other application or infrastructure/identity element we asked about.

### Figure 5-5. Frequency of Help Desk Assistance with Identity/Infrastructure Elements

<table>
<thead>
<tr>
<th>Application</th>
<th>Very often</th>
<th>Often</th>
<th>Sometimes</th>
<th>Seldom</th>
<th>Almost never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Password changes (N = 448)</td>
<td>68.0%</td>
<td>23.2%</td>
<td>6.3%</td>
<td>0.7%</td>
<td></td>
</tr>
<tr>
<td>Account generation (N = 443)</td>
<td>54.9%</td>
<td>23.7%</td>
<td>12.9%</td>
<td>4.3%</td>
<td></td>
</tr>
<tr>
<td>Operating system software (N = 449)</td>
<td>45.4%</td>
<td>31.2%</td>
<td>18.7%</td>
<td>2.7%</td>
<td></td>
</tr>
<tr>
<td>Username changes (N = 441)</td>
<td>45.1%</td>
<td>22.9%</td>
<td>16.1%</td>
<td>6.3%</td>
<td></td>
</tr>
<tr>
<td>Data network (N = 448)</td>
<td>43.3%</td>
<td>32.8%</td>
<td>17.9%</td>
<td>4.5%</td>
<td></td>
</tr>
<tr>
<td>Central hardware (N = 445)</td>
<td>28.8%</td>
<td>26.3%</td>
<td>28.3%</td>
<td>8.3%</td>
<td></td>
</tr>
<tr>
<td>Voice network (N = 411)</td>
<td>25.8%</td>
<td>22.6%</td>
<td>20.9%</td>
<td>14.1%</td>
<td></td>
</tr>
<tr>
<td>Other university-owned hardware (N = 440)</td>
<td>23.0%</td>
<td>21.8%</td>
<td>34.1%</td>
<td>11.6%</td>
<td></td>
</tr>
<tr>
<td>Security incidents (N = 449)</td>
<td>21.4%</td>
<td>20.7%</td>
<td>29.8%</td>
<td>15.6%</td>
<td></td>
</tr>
<tr>
<td>Presentation technologies (N = 437)</td>
<td>20.1%</td>
<td>20.4%</td>
<td>25.4%</td>
<td>17.4%</td>
<td></td>
</tr>
<tr>
<td>Security consultation (N = 445)</td>
<td>18.0%</td>
<td>26.3%</td>
<td>35.7%</td>
<td>13.0%</td>
<td></td>
</tr>
<tr>
<td>Privately owned hardware (N = 385)</td>
<td>10.4%</td>
<td>15.6%</td>
<td>26.0%</td>
<td>23.4%</td>
<td></td>
</tr>
</tbody>
</table>

Percentage of Institutions

- Very often
- Often
- Sometimes
- Seldom
- Almost never
Three application types form a frequency cluster of “very often” and “often” responses totaling over 60 percent. These are personal productivity applications such as e-mail, Word and Excel; calendaring; and Web applications. Another cluster with equivalent frequencies above 50 percent includes campus instructional applications and staff and student use of the campus administrative system.

Of the remainder, assistance with library applications, applications hosted off campus, and research applications have frequencies of “very often” and “often” responses totaling less than 15 percent. Assistance with program-
Programming languages, with a “very often” and “often” frequency of 5.8 percent, is the least commonly provided of all our applications.

With the exception of library applications, all those on our list that are part of daily life for most faculty, staff, and students have mean frequencies of assistance well above “sometimes.” This suggests that library applications—presumably a part of daily life for most of the campus—are supported in some other way, such as through the library’s own help desk or reference desk.

**Choosing What Not to Do**

Substantial numbers of institutions reported offering no assistance with several infrastructure/identity items and applications. In all cases these are the support items for which Figures 5-5 and 5-6 report the lowest frequencies of assistance. Infrastructure elements for which more than 5 percent of respondents reported offering no assistance (Figure 5-7) included only privately owned hardware and the campus voice network.

Of our key demographic classes, only institutional control was meaningfully associated with provision of assistance for privately owned hardware. Two-thirds of the institutions that say they do not offer this type of assistance are under public control, a substantially greater portion than the 57.8 percent that public institutions represent in the overall survey population. A practice of not supporting privately owned hardware is more likely to be necessary in public institutions where state law and institutional policy may prohibit use of public resources for private benefit and where sensitivities to

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**Figure 5-7.** Infrastructure/Identity Elements for Which Help Desk Assistance Is Not Offered
competition with the private sector are likely to be stronger.

Institutions reporting that their help desks don’t offer assistance with the campus voice network had demographics that tracked very closely with the overall population demographics. Findings for this practice were not strongly associated with any of our other major data items.

Among application assistance items (Figure 5-8), more than 15 percent of institutions reported not providing assistance for three items: applications hosted off campus, research applications, and programming languages.

Among respondent institutions whose help desks offer no assistance with campus research applications, 90.7 percent are in the associate’s, bachelor’s, and master’s Carnegie classes. Doctorals make up just 9.3 percent of that group, though they make up 29.1 percent of our overall sample population. It comes as no surprise that the help desks at doctoral institutions at least sometimes assist with research applications.

Help desks that offer no assistance with programming languages are distributed uniformly across all our demographic classes.

**Where Help Is Provided**

The term help desk would seem to suggest a static, furniture-centric organization with a helper on one side and a recipient on the other. Even the IT Infrastructure Library framework fails to fully dispel this suggestion, and simply replaces help desk with the slightly broader-sounding service desk. In fact, as our data show, the artifacts most closely associated with the help desk are more likely to be a telephone and a computer screen than
a desk. Some institutions acknowledge this telecommunications focus by using the term help line, though that may be just as limiting as help desk.

Figure 5-9 presents the frequencies with which our respondents’ help desks use seven mechanisms for communicating with their clients. We refer to these as help desk service modes.

The most routinely used help desk service modes are telephone and e-mail. Most of our respondents also routinely use in-person interaction at the help desk location and in-person interaction at the user’s location. All of these are classical service modes, and it would be surprising if they were not in common use among our study population.

In sharp contrast are the three interactive electronic text communication modes we asked about: Internet-based text/instant messaging, chat room, and cell phone–based text/instant messaging, which fewer than 10 percent of our respondents routinely use. While a majority of respondents (56.8 percent) either use or plan to use Internet-based text/instant messaging to communicate with clients, majorities have no current plans to use chat rooms or cell phone–based text/instant messaging.

This finding is a bit surprising in light of the data from the 2007 ECAR study of student use of IT, in which 84.1 percent of student respondents say they use instant messaging with a median frequency of “daily.” At the University of Alberta, chat is a mainstay of the central IT help desk. AICT Helpdesk Analyst Brent Voyer reports excellent user satisfaction with the service: “When people call us on the telephone, they’re sometimes put on hold for long periods during busy times and don’t know when we will be able to get back to them. With chat, when people hit the IT center’s home page they see the chat option prominently displayed, along with a graphic representation of its status, which is quite a bit more encouraging than the telephone inter-

![Figure 5-9. Help Desk Service Modes](image_url)
face.” At Alberta, e-mail and chat account for about 73 percent of the academic help desk’s 22,000 annual client contacts.

Current severe limitations on cell phone–based text message length (160 seven-bit characters) may help explain our respondents’ lack of interest in that particular technology.

Few help desk service modes were strongly associated with our key demographic variables, but those that were provide interesting insights. As Figure 5-10 shows, in-person interaction at the user’s location varies significantly by FTE enrollment. (A similar and statistically even stronger association exists with Carnegie class.) Nearly two-thirds of smaller institutions routinely provide help desk services at the user’s location. The frequency drops somewhat among medium-size institutions and drops more dramatically—to just over a third—at the largest ones.

At all three FTE enrollment levels, about a quarter of respondents occasionally provide help desk services at the user’s location. At all three levels nearly no respondents report planning to offer help desk services at the user’s location in the future. Among respondents asserting that they have no plans to use that service mode, frequencies increase dramatically from the smallest institutions through the largest ones, more than doubling at each step.

This pattern of responses may reflect a progressively less personal service orientation at larger institutions, although many other explanations are also possible. For example, the data may simply suggest that the “house calls” service mode does not scale well, given per capita resource constraints at many larger institutions. Or the more extensive geographies of larger institutions and the cross-campus travel time they add to the resolution of users’ problems may make that service mode inefficient.

In the context of Carnegie class, the doctorals provide help desk services comparatively rarely at the user’s location and do not plan to evolve in that direction. At least 92 percent of institutions in each of the other classes either routinely or occasionally provide help desk services in this mode, compared with only 68.8 percent of doctorals.

![Figure 5-10. In-Person Interaction at User’s Location, by Student Enrollment (FTE)](image-url)
Support professionals at two very different institutions provide perspectives on this mode of support. Christine Murphy, systems planner at the University of Delaware (20,000 FTE), explains, “The central IT organization reaches out to the other related IT services providers in many different departments through its Campus IT Associate program, which places an IT staff member who has the technical expertise in the appropriate discipline in the various departments. The goal is to help the departments to be onboard with central IT.”

At Dartmouth College (5,600 FTE), Consulting Services Manager Ellen Young describes her institution’s personal support model in this way: “With our personal model, the faculty or staff member always deals with the same IT consultant. The IT consultants are assigned by department, and each IT consultant has multiple departments, depending upon the size of the departments. They are physically located in the department.... The IT consultant develops relationships with the department’s faculty/staff. He or she becomes an integral part of the department that he or she supports.”

Despite their differences in size and institutional control, these two institutions have found that “high touch” support methods help them deliver excellent help desk services.

Given the example set by many prominent retail merchants offering online chat as a high-tech customer service option, we were surprised that 6 in 10 of our higher education IT respondents expressed no plans to offer such services. Those results vary significantly with institution size. The breakdown in Figure 5-11 shows that institutions with fewer than 4,000 FTE enrollments are the least inclined to use chat rooms for help desk services. Within this group, slightly more than two-thirds report not planning to adopt that service mode, and only 10.8 percent now use it routinely or occasionally. By contrast, fewer than half of institutions with more than 15,000 FTE enrollments report not planning to use chat rooms for help desk services, and currently 27.4 percent—well over twice as many as at the smallest institutions—use it routinely or occasionally.

The findings in Figures 5-10 and 5-11 hint at a dichotomy between large and small institutions in which small institutions more frequently opt for a higher-touch mode of help desk service delivery while larger institutions somewhat more frequently opt for high-tech modes—not face-to-face at the user’s location, but still with a degree of interactivity. Of course, to keep these speculations in perspective, we must recognize that even the respondent institutions with the largest enrollments are more than four times as likely to provide help desk services at the user’s location as they are to provide them via chat.

**Outsourcing**

Not all central IT help desk services are provided in-house. Outsourcing may offer such advantages as extended hours of availability, standardization of service quality, and relief from management headaches such as dealing with staff turnover, coordinating staff training, and managing employees during late-night shifts. Our data, portrayed in Figure 5-12, indicate that outsourcing of central IT help desk services is still far from a pervasive phenomenon. Only 16.3 percent of respondent institutions are outsourcing any of their help desk services, and the bulk of those (12.6 percent overall) are outsourcing 25 percent or less of their services.

For the last four years, Colgate University has outsourced all its tier-one help desk support to Advantage Communications of Prince Edward Island, Canada. For institutions that are considering outsourcing, Colgate’s chief information technology officer, David Gregory, advises, “Outsource your nonstrategic services and focus your staff on what
is strategic to your institution…. I would be hard-pressed to imagine a strong argument as to why tier-one support would be considered strategic.” In higher education, Gregory explains, much of the resistance to outsourcing has to do with the academy’s sense that its IT support needs are different from those of the commercial sector. “But the bottom line is: We are not different,” he concludes. “We have the same PCs and Macs on our desktops as they do in industry. Where we are different is in how we put them to use. That’s why it’s important to get your on-campus support staff trained to assist faculty and staff with their discipline-
specific problems. Those are the strategic areas in higher education.”

At Bowdoin College, CIO Mitch Davis expresses concern along slightly different lines. “Outsourcing takes the empathy out of IT support,” he says. “The only way for the help desk to be successful is to be empathic. In an outsourced situation, you are getting answers, not solutions. An outsourced help desk lacks the ability to react and respond to a client’s needs in the institutional context.”

Arguments for and against outsourcing are discussed further in the case study Bowdoin College and Colgate University: Using the Help Desk Strategically to Revitalize the IT Organization, which accompanies this report.

**Help Desk Availability**

To help us understand more about the role of the help desks our respondents were reporting on, we asked when the help desk was available and whether there were constraints on the populations the help desk served. We found that for the most part, respondent institutions’ help desks were available beyond standard campus business hours and that services did not vary on the basis of the client’s university class (faculty, staff, or student) or departmental affiliation.

**Availability in Time**

We asked on which of the following general schedules the help desk was available to its clients:
- less than standard campus business hours,
- standard campus business hours only,
- more than standard campus business hours but less than 24 x 7,
- 24 x 7.

Responses appear in Figure 5-13. Very few of our respondents’ help desks are available less than standard campus business hours. Somewhat fewer than a third are available during standard campus business hours only. The majority of respondent institutions make their central IT help desks available more than standard campus business hours but less than 24 hours a day, seven days a week. Those that have made their help desks available on a 24 x 7 basis are few: only 4.9 percent of our sample.

Availability varies significantly by both FTE enrollment and Carnegie class as well as by help desk budget and staffing levels, which we discuss later in this chapter. Because the general data pattern is the same for all these variables, Figure 5-14 portrays only the data for enrollment.

In only two categories do we find respondent institutions with central IT help desk availability of less than standard campus business hours—those with 2,000 or fewer FTE enrollments and those with 8,001 to 15,000. Availability limited to standard campus business hours declines across the chart, from 44.6 percent for the smallest institutions to only 17.6 percent for the largest ones. Percentages increase most of the way across the chart for help desks whose availability is more than standard campus business hours but less than 24 x 7, from 51.5 percent for the smallest institutions to 72.7 percent for institutions between 8,001 and 15,000 FTE enrollments. For institutions with enrollments greater than 15,000, the percentage of respondents whose help desks are available more than standard campus business hours but less than 24 x 7 is lower than for the next-smaller enrollment category, but it is here that we see the bulk of responses for 24 x 7 availability, reaching 13.5 percent among these largest institutions, a factor of almost four greater than in any other category.

Again, the pattern is similar for Carnegie class, where doctoral institutions most frequently have 24 x 7 help desk access. Understandably, institutions with the largest client bases, budgets, and help desk staffs also are the most likely to report 24 x 7 access. The degree of outsourcing of help desk services is also significantly associated with availability, with 5 of the 12 institutions (41.7 percent) that
outsource three-quarters or more of their help desk services reporting 24 x 7 availability.

Indiana University has offered 24 x 7 support for more than five years, according to Sue Workman, associate vice president for support. “When the Indianapolis and Bloomington IT support organizations merged, we found that the level of service we offered at that time didn’t match the need. Indianapolis classes are often taught at night, and IT support is needed then. Also, when the Information Commons opened its 24 x 7 operation in the Bloomington campus Library, we took on support responsibility for the 300 workstations there. It is really busy until 3:00 a.m.” Workman’s advice to institutions
considering moving to a 24 x 7 operation is, "Just do it. It really did shock me how many calls we got after 9:00 p.m."

**Availability by Client Type**

We asked if support from the central IT help desk varied according to the user’s class (faculty, staff, student). For almost two-thirds (64.3 percent) of respondents’ help desks it does not. This finding was not significantly associated with any of our standard demographics.

When asked if support varied according to the client’s departmental affiliation (such as administrative, instructional, or research), fully 85 percent reported that it did not. A significant association exists between this finding and Carnegie class, as illustrated in Figure 5-15. At just over a quarter of doctorals, support does vary by the client’s departmental affiliation. This is more than twice the frequency at master’s and associate’s institutions, and almost four times the frequency at bachelor’s institutions. Thus it appears that greater complexity of academic programs may influence institutions to deploy more specialized help desks.

**Summary and Implications**

IT help desk distribution resembles that of IT organizations. About three-quarters of our respondents have only central IT help desks; the rest also have one or more unit-specific help desks. Three-quarters of institutions have only one central IT help desk; most of the remainder have two. Only one institution in 10 has more than two central IT help desks.

The reporting line for the help desk manager varies by institution size. At the smallest institutions, 4 in 10 help desk managers report directly to the CIO, while only 1 in 10 does at the largest institutions.

Most help desks provide a range of infrastructure and application assistance. The top infrastructure/identity management services our respondents’ help desks offered are password changes, user account generation, operating software assistance, and help with the campus data network. Services provided

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**Figure 5-15.** Variability of Support Based on Departmental Affiliation, by Carnegie Class
least often include assistance with personally owned hardware and with the campus voice network. The top applications that our respondents’ help desks support are e-mail, personal productivity tools such as Word and Excel, and calendaring. Least often supported are applications hosted off campus, research applications, and programming languages.

Help desk services are most frequently offered by telephone, e-mail, and in-person interaction at either the help desk location or the user’s location. Less used service modes are instant messaging, chat, and text messaging. The most popular modes involve more traditional means of communication, two electronically mediated and two not. The least popular modes are less traditional, at least among our respondents, most of whom we assume are a generation older than the students they serve. The service mode of in-person interaction at the user’s location is most common at smaller institutions, perhaps reflecting a more personal approach to service in smaller academic communities as well as a geographical layout that makes “house calls” efficient. For similar reasons, perhaps, online chat is used most frequently at the largest institutions and is being implemented or is planned most frequently at midsize institutions.

Outsourcing of help desk services is relatively rare among our respondents, with just over 16 percent of respondents outsourcing any help desk services; a strong majority of those outsource 25 percent or less of their services.

More than two-thirds of our respondents’ help desks are available more than standard campus business hours, including nearly 5 percent that are available 24 hours a day, seven days a week. Most of the latter are at institutions with more than 15,000 FTE enrollments. It is usually the smaller institutions whose help desks operate only during regular business hours.

Help desks at respondent doctoral institutions are more than twice as likely as those at other Carnegie classes to provide different levels of service based on the client’s departmental affiliation. This may reflect the presence of alternative means of support at these academically complex institutions—unit-specific IT organizations, for example.

### Endnotes


Funding and Staffing the Central IT Help Desk

Money may kindle, but it cannot by itself, or for very long, burn.
—Igor Stravinsky

Key Findings

- At most institutions the central IT budget is a major source of help desk funding. Student technology fees, recharges to other campus units, and fees for services were rarely cited as major or moderate sources of funding.
- More than half of respondents said their help desk funding was inadequate.
- At smaller institutions the mean number of help desk staff is about 7; at institutions with between 4,001 and 15,000 FTE students the mean is about 10; and at larger institutions it is nearly 18.
- At smaller institutions the mean number of FTE students per help desk staff member is about 630, at midsize institutions it is about 1,600, and at large institutions it is nearly 2,300.
- The better our respondents felt about the adequacy of the help desk budget, the more likely they were to feel that campus expectations of the help desk were aligned with help desk resources.

Financial and human resources are key elements in nearly any support endeavor. We asked our respondents for information about their help desks’ budgets—past, present, and future—and current staffing levels. While those data contained few surprises, we received less predictable responses to our questions about the perceived adequacy of help desk funding, the number of help desk staff relative to enrollments, and the alignment of campus expectations of the help desk with its resources.

Help Desk Funding

Obviously, the financial resources available to the help desk can make a difference in that organization’s service level. Help desk funding compensates staff and pays for their training. It purchases service tools for their use and self-service tools for clients. Funding (or lack of it) can affect working conditions, staff morale, and staff and customer attitudes. While money can’t compensate for poor leadership, even good leadership can find it difficult to thrive when funds are wanting.
Still, as the quotation that opens this chapter points out, money isn’t everything. Mitch Davis, CIO at Bowdoin College, offers this observation: “When I came here, IT was 9 percent of the total college budget and everyone was dissatisfied with IT services. Today we are spending 5.2 percent of the college budget and about 96 percent of staff and faculty think we are doing a good job. So it’s really not about money; as I see it, it’s about communications.”

Funding Sources

For almost two-thirds of our respondents (63.7 percent), funding for the central IT help desk is under 10 percent of the central IT budget, with nearly 4 in 10 receiving 5 percent or less (see Figure 6-1). Most of the remainder receive between 11 and 25 percent of the central IT budget, while scarcely more than a handful (6.7 percent) receive more than 25 percent.

More than 9 in 10 (92.7 percent) of our respondents cited the central IT budget as a major source of help desk funding. Only 3.8 percent said it was a moderate source, while 2.2 percent said it was a minor source. Overall, 83.0 percent of respondents said they had only one major source of funding; of these, 95.5 percent named the central IT budget.

Figure 6-2 depicts other sources cited as contributing to the help desk budget. Of these, only a student technology/computing fee was cited as a major source by more than 10 percent of respondents; 9.6 percent cited it as a moderate source. None of the other sources we asked about was reported as a major or moderate source by more than 4 percent of our respondents.
Funding Adequacy

Our respondents were more often negative than positive about the adequacy of funding for the central IT help desk, though not dramatically so. As Figure 6-3 shows, 44.3 percent described funding as adequate to much more than adequate. Another 45 percent said it was less than adequate, and 10.7 percent said help desk funding was much less than adequate. The overall mean response was 2.37 on a scale from 1 to 5 (standard deviation 0.722), not quite halfway between less than adequate and adequate.

Our respondents’ sense of the adequacy of the help desk budget is significantly associated with the budget climate they reported for their central IT organizations in the past three years. As Table 6-1 illustrates, mean agreement that help desk funding is adequate increases slightly from decreasing budget climates through increasing ones. While all these means are between “less than adequate” and “adequate,” only the mean for institutions with increasing budgets rises past the halfway point.

Looking specifically at the past three years’ change in the central IT help desk budget, we find the range of responses depicted in Figure 6-4. Of those who responded, 55.7 percent reported increases in the help desk budget, while only 11.8 percent reported decreases; 23.7 percent reported no change, and a substantial 8.9 percent said they did not know.

We also asked what budget changes our respondents foresaw for the next three years, and Figure 6-4 shows the answers to this question as well. Again, the majority (59.1 percent) spoke of increases, although anticipated future increases were generally smaller than those reported for the past three years. Fewer respondents anticipated any level of decrease (5.5 percent) and no change (22.1 percent) than respondents reporting in those categories about the past three years. As we expect with questions about funding and the future, a large number of respondents to this question (13.3 percent) answered “don’t know.”
Figure 6-3. Adequacy of Central IT Help Desk Funding (N = 440)

Table 6-1. Mean Agreement That Help Desk Funding Is Adequate, by Central IT Budget Climate

<table>
<thead>
<tr>
<th>Budget Climate</th>
<th>N</th>
<th>Mean*</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decreasing budgets</td>
<td>77</td>
<td>2.14</td>
<td>0.663</td>
</tr>
<tr>
<td>Flat budgets</td>
<td>204</td>
<td>2.30</td>
<td>0.740</td>
</tr>
<tr>
<td>Increasing budgets</td>
<td>157</td>
<td>2.57</td>
<td>0.672</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>438</td>
<td>2.37</td>
<td>0.720</td>
</tr>
</tbody>
</table>

*Scale: 1 = much less than adequate, 2 = less than adequate, 3 = adequate, 4 = more than adequate, 5 = much more than adequate

Figure 6-4. Central IT Help Desk Budget Changes, Past and Future (N = 452)
Help Desk Staffing

Staffing is a critical resource for the help desk, potentially affecting the quality of service provided to clients as well as the workload and morale of the help desk staff themselves. We asked respondents to tell us how many full-time equivalent positions, including students, were assigned to the help desk.

Staffing levels at our respondent institutions varied from less than one full-time equivalent employee (two respondents) to more than 100 (four respondents). Despite this wide variation, the majority of help desks in our sample (51.0 percent) had five staff or fewer (see Figure 6-5). A quarter more had from 6 to 10 FTEs, and most of the remainder had from 11 to 30 FTEs. Among respondents reporting between 1 and 100 help desk staff members, the mean was 8.15 (N = 441, standard deviation 8.21). The median was 6, reflecting the preponderance of institutions with numbers lower than the mean.

Help desk staffing is associated with several other institutional characteristics. (Note that Tables 6-2, 6-3, and 6-4 below exclude institutions classified as “Systems.”) Understandably, greater FTE enrollments are associated with larger mean numbers of help desk staff. As Table 6-2 shows, institutions with 4,000 or fewer mean help desk staffing level of about seven FTE. Midsize institutions had a mean of just over 10. At the largest category of institutions, the mean was almost 18.

Carnegie class shows a similar trend (see Table 6-3). Doctorals had a mean of almost 16 FTE, followed by master’s and associate’s institutions with means of 8.50 and 8.25, respectively, while bachelor’s institutions had a mean of 6.13 FTE help desk staff. These two tables, then, clearly show that larger institutions and those with more complex academic programs require more staff to provide help desk services.

Figure 6-5.
Number of Help Desk Staff in Full-Time Equivalents (N = 447)
Among respondents reporting between 1 and 100 help desk staff members, the mean number of FTE students served per FTE help desk staff member was 1,263.95 (N = 426, standard deviation 1474.303) and the median was 861.29, again reflecting a preponderance of institutions with numbers lower than the mean.

The mean number of students served per FTE help desk staff member was significantly associated with all three of our key demographic variables; Table 6-4 presents the details.

In general, the larger the institution, the higher the ratio of students to help desk staff. Midsize institutions serve more than twice as many students per staff member as small ones, and large institutions serve 3.6 times as many. With regard to Carnegie class, bachelor’s institutions have the most favorable student-to-staff ratio; master’s institutions more than double it, and associate’s and doctoral institutions more than triple it. At privately controlled institutions, the mean ratio is less than half that at public institutions.

The ratio of students to help desk staff members is not, in all cases, the same as the ratio of potential clients to help desk staff. As we learned in Chapter 5, at about a third of our respondent institutions, help desk support varies depending on the client’s class (faculty, student, or staff) within the institution; thus many of our respondents’ help desks may not serve students at all. Nevertheless, we think the student-to-staff ratio is at least suggestive of the amount of support help desk clients can expect, on average, relative to the demographics discussed here.

**Alignment of Expectations with Resources**

We find a window into the quality of communication between central IT and the campus in the extent to which campus expectations of the central IT help desk align with the help desk’s resources. Figure 6-6 illustrates the responses to that survey question.

The distribution of responses is bimodal, with peaks at “disagree” and “agree.” Strong disagreement and strong agreement were both uncommon answers, and neutral responses made up a relatively low 22.8 percent of the total. While agreeing responses exceed disagreeing ones slightly (40.3 percent to 36.9 percent), the separation of the two peaks hints at well-developed opinions on either side of neutral.

<table>
<thead>
<tr>
<th>Institution Size (FTE)</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–4,000</td>
<td>198</td>
<td>6.97</td>
<td>10.589</td>
</tr>
<tr>
<td>4,001–15,000</td>
<td>161</td>
<td>10.06</td>
<td>11.904</td>
</tr>
<tr>
<td>More than 15,000</td>
<td>73</td>
<td>17.81</td>
<td>13.153</td>
</tr>
<tr>
<td>Total</td>
<td>432</td>
<td>9.95</td>
<td>12.136</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Carnegie Class</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>DR</td>
<td>109</td>
<td>15.87</td>
<td>14.240</td>
</tr>
<tr>
<td>MA</td>
<td>119</td>
<td>8.50</td>
<td>9.954</td>
</tr>
<tr>
<td>BA</td>
<td>85</td>
<td>6.13</td>
<td>4.413</td>
</tr>
<tr>
<td>AA</td>
<td>63</td>
<td>8.25</td>
<td>17.301</td>
</tr>
<tr>
<td>Total</td>
<td>376</td>
<td>10.06</td>
<td>12.573</td>
</tr>
</tbody>
</table>
Table 6-4. Student Enrollment (FTE) per Help Desk Staff Member, by Demographics

<table>
<thead>
<tr>
<th>Institution Size (FTE)</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–4,000</td>
<td>194</td>
<td>628.07</td>
<td>565.191</td>
</tr>
<tr>
<td>4,001–15,000</td>
<td>159</td>
<td>1,571.22</td>
<td>1,418.754</td>
</tr>
<tr>
<td>More than 15,000</td>
<td>73</td>
<td>2,284.59</td>
<td>2,280.909</td>
</tr>
<tr>
<td>Total</td>
<td>426</td>
<td>1,263.95</td>
<td>1,474.303</td>
</tr>
</tbody>
</table>

Carnegie Class

<table>
<thead>
<tr>
<th>Carnegie Class</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>DR</td>
<td>108</td>
<td>1,789.96</td>
<td>1,998.358</td>
</tr>
<tr>
<td>MA</td>
<td>118</td>
<td>1,184.52</td>
<td>1,120.478</td>
</tr>
<tr>
<td>BA</td>
<td>85</td>
<td>535.04</td>
<td>461.277</td>
</tr>
<tr>
<td>AA</td>
<td>59</td>
<td>1,779.57</td>
<td>1,703.618</td>
</tr>
<tr>
<td>Total</td>
<td>370</td>
<td>1,306.93</td>
<td>1,518.794</td>
</tr>
</tbody>
</table>

Control

<table>
<thead>
<tr>
<th>Control</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private</td>
<td>180</td>
<td>756.07</td>
<td>981.601</td>
</tr>
<tr>
<td>Public</td>
<td>232</td>
<td>1,634.99</td>
<td>1,662.355</td>
</tr>
<tr>
<td>Total</td>
<td>412</td>
<td>1,250.99</td>
<td>1,470.823</td>
</tr>
</tbody>
</table>

Agreement that campus expectations are aligned with help desk resources is significantly associated with our respondents’ feelings about help desk funding adequacy. As Table 6-5 shows, the mean reported adequacy of funding steadily rises as agreement about alignment increases. The difference between the low and high mean-adequacy values is eight-tenths of a point on our five-point scale; the values range from slightly below “less than adequate,” among those who strongly disagreed that expectations and resources are aligned, to a quarter of a point below “adequate” among those who strongly agreed. Thus it appears that—quite reasonably—the better our respondents felt about their budgets, the more likely they were to feel they were meeting campus expectations.

**Summary and Implications**

Most of our respondents’ help desks depend on the central IT budget for their funding. Relatively few consider recharges to other campus units, student technology fees, or fees for services to be major or moderate sources of funding. While the central IT budget and recharges are usually under purely political control and thus can be tricky to increase, technology fees and fees for services are both tied to aspects of demand—the number of students in the first case and the amount of service provided in the other—and therefore might seem more attractive bases for the help desk budget. The fact that so few institutions use them suggests that IT help desk services are generally viewed as a “common good” item and institutions are reluctant to allow financial considerations to come between the clients and the assistance they need.

Not surprisingly, in the rapidly expanding and evolving area of IT, it is difficult to provide “on a fixed income” all the services the client community needs. In fact, more than half of our respondents told us their funding is inadequate. Nor should we be surprised that adequate budgets were reported least commonly among institutions where the overall climate was one of decreasing budgets.

Like the U.S. Marines, help desk staff may be entitled to think of themselves as “The
Few. The Proud.” Among our respondents, more than three-quarters of help desks have 10 employees or fewer, though most serve institutions with thousands of potential clients. While the mean number of help desk staff increases with institution size, it does not keep pace. In general, the larger the institution, the more potential clients each help desk staff member faces.

Respondents split into two camps on whether campus expectations of the help desk were aligned with help desk resources; fewer than a quarter of respondents were neutral on the topic. Not surprisingly, those who felt more strongly that help desk funding was adequate were more likely to agree that campus expectations of the help desk were aligned with resources the help desk could draw upon.

Table 6-5. Adequacy of Help Desk Funding, by Agreement That Campus Expectations and Help Desk Resources Are Aligned

<table>
<thead>
<tr>
<th>Agreement That Expectations and Resources Are Aligned</th>
<th>N</th>
<th>Mean*</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>30</td>
<td>1.93</td>
<td>0.785</td>
</tr>
<tr>
<td>Disagree</td>
<td>130</td>
<td>2.21</td>
<td>0.655</td>
</tr>
<tr>
<td>Neutral</td>
<td>98</td>
<td>2.31</td>
<td>0.805</td>
</tr>
<tr>
<td>Agree</td>
<td>155</td>
<td>2.56</td>
<td>0.635</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>21</td>
<td>2.76</td>
<td>0.436</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>434</td>
<td>2.36</td>
<td>0.714</td>
</tr>
</tbody>
</table>

*Scale: 1 = much less than adequate, 2 = less than adequate, 3 = adequate, 4 = more than adequate, 5 = much more than adequate
Help Desk Tools

Our Age of Anxiety is, in great part, the result of trying to do today’s jobs with yesterday’s tools.
—Marshall McLuhan

Key Findings

- Help desk automation features are common and are usually part of a commercial integrated help desk automation system.
- Online tools for help desk staff members to use in assisting clients are less common, though implementations are under way and others are widely planned.
- Web access to online help documents is common, but few help desks offer access to a knowledge base or automated trouble-ticket tracking system.
- While intelligent “learning and adapting” frequently asked questions (FAQ) systems are very uncommon, their growth rate seems high.
- Only about 35 percent of respondents say their institutions use self-service tools effectively to reduce demand for help desk services. Up to a point, the more such tools they deploy, the more successful respondents feel they are.

We saw in Chapter 5 that a help desk is much more than a piece of furniture. Our respondents use telephones and e-mail most frequently as tools to provide help desk services, but they supplement those with a variety of other technology-based tools. In this chapter we look at the tools help desks use internally as well as those they make available to their clients for self-service.

The Automated Help Desk

Higher education has adopted information technologies to enhance teaching and learning, research, and administration, and those technologies become more pervasive every year. Similarly, higher education help desks have adopted IT-based tools to manage their own operations and to better serve their clients. Sometimes these tools stand alone, and sometimes they are bundled into integrated help desk automation systems. While most integrated systems our respondents use are vendor supplied, both open source and homegrown systems appear to have a place.

Automation of Help Desk Functions

Majorities of our respondents reported that they had fully implemented the automa-
tion of each of the five help desk functions we inquired about:
- call logging,
- call routing,
- call escalation,
- call database, and
- query and reporting tools for the call database.

Figure 7-1 shows the implementation status of each.

While nearly three-quarters of respondents reported having fully implemented a call database, 8 in 10 responding that way said they had fully implemented corresponding database query and reporting tools. Presumably the remainder use more primitive methods for extracting information from their call databases. Our respondents reveal good intentions, however, because only 3.6 percent of our survey population had “not planned” call database query and reporting tools, the lowest percentage for any of the help desk functions we asked about.

Automation of call logging and routing was also common. Call escalation was the least frequently automated of the functions we asked about. However, as with call routing, more than 85 percent of respondents were at least planning to automate it.

Almost a third of respondents (32.8 percent) had automated all five of the functions we asked about. Fewer than a fifth (18.7 percent) had automated none.

For more than two-thirds of respondents (69.1 percent), these automated help desk functions were part of an integrated help desk system. Such systems help overcome some of the difficulties that can arise in making disparate tools—even best-of-breed tools—do what’s needed. As Samuel Levy, vice president and CIO at the University of St. Thomas, puts it, “We have several good tools (ticketing system, request for services, inventory database, and event resource scheduler) that aren’t as integrated as we would like. That means that our data are located in several different tools, so the process for reporting on those data is complex and we have several different tools to enter requests into. Integration (or replacement) of those tools through a broader customer relationship management strategy will be our next step.”

Among our online survey respondents, we found that in general the more automated
features an institution had adopted, the more likely it was that those features were part of an automated system. We speculate that this is because the features we asked about are commonly bundled into integrated commercial help desk systems.

When asked what their approach to implementing an integrated system for help desk automation had been or would be, a strong majority of respondents said they used or would use a commercial vendor software product (see Figure 7-2). Comparatively few selected the “open source,” “homegrown software,” or “other” responses. Another 15.8 percent had not yet determined which approach to use, and about half that many said they had no plans to implement an automated system.

These findings suggest that most respondent institutions are willing to accept whatever constraints come with commercial systems rather than implement and maintain potentially more flexible homegrown or open source systems.

Help Desk Staff Tools
The automation tools discussed above are generally for help desk staff and management usage, and most are related to help desk administration rather than to the information and other services the help desk provides. We also asked about the content-oriented tools that help desk staff use. While none approached ubiquity, most help desks were at least planning to implement additional tools for help desk staff usage.

Figure 7-2. Current or Planned Approach to Implementing an Integrated Help Desk Automation System (N = 449)

We asked about a range of tools that the central IT help desk staff might use in assisting their clients, including

- a Web site for staff access to help documents;
- tools for remote access to users’ devices (these are perhaps more correctly known as remote control tools, but remote access was the phrase used in our question);
- a single online status monitor for multiple systems;
- online status monitors for individual systems;
- a knowledge base or expert system; and
- a large-screen video command center integrating system status monitors with related help desk resources.

As Figure 7-3 shows, only the first two of these tools had been fully implemented by as many as half of our respondents.
Implementations of a Web site for help documents were in progress at 3 in 10 respondent institutions and were planned for an additional 11.7 percent, leaving very few respondents not planning to implement this tool. By comparison, the pattern for remote access tools is lagging a little, with only 2 in 10 reporting implementations in progress, a similar number planning them for the future, and 11.5 percent not planning to implement such tools.

Responses were fairly uniform for individual and multiple online system status monitors. In each case, about a quarter of respondents had systems fully implemented, between 15 and 20 percent had implementations in progress, about a quarter were planning them for the future, and around 30 percent were not planning them.

A knowledge base or expert system was in place at slightly fewer than a quarter of respondent institutions but was under way at about a third. Another near-third had future plans for such systems. Only 13.8 percent of respondents did not plan to implement a knowledge base or expert system.

The large-screen video command center is the rarest of these tools, being in place at only 5.3 percent of respondent institutions. Even fewer of our respondents had implementations under way, although 2 in 10 said they were planning them for the future. At Berry College, in Mt. Berry, Georgia, CIO Timothy Farnham has installed such a command center. “The idea is for the help desk people to know about network problems, for example, as soon as the network people do, so they can respond to callers’ questions intelligently.”

At the University of Delaware, where Frank Eastman is campus IT associate II, the classroom technology support group uses an integrated command center to oversee the technology components of 150 centrally managed classrooms. “We discovered that in the first one or two semesters this system was operational, we were able to respond to and resolve 50 percent of support calls from these classrooms immediately,” said Eastman.

If the implementations in progress and the planned future implementations are successful, they will represent nearly a fivefold...
increase over the present level of implementation of video command centers. Nevertheless, 70 percent of our respondents had no plans to implement this powerful but expensive help desk staff tool.

As Table 7-1 shows, about a quarter of our respondents had implemented none of the help desk staff tools we asked about. Another quarter had implemented one, and yet another near-quarter had implemented two. Percentages decreased dramatically for full implementations of larger numbers of tools. Only one respondent institution had implemented all six.

In all, 70.5 percent of respondent institutions are using two or fewer of the help desk staff tools we asked about. The mean for the entire survey population is 1.78 tools out of 6 (standard deviation 1.443), or about 30 percent. Assuming our list of tools has genuine relevance to help desk service delivery, this finding suggests that the average help desk is underequipped.

**Client Support Tools**

Many help desks provide a variety of online tools and resources for their clients to use to resolve their own IT-related problems. Self-help tools can effectively extend the help desk’s hours of availability, allowing clients to get answers to their questions when the help desk is not staffed. Even during the help desk’s normal operating hours, the availability of self-service resources can reduce demand for direct interaction with the help desk staff while keeping service availability and quality high.

**Help Desk User Tools**

To round out our survey of help desk tools, we asked about four online tools that help desks sometimes provide:

- a Web site for user access to help documents,
- a Web site for user tracking of trouble tickets or incident status,
- a Web site for user access to a knowledge base, and
- an intelligent “learning and adapting” FAQ system such as RightNow Service.

Substantially the most commonly reported of the user tools we asked about was a Web site for access to help documents (see Figure 7-4). More than half of respondents had fully implemented one and another quarter had implementations in progress. Of the remainder, only 3.5 percent had no plans to implement such a tool.

Just over a third of respondents had implemented Web sites on which users can track the status of their help desk calls; another 2 in 10 had such implementations under way. Nearly a third planned such Web sites for the future, while 14.2 percent had no plans to implement them. Web-based incident tracking is a common feature of integrated help desk automation systems; with almost 70 percent of respondent institutions now using integrated systems, we expect this feature to become more common in the future.

Slightly fewer than one-quarter of respondents had implemented Web sites for client access to knowledge bases. While a similar

<table>
<thead>
<tr>
<th>Tools Fully Implemented</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>22.7%</td>
</tr>
<tr>
<td>One</td>
<td>24.9%</td>
</tr>
<tr>
<td>Two</td>
<td>22.9%</td>
</tr>
<tr>
<td>Three</td>
<td>15.6%</td>
</tr>
<tr>
<td>Four</td>
<td>9.0%</td>
</tr>
<tr>
<td>Five</td>
<td>4.6%</td>
</tr>
<tr>
<td>Six</td>
<td>0.2%</td>
</tr>
</tbody>
</table>
number reported having implemented a Web site for help desk staff access to a knowledge base—suggesting that a single knowledge base does double duty—the overlap between these two populations was only 58.4 percent, indicating that knowledge bases tailored to one population or the other were fairly common.

Comments from Perry Hanson, vice president and vice provost for libraries and information technology at Brandeis University, help explain the relatively low implementation rate for knowledge bases, especially at smaller institutions. “Our IT organization keeps talking about the potential of knowledge bases…. I have not seen that people actually use them. In my experience, people prefer a human being to answer their phone call on the first ring. Usually the person is calling because they’re anxious. There is a whole ‘care and feeding’ element that is part of a help desk operation.”

At Indiana University, where the central IT help desk serves about 40 times the roughly 2,000 clients served at Brandeis, the experience with knowledge bases is quite different. There, Dennis Gillespie, support center manager, sees the knowledge base as the most important online tool available to his clients. “It has a lot of buy-in from the institution,” he states. “There are 13,000-plus documents in the Knowledge Base for anyone in the world to review. We have approximately 30 million hits a year, and as many as 25 percent of them are from non-IU sources.”

Few respondents reported fully implemented, intelligent FAQ Web sites, and a majority had no plans for them. Okanagan College in British Columbia has implemented the EdQA product from CustomFAQs. When asked if the product had met expectations, Dave Harris, director of IT services, replied with a strong affirmative. “EdQA has brought us both cost savings and service improvements without a doubt. It has a service request component that we really value. We’re using the product not just for IT, but to provide online FAQs and service request capability for other departments.”
While current adoptions of this technology are low, the relative percentages of in-progress and planned implementations suggest its growing popularity. If all in-progress implementations are successful and all planned ones are carried to fruition, it will result in a fivefold increase in this technology’s higher education market penetration.

About two-thirds (65.9 percent) of respondents have implemented none or only one of the help desk user tools we asked about. The average number implemented is 1.20 (standard deviation 1.111) of 4, or 30.0 percent, which is nearly the same as that for help desk staff tools reported above and similarly suggests that the average help desk may be underproviding tools for its users.

**Self-Service Tools**

While we didn’t refer specifically to the four help desk user tools discussed above as examples, we did ask in an adjacent survey question for respondents’ level of agreement with the statement that their institutions effectively employ user self-service features to reduce central IT help desk demand. Respondents were more likely to disagree at some level (total of 43.8 percent) than to agree (total of 34.0 percent). As Figure 7-5 shows, strong disagreement outweighed strong agreement by more than a factor of two. Straight disagreement and agreement were more evenly matched. At less than a quarter of responses, neutral ones made up the remainder. This bimodal distribution of responses hints at well-developed opinions on either side of neutral.

Self-service tools are one mechanism for disintermediation—“cutting out the middleman”—in IT services. Disintermediation has been cited since at least 1996 as a key trend in higher education IT. If responses to our question about self-service tools accurately depict the state of disintermediation in IT help desk services, and if disintermediation is a good thing, it appears that higher education IT help desks are not doing enough of it.

As a counterargument, though, the term reintermediation has recently crept into the higher education IT vocabulary, describing a return from a technology-mediated emphasis on productivity, efficiency, and cost savings to a human-mediated emphasis on...
on user-friendliness, service quality, and convenience. As Timothy Farnham puts it, “As you do more things online, you get further from the user. So your PR and your goodwill tend to dry up. People love the attention and little personal extras they get from a personal call. We’ve got to be careful that we don’t lose that.”

Agreement that the help desk uses self-service tools effectively to reduce service demand is significantly associated with the number of help desk user tools the respondent’s help desk has implemented. As Table 7-2 indicates, respondents implementing no help desk user tools had a mean level of agreement not quite halfway between “disagree” and “neutral.” Mean agreement increased as the number of help desk user tools increased, to a peak halfway between “neutral” and “agree” at three tools implemented. At four tools implemented, mean agreement dropped a bit, although this may be an artifact of an unusually small sample size.

As we observed earlier in this chapter, only a third of respondents had implemented more than one of the help desk user tools we asked about. This low adoption rate is surprising in view of the finding illustrated in Table 7-2, which suggests that implementing even one such tool significantly affects respondents’ belief that they are using self-service features effectively to reduce demand.

### Summary and Implications

Help desk automation features were in widespread use throughout our respondent population, with strong majorities of institutions adopting or planning to adopt each of the five we asked about. This endorsement of the features we chose to ask about likely relates to commercial help desk management software vendors’ typical bundling of those features, along with others. More than 60 percent of respondent institutions told us they were using or planning to use such an integrated system.

Respondents showed less progress in implementing tools for help desk staff to provide support. Although implementations of these two tools—a Web site for access to help desk documents and a set of tools for remotely accessing (and controlling) clients’ computers—are under way or planned at many more respondent institutions, only about half of our respondents now provide them to their help desk workers. We found an even lower apparent priority for deployment of status monitors to apprise help desk staff of the health of the IT systems they support; more than a quarter of respondents reported no plans to deploy them. Integrated video command centers were less commonly used, with well over two-thirds of respondents having no plans to implement them.

Most of the institutions we surveyed had at least one online support tool in place for

<table>
<thead>
<tr>
<th>Number of Help Desk User Tools</th>
<th>N</th>
<th>Mean Agreement*</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>143</td>
<td>2.37</td>
<td>0.962</td>
</tr>
<tr>
<td>One</td>
<td>151</td>
<td>2.85</td>
<td>0.957</td>
</tr>
<tr>
<td>Two</td>
<td>87</td>
<td>3.16</td>
<td>1.109</td>
</tr>
<tr>
<td>Three</td>
<td>52</td>
<td>3.54</td>
<td>0.851</td>
</tr>
<tr>
<td>Four</td>
<td>14</td>
<td>3.43</td>
<td>1.284</td>
</tr>
<tr>
<td>Total</td>
<td>447</td>
<td>2.85</td>
<td>1.063</td>
</tr>
</tbody>
</table>

*Scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree
help desk clients. Perhaps because they are relatively easy to construct and maintain, Web sites for client access to online help documents were common and, when implementations under way are completed, will be nearly ubiquitous. Web sites for users to track the progress of help desk trouble tickets and Web-based knowledge bases were somewhat less common, but 85 percent or more of respondents were at least planning them.

The frequency of current and planned use of these client support tools contrasts interestingly with the relatively less aggressive implementation and planning for help desk staff support tools. We surmise that it reflects help desk priorities, with higher priority going to tools that directly serve clients and lower priority to tools benefiting help desk staff.

Of the client support tools we asked about, only intelligent FAQ systems were in place, in progress, or planned by fewer than 40 percent of institutions. Perhaps the purchase price of these complex commercial software products is prohibitive, or many see the potentially burdensome process of populating and maintaining them as too much of a drain on help desk staff resources. Nevertheless, these tools’ in-progress and planned implementations far exceed current implementations, positioning this next-generation help desk technology for strong growth.

In self-appraising their use of self-service user tools to reduce demand for help desk services, our respondents gave themselves surprisingly low marks. Only about a third agreed or strongly agreed that they did so effectively. This could be related to the number of help desk user tools (from our brief list) respondents had implemented, in that those who had implemented more user tools gave themselves somewhat higher marks. Even so, those who had implemented the most help desk user tools seemed to agree only halfheartedly that they used them effectively, perhaps because they lack confidence in such tools’ basic efficacy in the higher education IT environment.

While it appears that our respondents have some help desk automation basics, many of them provide their staff and users with relatively primitive tools, relying on inexpensive but labor-intensive Web content rather than smart, dynamic FAQ systems, for example. This posture may simply reflect economic imperatives, but it may also stem from perceptions that next-generation technology isn’t sufficiently mature, or from the institutions’ desire to preserve a high-touch relationship with clients. Nevertheless, respondents’ apparent dissatisfaction with their self-service tools, combined with high “planned for the future” responses in many areas we surveyed, suggests that many institutions are aware they could be doing a better job of equipping their help desks with today’s tools.

Notwithstanding this chapter’s emphasis on tools, it is important to keep the help desk toolset’s role in perspective. The University of St. Thomas’s Samuel Levy puts it this way: “Tools are necessary for reporting and tracking but do not ensure excellent service. We have been able to overcome the limitations of our incident tracking tools by interfacing personally with our clients.” In this context too, then, the message comes through that help desk services are “about communication.”

Endnotes
Service Level Agreements

Every organization of men, be it social or political, ultimately relies on man’s capacity for making promises and keeping them.

—Hannah Arendt

Key Findings

- Only about 20 percent of respondent institutions have service level agreements (SLAs) in place for at least one central IT help desk service. If implementations now in progress or planned for the future succeed, that percentage will rise to 50 or 60 percent in the foreseeable future.
- Incompatibility with institutional culture is the most frequently cited reason for not planning to implement SLAs.
- Most planned or in-progress SLA implementations have executive or management sponsors; fewer have dedicated staffing, completion dates, and/or have begun to work with clients; still fewer have dedicated funding.
- SLAs are now in place mostly for academic and administrative departments, the university as a whole, and constituent groups such as students or faculty.
- SLA specifications include lists of supported hardware and software, and goals for service availability and response time.
- Definition of a complaint escalation process is the only conflict-related provision included in SLAs by a majority of respondents who have SLAs in place.

Service level agreements (SLAs) are contracts, usually formal ones, between service providers and recipients. Improvement of service quality is the usual goal—and the frequent effect—of putting SLAs into place. SLAs clarify the nature of the relationship between the signatories, document the expectations on both sides, and establish methods for measuring performance.

In their simplest form, SLAs specify the nature and extent of the services the provider commits to deliver and that the recipient agrees to accept. Frequently, SLAs also address the recipient’s responsibilities, such as attending training sessions, directing all service requests to a single telephone number or e-mail address, or adhering to specific policies.

SLAs are usually developed jointly between service provider and recipient, so that the terms of the agreement are mutual and well understood. Because IT environments change...
rapidly, IT SLAs commonly specify a renegotiation schedule.

Where IT services are provided on a for-fee basis, SLAs also specify the costs of an overall service plan or of individual services.

**Service Level Agreements on Campus**

According to the United Kingdom’s Office of Government Commerce, “Today most organisations have introduced [service level agreements].” Our survey results tell us that SLAs for higher education IT help desks in the United States and Canada are much less common than that. Only about 20 percent of our respondents reported having SLAs in use, and just under 10 percent said they are currently implementing them. Lumping these with the roughly 30 percent that reported they were planning SLA implementations, and assuming that most implementations will be successful, we anticipate that a slim majority of respondents will have SLAs in place within a few years. The results reported here outline the forms that higher education IT help desk SLAs are taking in 2007.

**Implementation Status**

As depicted in Figure 8-1, SLAs were in use at only 2 in 10 respondent institutions. SLA implementations were under way at another 10 percent and planned for the future at almost a third; if all the implementations under way are successful and all those in the planning stages are successfully carried out, the number of institutions reporting SLAs in use in the foreseeable future could exceed 60 percent. Nevertheless, well over a third of respondents said they had no plans to implement SLAs.

The occurrence of SLAs at our respondent institutions was significantly associated with Carnegie class, as illustrated in Figure 8-2. Among U.S. institutions, doctorals were most likely to have implemented SLAs. Master’s and associate’s institutions followed. Bachelor’s institutions were the least likely to have SLAs and by far the most likely to say they had no plans to implement them.

While Canadian institutions reported the lowest rate of SLA use among all respondents, they are on track to catch up quickly; their reports of implementations in progress led the entire survey population, as did their implementations planned for the future. Canadian respondents were even less likely than U.S. doctorals to report having no plans to implement SLAs.

![Figure 8-1. Status of Formal, Documented SLAs for Central IT Help Desk Services (N = 454)](image-url)
SLA status also varied significantly with FTE enrollments. Institutions with 4,000 or fewer FTE were less likely to have SLAs in use or implementations in progress than midsize or large institutions. Midsize institutions with 4,001 to 15,000 FTE enrollments were only slightly less likely to have SLAs in use or implementations in progress than larger institutions. Almost half of small institutions said they had no plans to implement SLAs, compared with about a third of midsize institutions and just over a fourth of the largest ones.

Institutional control was also significantly related to SLA status, with public institutions taking the lead. The percentage for SLAs in use was only four points higher for public institutions, but public institutions were more than three times as likely as private ones to have implementations in progress. Around 30 percent of respondents in both categories reported planned implementations, but fewer than a third of public institutions reported having no plans to implement SLAs, while almost half of private ones did.

One report of SLAs in action comes from the University of St. Thomas, a midsize private institution in St. Paul, Minnesota. Vice President and CIO Samuel Levy says, “We have a fairly extensive number of SLAs. We have a well-developed, -published, and -understood set of baseline services; some of our SLAs are driven around our promises for supporting these baseline services. We have SLAs with departments which have technology needs outside our baseline support, too. For example, the computer sciences department needs access to different ports on the network from what the French department needs.

“Advice: You should have what amounts to an institutional SLA that specifies the baseline services and outlines guaranteed levels of performance for them. When there are divergences or different needs—such as research or discipline needs—then there needs to be a particular SLA for that situation. I do not view SLAs as adversarial.”

Chapter 9 discusses the significant relationship between SLA adoption and selected IT service management practices.
Reasons Not to Use SLAs

When we asked respondents to select up to three reasons why their institutions had no plans to implement SLAs for help desk services, by far the most frequently reported reason (a quarter of those not planning SLAs) was that SLAs would not be compatible with institutional culture (see Figure 8-3).

At best, this suggests a smooth-functioning, coevolved relationship between the help desk and the client, in which the help desk offerings are well balanced with client needs. At worst, it may mean that the relationship is so broken that agreements about service levels would be impossible to reach. In most cases, though, it probably just reflects the complexity of campus relationships with regard to IT. David Todd, CIO at the University of Vermont, puts it this way: “For us, the biggest factor in institutional culture is the highly decentralized support structure at UVM. About 60 percent of the IT support staff are outside our central IT organization, and while we’ve standardized many of our software tools and hardware platforms, there are still substantial variations among different schools. And some, like the College of Medicine, have environments that are very much tailored to their needs and use tools that none of the others on campus ever would.”

The next most frequently cited reason (17.8 percent) was that higher priorities exist for central IT staff. This may mean that the central IT organization is understaffed and personnel can’t be spared from user support duties to focus on developing needed SLAs. Or it may indicate that the service relationship between the help desk and its clients is close to what central IT would like and that incremental improvements, while desirable in an ideal world, are not perceived to be as necessary to the help desk’s mission as other priorities might be.

Lack of acceptable return on investment and lack of funds were both selected by about 8 percent of respondents. In the case of lack of return on investment, it would appear that while funds might be available,
the institution is unwilling to risk them to derive whatever gains the SLA implementation might bring. Respondents may be uninformed of the benefits of SLAs or may not be confident that those benefits would be realized on their campuses.

Where lack of funding was selected as a reason not to use SLAs, the implication is that other priorities require all of the central IT organization’s budget and the implementation of SLAs is simply not possible, however significant the benefit might seem.

Fewer than 6 percent of respondents chose each of the remaining reasons; thus, these probably exert little influence on SLA planning at most institutions.

**Planning for SLAs**

Respondents who said they had SLA implementations in progress or planned for the future gave varying responses to our detailed questions about the status of those projects (see Figure 8-4).

Very few of our respondents’ efforts to develop central IT help desk SLAs, whether in progress or planned for the future, had been allocated funds or assigned completion dates. Among respondents reporting implementation efforts in progress, these percentages were a few points higher than among those whose implementations were only in the planning stages, but these differences are probably unimportant. The real story here is that more than 90 percent of SLA development efforts have neither funding nor completion dates. This suggests that SLA development is done “on the margin” at most of the institutions that have them under way. The fact that so few of the efforts under way have been assigned completion dates suggests the low priority of those efforts.

A slightly more substantial 10 to 12 percent of respondents’ efforts had participation from functional business/academic units or had been assigned staffing. Again, the minor differences between the status of implementations in progress and those planned for the future are of little significance and the more interesting point is that so few of the efforts in question yet involve external entities (the term agreement does imply both parties’ engagement) or have been assigned staff. We
might explain the latter finding by invoking the notion of work being done on the margin again, but the lack of external involvement seems contrary to the very interests that make SLAs desirable in the first place.

A management or executive sponsor is a key player in SLA development, and we see some evidence of this in the substantial numbers of respondents indicating that they have one. Interestingly, SLA development efforts planned for the future are 1.85 times as likely to have a sponsor as those currently in progress. Two possible, if not entirely intuitive, explanations occur to us. First, SLA development efforts without sponsors may be more likely to proceed to implementation than those that have sponsors. Perhaps those with sponsors proceed more uncertainly because of the tricky political groundwork the sponsors must lay; unsponsored efforts may evolve more naturally and easily. Alternatively, a sponsored effort once under way may tend to lose its sponsor, perhaps as the project takes on a life of its own and leaves the sponsor’s direct control behind. We could interpret both explanations as reinforcing the most commonly selected reason for not planning SLAs—that campus culture can play a limiting role. In the context of executive/management sponsorship of SLA development efforts, campus culture may be synonymous with campus politics.

**A Variety of Constituents**

We asked the 93 respondents who reported having SLAs in current use to identify those client groups for which the central IT help desk had SLAs in place covering at least one service. The groups we listed were:
- academic departments;
- administrative departments;
- the institution as a whole;
- constituent groups such as all students or all faculty;
- institutional centers, institutes, and other organized research units independent of academic departments;
- other institutions within a system or consortium;
- external customers;
- affiliates such as a hospital teaching program or research organization; and
- other.

The responses, depicted in Figure 8-5, indicate that academic and administrative departments were the help desk’s most common partners in SLAs. The only other group selected by a majority of respondents was the meta constituency, “the institution as a whole.”

A third or more of respondents selected groups related to IT user class, such as all students or all faculty. Fewer than 2 in 10 respondents selected “other institutions within a system or consortium,” perhaps reflecting the fact that only a small proportion of respondents are members of consortia or systems.

Only 1 in 10 respondents had SLAs in place for external customers and affiliated programs and organizations. This is a little surprising in that both categories exist apart from the campus mainstream, where the clients might be unsure what to expect and the help desk might be unsure of its obligations. These categories would seem to be ideal venues for SLAs. Perhaps they were selected so few times because relatively few respondent institutions have such entities in their environments.

**Constituencies for Service Level Agreements**

The simplest way for the help desk to implement SLAs would be to commit to one level of service for the entire campus. Indeed, a majority of respondents with SLAs in use report having done that. Help desks often find, though, that the most difficult constituencies to serve well are small ones, where service needs may be very specific and highly technical. However, we found help desk SLAs with such constituencies to be relatively rare among our respondent institutions.
Finally, 8.5 percent of respondents selected “Other,” suggesting that our list covered most SLA constituencies but left one or more minor ones unmentioned.

As Figure 8-6 shows, 61.6 percent of respondents with SLAs in use had established them for one, two, or three of the groups from our list; almost a third (33.0 percent) had SLAs for four, five, or six groups; and only 5.5 percent served more than six. Note that these calculations include the “Other” category, and for some of the relatively few respondents who selected it, it may embrace more than one group.

Perhaps the most interesting aspect of this finding is that relatively few respondents claimed to have SLAs for only one group. It appears that once an institution decides to move forward with SLAs, it establishes them for multiple groups.

Whole-Institution SLAs

We wondered if respondents who indicated help desk SLAs were in place for “the institution as a whole” (N = 55) might have selected only that all-embracing option. We found that 14.5 percent of that number did select no other options. The remaining 85.5 percent reported having SLAs for one or more other constituencies as well.

The response pattern among those who have help desk SLAs for the institution as a whole closely parallels that of the rest of the population with SLAs in use (see Figure 8-5), with the exception of SLAs for aggregate groups such as all students or all faculty. Among respondents who did not report having SLAs for the institution as a whole, only 18.4 percent had them for such aggregate groups. Of respondents who did have SLAs in place for the institution as a whole, more than three times as many (61.8 percent) also had them for aggregate groups. Thus it appears that once the idea for large-group SLAs catches on, it is likely to spread.

The presence of SLAs for the institution as a whole was significantly associated with FTE enrollments. For smaller institutions (4,000 or fewer FTE) with SLAs in place for at least one constituency, almost 9 in 10 (87.1 percent) respondents told us they had SLAs in place for the institution as a whole; 52.5 percent of midsize institutions (4,001 to 15,000 FTE) reported them; only 33.3 percent of larger institutions did so. We speculate that the scope and extent of large-institution IT...
could make a whole-institution SLA for help desk services difficult to construct, let alone to fulfill.

**What SLAs Address**

To get a look inside the SLAs our respondents have implemented, we asked about two types of components: specifications and provisions. We chose these terms somewhat arbitrarily to distinguish between a group of eight “business as usual” specifications and a group of three provisions that would come into play only in extraordinary circumstances.

**Specifications**

SLA specifications relating to performance goals and supported hardware and software were much more common than those dealing with SLA processes and schedules. As shown in Figure 8-7, more than three-quarters of respondents who had SLAs in place reported that those agreements covered supported software, service availability goals, goals for user support metrics such as response time, and supported hardware. Majorities also reported including specifications for processes to monitor and report against goals and scheduled review of the SLA terms. Less common were a schedule for renegotiating the agreement and fees for services.

Of the specifications we asked about, only one was related to a key demographic variable. A schedule for the review of SLA terms was much less common among institutions with 4,000 or fewer FTEs (25.8 percent) than at larger ones (62.2 percent at institutions with 4,001 to 15,000 FTEs and 66.7 percent at institutions with more than 15,000 FTEs). This suggests that at smaller institutions an SLA is more often considered a static document. One reason for this difference might be a more comprehensive—and less negotiable—approach to IT support in the central IT/client relationship at smaller institutions versus a wider range of options for provisioning and supporting components of the IT environment at larger ones.

**Provisions**

Finally, our respondents with SLAs in use reported the status of three SLA provisions designed to address problems that might develop in the relationship between the central IT help desk and its SLA partners. Figure 8-8 shows that the definition of a complaint escalation process was the only
provision we asked about that a majority of respondent institutions included in SLAs. Fewer than a third of respondent institutions included in their SLAs terms under which service recipients could cancel the SLA, while only 8.9 percent included conditions for refund or compensation to service recipients.

**Summary and Implications**

While service level agreements are currently fairly rare among our sample of higher education IT help desks, implementations now in progress and those in the planning stages should result in a 50 to 60 percent adoption level in the foreseeable future. Well-implemented SLAs promise improved service quality, achieved in large part through improved communication between service provider and recipient. Because respondents from smaller institutions and those awarding only bachelor’s degrees were most likely to say they had no plans to implement SLAs, we surmise that formalizing communications in those institutions is not generally seen as a good way to improve them.
Substantially the most frequently cited primary reason for not planning to adopt SLAs was that they were not compatible with existing institutional culture. Higher IT staff priorities were also cited often. Both of these reasons ring especially true for smaller institutions where communities are often tightly knit and have smaller numbers of staff among whom to distribute SLA development tasks.

While reports of planned and in-progress SLA development efforts suggest that this practice’s penetration will more than double in the foreseeable future, relatively few planned and in-progress SLA implementations were reported to have dedicated funding or staffing, completion dates, or the beginnings of the close collaboration needed between service provider and recipient. We suspect these development efforts will be conducted on the margin, leaving their success largely to chance. The most positive indication concerning these projects is that two-thirds of them have executive or management sponsors.

SLAs are now in place mostly for large constituent groups: academic and administrative departments, the university as a whole, and aggregate groups such as all students or all faculty. A third of existing SLAs involve institutional centers, institutes, and other organized research units, where—because of the units’ specialized needs and their organizational distance from central IT—the formal communication that SLAs encourage may be particularly beneficial.

The most common specifications included in SLAs at our respondent institutions were lists of supported hardware and software, and goals for service availability and response time. Inclusion of a schedule for renegotiation of the SLA was reported much more often by midsize and large institutions (in terms of FTE enrollments) than by smaller ones. This suggests that small institutions, where SLAs are generally less attractive to begin with, may be saddling themselves with SLAs that are relatively inflexible and may become burdensome (or irrelevant) as the IT environment changes.

We asked about the inclusion of three provisions to be invoked in the event of unsatisfactory SLA compliance and found that the definition of a complaint escalation process was fairly common. Terms under which an SLA could be canceled were less common, and conditions for refund or compensation to the recipient were rare. Rarity of the latter two items in higher education IT SLAs is hardly surprising: they imply rigid business relationships that are only infrequently found between entities within the academy.

Endnote
Setting a Course: Goals for the Help Desk

First say to yourself what you would be; and then do what you have to do.
—Epictetus

Key Findings
- Majorities of respondents have documented goals in place for help desk service availability, user satisfaction, and call/incident resolution.
- Important drivers of central IT help desk improvement include improving user satisfaction, meeting the changing needs of help desk clients, and improving help desk efficiency.
- Important obstacles to improving the help desk include rapid growth in user demand, lack of funding, and lack of staff expertise.
- Only 40 percent of respondent institutions have strategic plans in place for their help desks.
- Adoption of formal guidelines for four IT service management (ITSM) practices is widespread; these are availability planning, change management, capacity planning, and release management.
- Among institutions that use service level agreements (SLAs) for help desk services, adoption of guidelines for all four ITSM practices is 1.5 times higher than in the overall survey population.
- In general, respondents say the help desk is adequately included in central IT activities related to ITSM practices. Where this is the case, the priority that central IT places upon deploying easy-to-support systems is higher, suggesting better communication between the help desk and other parts of the IT organization.
- ITSM practices and SLAs are more common where a strategic plan for the help desk is in place.
- Relatively few of our respondents have implemented databases for asset management, configuration management, or customer relationship management.

Because the central IT help desk can make or break the successful use of campus information technologies, and because IT is both changing and growing constantly, it is important for any help desk, no matter how good, to seek improvement. In this chapter we examine the goals that drive service improvement as well as the barriers that inhibit it. Goals are often set in the context of a strategic planning process, and so we also examine the status of strategic planning for the help desk at our respondent institutions.

Also in this chapter, we look at four formal IT service management practices in which the central IT organization and the help desk engage as partners to improve
service quality. Finally, we examine the use of three databases related to these practices that can aid in help desk quality improvement efforts.

**Help Desk Goals**

According to most service quality rubrics, setting goals and monitoring the organization’s progress toward meeting them plays an important part in improving service quality. We asked our respondents to indicate whether they had documented goals in place in nine representative areas:

- availability of support services for users (hours per day),
- percentage of total incidents resolved per unit time (service requests, trouble tickets, and so forth),
- number of incidents handled per FTE staff member per unit time,
- percentage of calls resolved during initial user contact,
- resolution time for calls not resolved during initial user contact,
- telephone customer wait times,
- telephone customer call abandonment rate,
- percentage of users indicating they are satisfied with services, and
- percentage of SLA commitments fulfilled.

Figure 9-1 shows the frequency with which respondents said they had documented goals in place for each area. Majorities had goals in place for six of them. By far the most commonly held goal was for support service availability. While we assumed that most respondent institutions had formal lists of goals for their help desk services, even those that didn’t could say they had a documented goal for at least one aspect of availability if the hours of operation of their help desks were posted somewhere.

Roughly two-thirds of respondents reported a cluster of three documented goals: percentage of user satisfaction, help desk calls resolved at first contact, and the number of incidents the help desk resolved per unit time. Unlike service availability, these goals require considerable effort to document and still more effort to track performance against. Incidents resolved per unit time and calls resolved at first contact are common features of automated help desk systems, which just over two-thirds of our respondents say they have in place. On the other hand, user satisfaction is a more subjective goal to measure and, as we will see in Chapter 10 (Figure 10-5), respondents...
have implemented numerous unstructured techniques for assessing it. That so many respondents report having a documented goal for percentage of user satisfaction suggests this goal is in place not just because utilities for tracking it come bundled with help desk automation software.

Majorities of respondents also reported tracking the time it takes to resolve incidents that can’t be resolved during initial user contact (“Complex-incident resolution time” in Figure 9-1) and the number of incidents handled per staff member per time unit.

Near-majorities reported goals related to telephone contact—specifically, telephone wait times and call abandonment rate. Automated call management systems typically help track these variables, and such systems’ expense and complexity may help explain the slightly lower frequency with which respondents report these goals.

Relatively few respondents (26.9 percent) cite the fulfillment of SLA requirements as a documented goal. Even so, this percentage is anomalously high because, as we noted in Chapter 8, only 20.5 percent of respondents report having SLAs in place for one or more help desk services.

A majority of respondents (53.6 percent) reported having goals in place in six or more of the areas we asked about. Nearly a quarter (24.3 percent) had documented goals in place for all nine of our representative areas, and only 12.9 percent had no documented goals. The mean number of goals cited was 5.26 (standard deviation 3.354) and the median was 6, reflecting the many reports of high numbers.

**Service Improvement Drivers and Barriers**

The goals discussed above reinforce our assumption that higher education help desk administrators want to improve the quality of the services they provide. As we begin our exploration of the methods they use to achieve those improvements, it is useful to know what forces in their environments are driving their efforts at service improvement and what forces oppose them.

**Drivers of Help Desk Improvement**

From a list of eight service improvement goals (plus “other”), we asked our respondents to select up to three primary drivers for improving their help desks. More than three-quarters selected improving user satisfaction with help desk services, suggesting that most feel their clients’ satisfaction is a good indicator of help desk quality (see Figure 9-2). Indeed, as we learned above, 64.4 percent of respondents had a documented goal in place for user satisfaction.

Again acknowledging the client’s importance, more than two-thirds of respondents said that meeting the changing needs of faculty, staff, and students was a primary driver. Turning to more internal concerns, fewer respondents—but still a majority—cited improving help desk efficiency as a primary driver.

Fewer than a third of respondents said a primary driver of help desk improvement was meeting the strategic goals of the institution or of the central IT organization. As we saw in Chapter 4, 68.5 percent of our respondents said the primary goal of their central IT organizations was to provide IT infrastructure and services that further the institution’s strategic goals, yet here we find that fewer than half that number cite that goal as a primary driver of help desk improvement. This may represent a distinction between the strategic focus of the central IT organization and the more operational focus of the help desk.

Relatively few respondents reported that a primary driver of improvement was staying current with best practices in help desk management. Only 1 in 10 respondents said that motivating greater
institutional support for IT initiatives was a primary driver of help desk improvement, suggesting that at most institutions the help desk’s performance has not been linked with past infusions of support.

While a majority of respondents said improving help desk efficiency was important, very few cited help desk cost reduction as a driver. If efficiency is calculated as effectiveness divided by cost, it would appear that help desks concerned with efficiency are more likely to pursue it by increasing effectiveness than by reducing cost.

Barriers to Help Desk Improvement

We also supplied respondents with a list of potential barriers to improvement of the central IT help desk. While none of them resonated with substantial majorities of our respondents, Figure 9-3 shows that very slim majorities did select one pair. From half of our respondents we heard that rapid growth of user demand was an obstacle. This issue resonated for Herb Wilson, director of IT support at the University of Colorado at Boulder: “It’s not so much that numbers of users are increasing,” he said. “It’s that new technologies are proliferating faster than old ones can be retired. In practical terms, the more energy we put into expanding our services, the less is available for improving the old ones.”

Only 3 of the 25 respondents (12.0 percent) who anticipated decreases in the next three years in their institutions’ spending on the central IT help desk cited rapid growth in user demand as a barrier to help desk improvement. By contrast, 58.1 percent of those who anticipated increases cited that barrier. This finding surprised us, because we expected that brighter funding prospects would raise respondents’ confidence in their ability to improve help desk services in the face of increasing demand. It appears instead that respondents who
anticipate funding increases fear that the extra money will be consumed by expanded—but not necessarily improved—services. Those who anticipate budget reductions may also anticipate a reduction in their clients’ expectations, and thus perhaps fewer of them see increasing demand as a barrier.

Half of respondents also cited lack of funding as a primary barrier to help desk improvement, not a surprisingly large response in view of our finding in Chapter 7 that 55.7 percent of respondents felt their central IT help desk funding was less than or much less than adequate. Among that combined group, almost three-quarters (74.7 percent) of respondents identified lack of funding as a barrier. Similarly, among those who told us their central IT budgets had been decreasing over the past three years, nearly two-thirds (63.8 percent) cited lack of funding as a primary barrier to help desk improvement. Just under a third of respondents cited lack of staff expertise as a barrier, and 2 in 10 cited difficulty developing IT policies and procedures. Between 10 and 15 percent of respondents cited lack of user engagement, technology issues, difficulties in working with other campus IT service providers, and lack of institutional leadership support as primary barriers to help desk improvement. Significantly fewer than 10 percent of respondents cited immaturity of industry standards/best practices, and fewer than 5 percent cited lack of acceptable return on investment.

### Strategic Planning for the Central IT Help Desk

Respondents to the 2006 EDUCAUSE Core Data Service survey report that 73.4 percent of their campuses have stand-alone IT strategic plans in place, and 80.1 percent report that
their campus strategic plans include strategies and directions for IT.2

Whether conducted specifically for the help desk or included in a broader IT context, strategic planning can give the help desk a handle on its strengths and weaknesses, on the opportunities and threats present in the environment, and on directions it may want to go in the future. As Figure 9-4 shows, nearly two-thirds of our respondents had taken steps in this direction. More than one-third had an IT strategic plan that included planning for the help desk, a few had stand-alone strategic plans for the help desk, and another quarter had strategic plans for the help desk in the works. Surprisingly, more than a third of respondents had no strategic plan for the help desk at all.

**IT Service Management Practices**

Growing out of the PC explosion of the 1980s and the radically different IT support paradigm it required, the British government’s Central Computer and Telecommunications Agency (now the Office of Government Commerce) developed a framework by which IT service organizations could structure their efforts to improve service quality.3 This framework, now in use worldwide, is called the IT Infrastructure Library (ITIL). Because ITIL is more descriptive than prescriptive, many commercial entities, including such well-known corporations as IBM, HP, and Microsoft, have developed more action-oriented ITIL-based service improvement methodologies and market them under various names. To embrace all these service improvement practices in a single term, we will refer to them collectively as IT service management (ITSM) practices.

Formal ITSM implementations in higher education seem relatively rare. Only one of our qualitative interviewees, New York University, has carried one out and is incorporating ITIL practices into the fabric of its central IT service organization. NYU has shared its experiences during this process at several EDUCAUSE conferences,4 and the university’s efforts are the topic of one of the case studies5 accompanying this report.

Among the other institutions we interviewed, only the University of North Carolina at Chapel Hill was planning a formal ITIL implementation. Priscilla Alden, assistant vice chancellor for ITS user support and engagement, described it this way: “We are putting together some funding for an ITIL project as part of the central IT organization’s service
desk model that we’re developing…. I am hoping that ITIL will drive people to recognize the importance of a service desk. ITIL’s unified service desk model requires the whole IT organization to interact more effectively as a team, so it should benefit all of us.”

In our online survey, we asked respondents if formal guidelines were in place within their central IT organizations for four basic ITSM practices related to planning and management. These, and the working definitions we provided for them in our survey questionnaire, were:

- capacity planning (to ensure that systems and services are sufficiently robust to support the organization’s commitments to users);
- system availability planning (to ensure that systems and services are available when, where, and to whom the organization says they will be);
- change management (to ensure that changes to systems and services are orderly, support the organization’s commitments, and so forth); and
- release management (to ensure that new systems and services are well tested, that version control is maintained, and so forth).

These planning and management items are only a subset of the dozen or so areas addressed in ITIL, but they occur at the interface between the help desk and the rest of the central IT organization. Their adoption is diagnostic of the extent to which those two entities communicate and collaborate—key elements in the success of a service management initiative.

As this chapter’s findings suggest, the ITIL service level management area (via SLAs) is also an important component of various ITSM frameworks, and we addressed its adoption among our respondents in some detail in Chapter 8. For completeness’ sake we revisit some of those findings in this chapter.

While not limited to the help desk, two additional ITSM areas, incident management and problem management, are integral to it. Our survey addressed many elements of those ITSM areas in detail without asking general questions about them by name. And of course a third additional ITSM area, service desk management, is the overarching topic of this research study.

**Use of Basic ITSM Practices**

As we saw in Chapter 8, only 20.5 percent of respondents had SLAs in place for help desk services. The four ITSM planning and management practices we asked about were in much more common usage (see Figure 9-5). More than two-thirds of respondents said they had formal guidelines in place for availability planning, and more than 60 percent of respondents had guidelines in place for change management and release management. A slim majority of respondents had capacity planning guidelines in place.

The many ITSM practices function together to enable substantial improvements in IT service quality. Accordingly, we expected to find all five of the practices we asked about in use at many institutions. In fact, only 10.8 percent of respondents were using all five. Nearly three times that many (28.4 percent) had adopted four; of these, only 14.0 percent included SLAs among the four they had adopted. Respondents adopting two or three practices made up 30.8 percent of the survey population. Adopting only one practice were 11.9 percent of respondents, while nearly one in five (18.1 percent) had adopted none.

As Figure 9-6 shows, respondent institutions that had adopted SLAs for help desk services were more likely than others to have adopted formal guidelines for practices in each of the four ITSM planning and management areas we asked about. The average difference between bars within a pair is about 20 percentage points.

SLA implementation was also associated with the total number of ITSM planning and
management practices for which respondents’ central IT organizations had adopted formal guidelines. Among those who had SLAs in use for help desk services, more than half (52.7 percent) had adopted guidelines for all four of the ITSM planning and management practices we asked about. This is 1.5 times the percentage of respondents in the rest of the population that had adopted guidelines for all four of those practices (35.2 percent). Only 11.8 percent of respondents who had SLAs in use had adopted none of our four ITSM practices, compared with 20.5 percent of the overall respondent population.
Among those who had SLAs in use, the mean number of ITSM planning and management practices for which formal guidelines were in place was 2.98 (standard deviation 1.367) with a median of 4, reflecting the preponderance of respondents whose institutions had adopted all four of the planning and management practices. This compares with a mean of 2.18 practices (standard deviation 1.539) and a median of 2 for respondent institutions without SLAs in use.

These findings suggest that even though relatively few respondent institutions had implemented SLAs, we can consider SLAs together with the four ITSM planning and management practices as a set of tools frequently used in concert for managing the central IT help desk.

**ITSM and Planning Practices**

The total number of ITSM practices our respondents were using (SLAs in use and ITSM practice guidelines adopted) was significantly associated with the number of goals, from our list of nine, that the help desk had in place. Help desks using none of the five ITSM practices we asked about had a mean of 3.56 of our goals (standard deviation 3.475), while those using all five practices had a mean of 7.00 goals (standard deviation 2.537)—almost twice as many.

Mean number of ITSM practices (from our list of five) was also significantly associated with strategic plan status. Respondents with no strategic plan in place or under development reported using a mean of 1.92 practices, those with a plan under development reported a mean of 2.74 practices, and those with a plan in place, either stand-alone or integrated into the central IT organization’s strategic plan, reported a mean of 3.06 practices. (Standard deviations ranged from 1.560 to 1.663.)

Neither of these associations is surprising; both strategic planning and goal-setting are important elements of most IT service management implementation methods.

**The Help Desk’s Partnership with Central IT**

The ultimate goal of the ITIL framework and the service management methods that have emerged from it is to improve IT service quality and consistency. One of ITIL’s tenets is the importance of the relationship between the service or help desk and the rest of the central IT organization. Communication is important, of course, even if it’s one way, but including the help desk in central IT decision making is even more important.6

Time and again our qualitative interviewees reinforced this point. North Dakota State University’s Rosi Kloberdanz, director of IT client services and help desk manager, told us, “We have help desk representation on every committee in central IT. Inevitably, everything involves help desk support. We’re not there yet—we’re not on all the relevant committees outside central IT. But distributed IT support staff and key stakeholders come to our meetings, and we haven’t had to fight to get them here.” Kathy Beardsley, help desk manager at the University of Delaware, puts it this way: “One of the things that has really helped with our success is the relationship between the help center and the other IT areas. We work with them, playing the role of the user advocate when new projects get under way. The days are over when a new system is implemented without us being involved.” Interviewees from Berry College, Dartmouth College, and the University of St. Thomas told us much the same things.

As Table 9-1 shows, majorities of our respondents answered affirmatively when asked if their help desk personnel were adequately included in central IT activities concerned with the four ITSM planning and management areas we addressed. We asked these questions of all respondents, not just those who had formal guidelines for ITSM practices in place. Among all respondents, most saw help desk participation in availability planning as adequate, followed by
change management and release management. Help desk staff participation in capacity planning was least frequently seen as adequate. These percentages track closely with those for respondents who reported having formal guidelines for these processes (see Figure 9-5).

Counting only those respondents who had guidelines in place, we found proportionately more frequent agreement that help desk participation was adequate. The biggest differences were in the change management and release management categories, where having ITSM guidelines in place made a positive difference of more than 13 percentage points in agreement that the help desk was adequately included in that central IT activity. The difference for capacity planning was 10.4 percentage points, and for availability planning it was 5.4 percent.

As Figure 9-7 shows, a 41.4 percent plurality of respondents said the central IT organization adequately involved the central IT help desk in all four of the ITSM planning and management activities we asked about. About a third that many—34 percent—reported adequate involvement in two or three activities, and even fewer—8.6 percent—reported adequate involvement in one. Nearly 2 respondents in 10 (17.6 percent) reported that the help desk was not adequately included in any of the four central IT ITSM activities. One might expect this latter group to be made up of respondents with no formal guidelines in place for the ITSM activities we asked about; in fact, only 35 percent of them had no guidelines. The remaining 65 percent of this group had implemented from one to four of them. All five groups included respondents with between zero and four guidelines in place.

In Chapter 4 we reported on the priority the central IT organization places on deploying easy-to-support systems. This is another area in which central IT can cooperate with the help desk to improve client service. As Figure 9-8 shows, the mean priority central IT places on easy-to-support systems was significantly associated with reported adequacy of the help desk’s inclusion in basic ITSM activities. In each ITSM activity, the reported mean priority on deployment of easy-to-support systems was about half a point higher, on a five-point scale, among respondents who said the level of help desk inclusion in those activities was adequate. Thus it appears that at many institutions, inclusion of the help desk in central IT’s ITSM activities is part of a set of practices that also includes deployment of easy-to-support systems.

### Use of ITSM Databases

A key concept in ITIL and related frameworks is the careful management of information about the IT environment and those who use it. We asked about the status of three different databases for managing this information:

- asset management databases, which maintain detailed information about capital equipment, its nature, owner, location, and so forth;

<table>
<thead>
<tr>
<th>ITSM Activity</th>
<th>Percentage of All Respondents (N = 427)</th>
<th>Percentage of Respondents with Guidelines in Place (N = 224)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability planning</td>
<td>71.8%</td>
<td>77.2%</td>
</tr>
<tr>
<td>Change management</td>
<td>69.2%</td>
<td>82.6%</td>
</tr>
<tr>
<td>Release management</td>
<td>63.1%</td>
<td>76.9%</td>
</tr>
<tr>
<td>Capacity planning</td>
<td>59.2%</td>
<td>69.6%</td>
</tr>
</tbody>
</table>
configuration management databases, which are an extension of asset management to include information about the relationships between assets of all sorts, including hardware, software, and documentation; and
customer relationship management databases, in which information about individual clients is stored, analyzed, and used to improve the client’s IT experience.

Our respondents’ use of these three databases varies considerably (see Figure 9-9). Asset management databases were the most commonly used, with almost 4 in 10 respondents reporting full implementation. Slightly fewer than one-quarter of respondents had implementations in progress, and about the same number were planning them; 15.7 percent had no plans to implement an asset management database.
Fewer than one-quarter of respondent institutions had fully implemented configuration management databases, and implementations were under way at about the same number. Another 3 in 10 were planning implementations, while about a quarter did not plan to implement configuration management databases.

Customer relationship management databases were the least used of these three tools, with full implementations at fewer than 2 respondent institutions in 10. Another 14.1 percent had implementations under way, with about twice that number in the planning stages. Nearly 4 in 10 respondents said their institutions had no plans to implement a customer relationship management database.

As of the date of our survey, more than half of respondent institutions had fully implemented none of these service management databases (see Figure 9-10). Roughly a quarter had implemented one, and slightly more than 2 in 10 had implemented two or three.

**Summary and Implications**

Our survey respondents told us their help desks set a variety of goals. More than 60 percent had documented goals in place for support service availability, percentage of user satisfaction, calls resolved at first contact, and incidents resolved per unit time. More than 40 percent of respondents had eight or nine of the nine goals we asked about; the average respondent institution had 5.26 of them.

Two of the three most often cited drivers of help desk improvement were outward looking: improving user satisfaction and meeting the changing needs of faculty, students, and staff. The third most often cited driver was improving help desk efficiency (although not necessarily by cutting costs). Likewise, two of the three most often cited barriers to improving the help desk involved external forces: rapid growth in user demand, especially among respondents who expect increased budgets...
in the next three years, and lack of funding. An internal factor, lack of staff expertise, was the third most often cited.

Almost two-thirds of our respondents have a strategic plan for the help desk in place or under development. Most of those with a plan in place (35.0 percent of all respondents) said it was integrated into the central IT strategic plan. Only 4.9 percent of respondents reported having a stand-alone plan for the help desk.

A majority of respondents are using three or more of the five IT service management practices that we asked about. Availability planning, change management, and release management were the most commonly implemented; capacity management implementations were reported somewhat less frequently, and service level agreements much less frequently.

Among the two-tenths minority of our respondents whose help desks had SLAs in use at the time of our survey, just over half had implemented all four of the ITSM planning and management practices we asked about. That is 1.5 times the percentage of those in the overall survey population who had adopted those four practices. To us, this reinforces the status of SLAs as an important component of the ITSM framework and suggests that the five practices we studied are part of an assemblage of best practices that many help desks are adopting.

Respondents with formal guidelines for ITSM practices in place or with SLAs in use were significantly more likely to have a strategic plan for the help desk in place, either stand-alone or integrated into the central IT strategic plan.

Substantial majorities of respondents (70 to 80 percent) agreed that the central IT help desk is included adequately in activities related to ITSM practices. At respondent institutions where help desk inclusion was acknowledged to be adequate, the priority that central IT places upon deploying easy-to-support systems was higher, reflecting a climate of cooperation.

Relatively few of our respondent institutions have implemented databases for asset management, configuration management, and customer relationship management. More than half have implemented none of them, and only 7.3 percent had implemented all three, suggesting that the value of these components of IT service management has yet to be widely appreciated.
Endnotes


3. IT Service Management, an introduction, 11.


Evaluating the Help Desk

The true measure of any society is not what it knows but what it does with what it knows.
—Warren Bennis

Key Findings

- Help desk metrics having to do with demand and with problem resolution time seem most interesting to our respondents; telephone-related metrics seem less so.
- Central IT staff and management are the primary constituencies to which help desk metrics are regularly reported.
- Our respondents feel they do fairly well in using metrics to improve user service. This is especially true among those who report their metrics widely and in a variety of ways, and among those who use basic IT service management practices.
- Informal methods of assessing user satisfaction are more common than formal ones, although formal surveys and Web feedback forms are also common.
- Respondents generally agree that the value of the help desk is well documented and understood. Agreement varies about whether help desk costs are being well documented, but a majority disagree that costs are well understood.
- Help desk maturity was positively associated with the number of our four basic IT service management practices for which the IT organization had formal guidelines in place and the perceived adequacy of the help desk’s involvement in them.
- Maturity was also positively associated with more robust help desk toolsets for help desk administrators, staff, and clients; the number of goals the help desk has adopted; the status of strategic planning for the help desk; and the alignment of campus expectations of the help desk with its resources.
- Other positive associations with help desk maturity were the number of help desk metrics regularly analyzed, the mean number of methods used to assess user satisfaction, and agreement that help desk costs and value are well documented and well understood.

A set of regularly measured performance indicators is an important tool in aligning central IT help desk performance with the needs of the constituencies it serves. To gain a useful perspective on the help desk, its managers must monitor progress toward goals that are focused internally as well as others with a more external focus. As Ed Pittarelli, director of technologies at Bergen Community College, puts it, “Without
metrics, no one succeeds. If you let the operation run free-form, it gravitates to the lowest possible level of service.”

Obviously, it isn’t enough to merely collect metrics; the help desk must put that information to work within the help desk and the central IT organization, and share it with various constituencies to inform the campus of both the costs and the value of its services. In this chapter, we look in depth at the choices our respondents have made in these areas.

As we will see, gathering and collecting performance information, as well as the preliminary steps of strategic planning and goal setting, are “mature” processes, as defined by a leading process maturity model. While achieving process maturity may not be a stated goal of the help desk, we will discover that such a goal embraces many of the more specific goals our respondents reported pursuing in Chapter 9.

**Basic Help Desk Metrics**

Help desk metrics include such inputs as the number of clients and devices supported or the number of support requests received per staff member. They also include outputs, such as the percentage of problems resolved during the client’s initial contact with the help desk or the average time it takes to resolve problems that can’t be resolved during that initial contact. Beyond simple inputs and outputs, they also include service quality measures such as the average time a caller must wait before being served or the rate at which callers on hold abandon their attempts to get support.

Of the eight help desk metrics we asked about, the help desk staff regularly (at least once a year) analyzed only two at majorities of our respondent institutions. These were call/contact load and number of users supported. Roughly an additional quarter of respondents analyzed each of these two metrics on an ad hoc basis, indicating that 87 to 88 percent of respondents make some use of that information.

About 45 percent of respondents reported regular analysis of three of our metrics:

- the number of problems resolved at first contact,
- the time it takes to resolve a problem that cannot be resolved at first contact, and
- the number of devices the help desk supports.

An additional 25 to 30 percent of respondents analyzed these metrics ad hoc, indicating that about three-quarters of respondents make some use of that information.

At majorities of respondent institutions, help desk staff did not analyze two metrics related to telephone clients, nor did they analyze the number of help desk contacts (calls) per device. The telephone-related metrics included the length of time a client had to wait on the telephone before getting a response to a problem and the rate at which clients hung up the telephone rather than wait for a help desk staff member to answer. In the case of telephone wait times, not quite a third of respondents analyzed that metric regularly, and another 12.0 percent analyzed it ad hoc. Slightly more than a quarter of respondents regularly analyzed call abandonment rate, and slightly fewer than half that many analyzed it ad hoc.

Of the eight metrics we chose to study, the number of contacts per device was regularly analyzed by the fewest respondents: just 2 in 10. However, almost a quarter analyzed this metric ad hoc, so nearly half of respondents analyzed it at least sometimes.
Almost half of respondents (49.1 percent) analyzed six or more of the metrics we asked about. Nearly 4 in 10 (39.2 percent) analyzed three to five of them, and 6.8 percent analyzed just one or two. Only 4.8 percent of respondents reported that help desk staff analyzed none of the metrics we asked about.

The number of help desk metrics analyzed varies significantly by both Carnegie class and FTE enrollments. Our findings suggest that larger and more academically complex institutions find it more desirable or necessary to formally track help desk performance than institutions that are smaller or offer fewer academic options.

Sharing the Data

In most cases, information about the central IT help desk must be shared if it is to be used effectively. Our respondents told us that their help desk metrics were shared mostly within the central IT organization and that a variety of vehicles were used to share it.

As Figure 10-2 indicates, central IT staff and management, including the CIO, were the primary constituencies to which help desk metrics were regularly reported, each being cited by two-thirds of respondents or more. Only about half as many respondents said they regularly report help desk metrics to senior administrators (president or chancellor, vice presidents, and cabinet-level officers). Less frequently cited as regular recipients of help desk metrics were deans, non-IT management, faculty, non-IT staff, and students.

We asked how respondents reported metrics to their various constituencies and offered as choices six standard vehicles, as well as “Other” (see Figure 10-3). At 49.9 percent, the most frequently cited vehicle was “Other,” suggesting that our list of six missed at least one important option. While
we did not ask respondents to specify which other vehicles they used, we speculate that many respondents would have told us they use formal and informal written reports to communicate metrics to some of the constituencies discussed above.

**Effective Use of Metrics**

When asked to respond to the statement that the help desk uses metrics effectively to improve user service, nearly a third of respondents agreed and 8.7 percent strongly agreed (see Figure 10-4). “Neutral” responses made
Agreement that the help desk uses metrics effectively also varied by Carnegie class. Doctorals reported a significantly higher mean level of agreement (3.62, standard deviation 1.010) than other classes. Master’s institutions had the lowest level of agreement, at 2.79 (standard deviation 1.042). Bachelor’s and associate’s institutions were nearly tied at means of 3.05 (standard deviation 1.044) and 3.13 (standard deviation 1.023), respectively. Mean agreement at Canadian institutions was 3.04 (standard deviation 1.113).

Mean agreement that metrics are used effectively is positively associated with several practices we have discussed so far, including

- the number of metrics help desk staff analyzed,
- the number of campus constituencies metrics were reported to,
- the number of vehicles used to report metrics,
- the status of service level agreement (SLA) use,
- the mean number of documented goals in place for the help desk, and
- the number of basic ITSM practices for which the central IT organization had formal guidelines in place.

### Assessing Satisfaction

Perhaps the most important metric a help desk can have is the level of satisfaction help desk users feel with the services the help desk provides. This offers a window into its own effectiveness. Accordingly, we asked about this metric in more detail than those discussed above.

Our respondents reported using a wide range of methods to assess user satisfaction. Figure 10-5 shows that the most commonly used method was gathering unsolicited input from help desk users. Nine in 10 respondents (90.1 percent) receive such input. Three-quarters of respondents use the more interactive method of informal meetings with help desk users. Neither of these methods necessarily involves documentation, and both are likely to yield qualitative rather than quantitative information.

Majorities of our respondents used two considerably more structured methods:
Nearly two-thirds conducted formal surveys of help desk users, and more than half used Web-based feedback forms. Almost half of respondents reported formal meetings with key users, presumably more structured than informal meetings but still yielding information that is more qualitative than quantitative.

Methods reported by fewer than a quarter of respondents were suggestion boxes, point-of-service forms, and formal focus groups. Only 1 in 8 respondent institutions reported bringing external consultants to campus to assess user satisfaction.

Another option available to IT organizations is to contract for an externally based customer satisfaction service such as that offered by HDI (formerly known as the Help Desk Institute), a membership organization for the service and support industry. Timothy Farnham, CIO at Berry College, has used HDI’s customer satisfaction service for about a year. “It’s a pretty good feedback mechanism,” he says, “and it should be particularly useful in determining users’ assessment of the operational changes we have in mind for our help desk.”

Our survey findings suggest that, overall, respondents have fairly good quantities of information concerning user satisfaction. Much of it is informal and qualitative, but substantially more than half of respondent institutions are able to validate that information against quantitative information from formal surveys or Web-based feedback forms.

Communicating Costs and Value

Figure 10-6 shows that a majority of respondents (53.7 percent) agree or strongly agree that the value of help desk services is well understood, and a near-majority (45.2 percent) agrees or strongly agrees that value is well documented.

Agreement with our statement that costs are well documented was distributed bimodally, with a majority expressing positive responses; neutral opinions made up about a sixth of the responses, and negative
responses came from not quite one-third of respondents. However, agreement that costs are well understood was overwhelmingly negative, with almost two-thirds of respondents disagreeing or strongly disagreeing and only one in eight agreeing or strongly agreeing.

The mean levels of agreement presented in Table 10-1 clearly illustrate the discrepancy between the effectiveness of help desk communication about costs and about value. Mean agreement about the documentation of costs, at 3.36 on a five-point scale, came in slightly more positive than mean agreement about the documentation of value, at 3.29. However, mean agreement about campus understanding of costs, at 2.39, was more than a full point below mean agreement about understanding of value (3.43). Thus, despite slightly greater effort to make costs known, overall our respondents felt campus understanding of costs to be inadequate.

Campus understanding of the help desk’s costs and value is positively associated with the alignment of campus expectations and help desk resources, discussed in Chapter 6. Respondents agreeing or strongly agreeing that value is well understood expressed a mean level of agreement that expectations were aligned with resources that was about 0.7 points higher, on our five-point scale, than for those disagreeing or strongly disagreeing that value is well understood. The pattern and level of difference were very similar for help desk costs. This finding reinforces our sense that successful communication of help desk costs and value can contribute to the alignment of expectations and resources.

Help Desk Maturity

To get a feel for the level of development of respondents’ help desks, we adapted for our purposes the Capability Maturity Model Integration (CMMI) framework developed by the Carnegie Mellon Software Engineering Institute. The framework defines five levels of maturity that can be applied to processes like those undertaken by a central IT help desk. Those levels, as we adapted them and defined them for our respondents, are as follows:
Table 10-1. Agreement That Help Desk Costs and Value Are Well Documented and Understood

<table>
<thead>
<tr>
<th>Documentation and Understanding</th>
<th>N</th>
<th>Mean*</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Costs are well documented.</td>
<td>447</td>
<td>3.36</td>
<td>1.193</td>
</tr>
<tr>
<td>Costs are well understood by constituents.</td>
<td>439</td>
<td>2.39</td>
<td>0.944</td>
</tr>
<tr>
<td>Value is well documented.</td>
<td>447</td>
<td>3.29</td>
<td>1.047</td>
</tr>
<tr>
<td>Value is well understood by constituents.</td>
<td>445</td>
<td>3.43</td>
<td>1.075</td>
</tr>
</tbody>
</table>

*Scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree

- **Initial**—Services are usually provided ad hoc and rely on individual efforts, and past successes are often not repeatable.
- **Repeatable**—Service responsibilities are formally assigned, success is usually repeatable, and basic project management techniques are used.
- **Standardized**—Service quality standards are in place and used, consistency of services is a priority, and process improvement is a goal.
- **Managed**—Quantitative performance goals are in place, service performance is measured, and service quality is predictable.
- **Optimized**—Services are closely aligned to business strategies, services are easily changed to meet emerging needs, and process improvement is continuous.

In the following discussion, we refer to the categories nearer to “optimized” as more mature and those nearer to “initial” as less mature.

Figure 10-7 portrays the range of assessments our respondents made of their help desks’ maturity. Slightly more than one-third of respondents (35.7 percent) reported the lower “initial” and “repeatable” maturity levels. A slightly larger group, 40.0 percent, reported the middle level of maturity, “standardized,” and not quite one-quarter (24.3 percent) reported the more mature “managed” and “optimized” levels.

We found no significant association between help desk maturity level and any of our key demographics, the central IT organization’s goal, the IT budget, institutional budget climate, or help desk staffing, all of which we might expect to affect the help desk’s performance along the dimensions included in our maturity framework. Nevertheless, many other survey items were positively associated with help desk maturity, as discussed in the following sections.

**The Mature Help Desk Toolset**

Among the factors associated with help desk maturity, as reported to us, was the mean number of tools the help desk used and provided for its staff and its clients. As reported in Chapter 7, we asked about the automation of five common help desk functions: call logging, call routing, call escalation, a call database, and call database query and reporting tools. Table 10-2 shows that the mean number of functions for which automation was fully implemented was smaller for institutions reporting less mature help desks and higher for those reporting more mature ones.

Similarly, respondent institutions with more mature help desks reported the implementation of significantly higher numbers of help desk staff and user support tools, and greater agreement that the institution effectively uses self-service tools to reduce help desk demand.

**Help Desk Maturity, Goals, and Planning**

As Table 10-3 shows, the number of reported goals was associated significantly with perceived help desk maturity—up
to a point. From “initial” maturity level to “managed,” the mean number of goals reported increased from 2.97 to 6.87. The mean dropped off slightly to 6.60 for the “optimized” category, but this may simply be an artifact of sample size, which drops substantially in this category.

Our respondents also gave us reason to believe that strategic planning is positively associated with help desk maturity. Figure 10-8 shows that institutions with no strategic plan for the help desk made up slightly more than half of those whose help desks were at the “initial” and “repeatable” maturity levels. Institutions with help desk strategic plans integrated into their central IT organizations’ strategic plans for IT made up almost 6 in 10 of those with “managed” or “optimized” help desks. In general, the better developed and more integrated the institution’s strategic plan, the higher its help desk’s maturity level.

Having a stand-alone strategic plan for the help desk seems less related to help desk maturity. The percentage of “optimized” help desks with such plans was 6.7, a bit more than twice as many as at the “initial” level. By contrast, the percentage of “optimized” help desks with integrated strategic plans was more than 20 times the percentage at the “initial” level. This supports a key tenet of the IT service management literature—that the best environment for IT services is one in which the service providers’ efforts are well integrated.
Table 10-3. Number of Documented Help Desk Goals, by Help Desk Maturity Level

<table>
<thead>
<tr>
<th>Maturity Level</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial</td>
<td>35</td>
<td>2.97</td>
<td>3.745</td>
</tr>
<tr>
<td>Repeatable</td>
<td>127</td>
<td>4.28</td>
<td>3.475</td>
</tr>
<tr>
<td>Standardized</td>
<td>178</td>
<td>5.47</td>
<td>3.187</td>
</tr>
<tr>
<td>Managed</td>
<td>79</td>
<td>6.87</td>
<td>2.366</td>
</tr>
<tr>
<td>Optimized</td>
<td>30</td>
<td>6.60</td>
<td>2.848</td>
</tr>
<tr>
<td>Total</td>
<td>449</td>
<td>5.26</td>
<td>3.354</td>
</tr>
</tbody>
</table>

Help Desk Maturity and ITSM Practices

At their highest levels, both ITSM and CMMI have as their goals the alignment of IT services with business needs. As one might expect, then, we found a significant positive association between the help desk maturity levels our respondents reported and the number of basic IT service management practices they had implemented.

As Table 10-4 illustrates, 1.40 was the mean number of our four basic ITSM practices implemented by respondents who evaluated their help desk maturity as “initial.” That number increased steadily as help desk maturity increased until, at the “optimized” level, a mean of 3.33 of our four ITSM practices had been implemented.

Maturity and the Help Desk/ Central IT Partnership

As discussed in Chapter 9, it is important for the central IT organization to include the help desk in activities that may impact help desk client services. We asked respondents if their help desks’ personnel were adequately included in central IT activities related to our four basic ITSM practices. The number of activities in which our respondents said the help desk was included was positively associated with help desk maturity.
Table 10-4. Number of Four Basic ITSM Practices Adopted, by Help Desk Maturity Level

<table>
<thead>
<tr>
<th>Maturity Level</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial</td>
<td>35</td>
<td>1.40</td>
<td>1.538</td>
</tr>
<tr>
<td>Repeatable</td>
<td>127</td>
<td>1.87</td>
<td>1.458</td>
</tr>
<tr>
<td>Standardized</td>
<td>181</td>
<td>2.40</td>
<td>1.530</td>
</tr>
<tr>
<td>Managed</td>
<td>80</td>
<td>3.01</td>
<td>1.288</td>
</tr>
<tr>
<td>Optimized</td>
<td>30</td>
<td>3.33</td>
<td>1.184</td>
</tr>
<tr>
<td>Total</td>
<td>453</td>
<td>2.35</td>
<td>1.536</td>
</tr>
</tbody>
</table>

The mean number of activities reported by respondents whose help desks are at the “initial” level of maturity was 1.57. Respondents at the other end, whose help desks are at the “optimized” level, reported adequate engagement in twice that number, 3.13 activities out of 4. This finding suggests that institutions with more mature help desks emphasize communication and inclusiveness.

**Help Desk Maturity and Metrics**

Help desk maturity was positively associated with many of the findings related to help desk metrics that we reported earlier in this chapter. Respondents with “optimized” help desks reported the regular analysis of three times more help desk metrics, comparing means, than those at the “initial” level of help desk maturity (see Table 10-5). Moreover, they said they reported those metrics to a mean of almost twice as many constituencies.

**Help Desk Maturity and Assessment of User Satisfaction**

As reported earlier in this chapter, respondents’ help desks varied widely in the number of methods they used to assess user satisfaction. Table 10-6 illustrates the positive association between that finding and the maturity of our respondents’ help desks. Help desks at “initial” maturity used an average of 3.17 of the nine methods of assessment we asked about. The number of methods rises with maturity level, leaping substantially from 4.21 at the “managed” level to 5.00 at “optimized.” This suggests that a focus on assessment goes hand in hand with help desk maturity.

**Help Desk Maturity and the Communication of Costs and Value**

Just as communication between central IT and the help desk was associated with help desk maturity, so was the help desk’s communication with its campus constituents about help desk costs and value. Table 10-7 documents this finding. As maturity level increases from “initial” to “optimized,” the mean levels of agreement about all four aspects of the communication of costs and value rise. Means within a maturity level are fairly uniform except that the mean for agreement that costs are well understood is always considerably lower.

**Summary and Implications**

In general, our respondents’ help desks analyzed most frequently those metrics related to demand and problem resolution time; they analyzed telephone-related metrics less frequently. Central IT staff and management were the primary constituencies to which help desk metrics were regularly reported; our respondents said they reported metrics to top-level campus executives less than half as often. These findings
suggest that at the majority of respondent institutions, the help desk is internally focused in its reporting relationships.

Agreement that the help desk uses metrics effectively to improve user service was fairly strong, with about 40 percent agreeing, 30 percent disagreeing, and 30 percent neutral. Stronger agreement was associated with greater numbers of constituencies to which metrics were reported and greater numbers of vehicles by which reporting is done, suggesting the interrelation of “more use” and “more effective use” of metrics. Also positively associated with agreement that the help desk uses metrics effectively were SLA use, how many documented goals the help desk had, and the number of basic ITSM planning and management practices for which the central IT organization had adopted formal guidelines. Thus, the use of metrics appears to be part of a cluster of “deliberate and organized” practices that help desks and their parent organizations employ together.

Respondents more commonly used informal methods of assessing user satisfaction than formal ones, although nearly two-thirds also used formal surveys. A majority also used Web feedback forms.

Agreement was generally good that the help desk’s value is well documented and well understood. Agreement that help desk costs were well documented was variable, but a majority of respondents disagreed that costs were well understood. As might be expected, the more strongly respondents agreed that campus expectations of the help desk were aligned with its resources, the greater their agreement, in general, that help desk costs and value were well understood.

Respondents’ ratings of their help desks’ process maturity followed an approximately normal, bell-shaped distribution, skewed a little to the immature side but with 40 percent saying their help desks were at the “standardized” level, in the middle of the range.

Maturity was positively associated with several other factors, including more robust help desk toolsets for help desk admin-

<table>
<thead>
<tr>
<th>Maturity Level</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
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<tbody>
<tr>
<td>Initial</td>
<td>35</td>
<td>1.49</td>
<td>2.513</td>
</tr>
<tr>
<td>Repeatable</td>
<td>127</td>
<td>2.72</td>
<td>2.429</td>
</tr>
<tr>
<td>Standardized</td>
<td>181</td>
<td>3.34</td>
<td>2.404</td>
</tr>
<tr>
<td>Managed</td>
<td>80</td>
<td>4.79</td>
<td>2.139</td>
</tr>
<tr>
<td>Optimized</td>
<td>30</td>
<td>4.97</td>
<td>2.671</td>
</tr>
<tr>
<td>Total</td>
<td>453</td>
<td>3.39</td>
<td>2.568</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Maturity Level</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial</td>
<td>35</td>
<td>3.17</td>
<td>2.007</td>
</tr>
<tr>
<td>Repeatable</td>
<td>127</td>
<td>3.47</td>
<td>1.713</td>
</tr>
<tr>
<td>Standardized</td>
<td>181</td>
<td>4.06</td>
<td>1.671</td>
</tr>
<tr>
<td>Managed</td>
<td>80</td>
<td>4.21</td>
<td>1.847</td>
</tr>
<tr>
<td>Optimized</td>
<td>30</td>
<td>5.00</td>
<td>1.509</td>
</tr>
<tr>
<td>Total</td>
<td>453</td>
<td>3.92</td>
<td>1.782</td>
</tr>
</tbody>
</table>
Table 10-7. Agreement About Communication of Costs and Value, by Help Desk Maturity Level

<table>
<thead>
<tr>
<th>Statement</th>
<th>N</th>
<th>Mean Level of Agreement</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Costs Are Well Documented</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial</td>
<td>35</td>
<td>2.49</td>
<td>1.269</td>
</tr>
<tr>
<td>Repeatable</td>
<td>125</td>
<td>2.98</td>
<td>1.157</td>
</tr>
<tr>
<td>Standardized</td>
<td>177</td>
<td>3.45</td>
<td>1.127</td>
</tr>
<tr>
<td>Managed</td>
<td>80</td>
<td>3.78</td>
<td>1.006</td>
</tr>
<tr>
<td>Optimized</td>
<td>30</td>
<td>4.30</td>
<td>0.915</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>447</td>
<td>3.36</td>
<td>1.193</td>
</tr>
<tr>
<td><strong>Costs Are Well Understood</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial</td>
<td>35</td>
<td>2.00</td>
<td>0.840</td>
</tr>
<tr>
<td>Repeatable</td>
<td>123</td>
<td>2.29</td>
<td>0.847</td>
</tr>
<tr>
<td>Standardized</td>
<td>175</td>
<td>2.40</td>
<td>0.928</td>
</tr>
<tr>
<td>Managed</td>
<td>76</td>
<td>2.38</td>
<td>0.966</td>
</tr>
<tr>
<td>Optimized</td>
<td>30</td>
<td>3.20</td>
<td>1.064</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>439</td>
<td>2.39</td>
<td>0.944</td>
</tr>
<tr>
<td><strong>Value Is Well Documented</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial</td>
<td>34</td>
<td>2.32</td>
<td>0.912</td>
</tr>
<tr>
<td>Repeatable</td>
<td>126</td>
<td>2.92</td>
<td>0.917</td>
</tr>
<tr>
<td>Standardized</td>
<td>177</td>
<td>3.28</td>
<td>1.005</td>
</tr>
<tr>
<td>Managed</td>
<td>80</td>
<td>3.91</td>
<td>0.799</td>
</tr>
<tr>
<td>Optimized</td>
<td>30</td>
<td>4.27</td>
<td>0.828</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>447</td>
<td>3.29</td>
<td>1.047</td>
</tr>
<tr>
<td><strong>Value Is Well Understood</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial</td>
<td>34</td>
<td>2.26</td>
<td>1.053</td>
</tr>
<tr>
<td>Repeatable</td>
<td>127</td>
<td>3.23</td>
<td>1.017</td>
</tr>
<tr>
<td>Standardized</td>
<td>176</td>
<td>3.51</td>
<td>0.986</td>
</tr>
<tr>
<td>Managed</td>
<td>78</td>
<td>3.74</td>
<td>0.932</td>
</tr>
<tr>
<td>Optimized</td>
<td>30</td>
<td>4.30</td>
<td>0.952</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>445</td>
<td>3.43</td>
<td>1.075</td>
</tr>
</tbody>
</table>

*Scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree

Administrators, staff, and clients; the number of goals the help desk had adopted; the status of strategic planning for the help desk; and alignment of campus expectations of the help desk with its resources. It was also positively associated with the number of our four basic ITSM planning and management practices for which the IT organization had formal guidelines in place and the perceived adequacy of the help desk staff’s involvement in central IT’s ITSM-related activities.

Other positive associations with help desk maturity included the number of help desk metrics regularly analyzed and the number of constituencies to which those metrics were reported. The mean number of methods used to assess user satisfac-
tion rose consistently with higher levels of help desk maturity, as did agreement that costs and value of the help desk are well documented and well understood.

Endnote

Success of the Help Desk: Assessing Outcomes

I dread success…. I like a state of continual becoming, with a goal in front and not behind.
—George Bernard Shaw

Key Findings

- Respondents’ help desks tend to meet most representative goals “often” or “almost always.”
- Respondents’ help desks have their greatest positive impact on central IT service reputation and the perceived value of central IT. Instructional and administrative activities and the workloads of central and unit-specific IT staff follow, with the lowest positive impact recorded in the area of research activities.
- Positive help desk impact is greater where respondents report greater help desk maturity, more advanced strategic plan status, stronger agreement that the help desk uses metrics effectively to improve user service, and a brisker pace of adoption of new technologies by the institution as a whole.
- More than half of respondents rate overall help desk service quality as either very good or excellent.
- Respondents say their clients would rate help desk service quality lowest in the areas of research support and support for administrative and instructional applications.
- Service quality is positively associated with adoption of our list of four basic ITSM practices and inclusion of the help desk in activities related to them; with the use of metrics to document the help desk’s performance; and with the existence of a strategic plan for the help desk.
- In general, the richer the help desk toolset, the better the help desk’s overall service quality.
- Service quality varies dramatically with the help desk’s maturity level. The more mature the help desk, the higher the service quality rating.
- In all eight of the areas we asked about, the extent of the help desk’s positive impact is greater where help desk service quality is higher.

The success of the higher education IT help desk is, in large part, reflected in its ability to meet its goals. Our respondents told us in general and on average that they “often” or “almost always” do what they set out to do in nine representative areas. However, they also told us that they would rate the overall quality of the services the help desk provides somewhat lower—3.55 on a five-point scale, placing them squarely between “good” and “very good.” These findings suggest that meeting goals isn’t the only key to an organization’s...
success. For example, success is not assured if the wrong goals are met or if low-priority goals are met at the expense of other matters whose importance may have been underestimated and for which goals may never have been articulated.

This chapter explores factors affecting help desk outcomes: the success our respondents have had at meeting the goals we discussed in Chapter 9, the areas in which they feel the help desk has a positive impact, and their estimations of their help desks’ overall service quality. As we shall see, each of these measures is associated with several help desk management practices we discussed in previous chapters.

**Success in Meeting Goals**

Having goals in place is a good thing, in general, and in Chapter 9 we saw that majorities of respondents had documented goals in place for help desk service availability, user satisfaction, and call/incident resolution. Smaller percentages of respondents had set for themselves various others of the nine goals we asked about.

Of course, just having a goal in place is no assurance that it will be met, with all the implications that failure to meet goals has for service quality and the effectiveness of the help desk. The frequency with which our respondents’ help desks met their goals was surprisingly uniform, as Table 11-1 demonstrates, ranging from a low of 3.83 (between “sometimes” and “often”) to a high of 4.67 (between “often” and “almost always”).

The goal most frequently met was support service availability. As discussed in Chapter 9, meeting this goal might be as simple as opening the help desk office doors during posted operation hours or assigning a staff member to the help desk telephone line and e-mail account. This probably explains the difference of 0.45 points on our five-point scale between this goal’s mean frequency and that of the next—and considerably more complex—one, incidents resolved per unit time.

Other goals reported as being met with a mean frequency greater than 4.0 (“often”) include incidents resolved per unit time, incidents resolved per staff member per unit time, percentage of user satisfaction, and calls resolved at first contact. Goals reported as being met with a mean frequency above 3.0 (“sometimes”) but below 4.0 include telephone wait times, SLA requirements fulfilled, complex-incident resolution time, and telephone call abandonment rate.

**Positive Impact of the Help Desk**

Looking at perceptions of the help desk’s success in meeting its goals gives us focused insight into particular help desk practices but doesn’t help us gauge the help desk’s positive

<table>
<thead>
<tr>
<th>Help Desk Goal</th>
<th>N</th>
<th>Mean*</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support service availability</td>
<td>378</td>
<td>4.67</td>
<td>0.626</td>
</tr>
<tr>
<td>Incidents resolved per unit time</td>
<td>282</td>
<td>4.22</td>
<td>0.732</td>
</tr>
<tr>
<td>Incidents per staff member</td>
<td>225</td>
<td>4.18</td>
<td>0.753</td>
</tr>
<tr>
<td>Percentage user satisfaction</td>
<td>278</td>
<td>4.17</td>
<td>0.759</td>
</tr>
<tr>
<td>Calls resolved at first contact</td>
<td>279</td>
<td>4.09</td>
<td>0.786</td>
</tr>
<tr>
<td>Telephone wait times</td>
<td>210</td>
<td>3.98</td>
<td>0.935</td>
</tr>
<tr>
<td>SLA requirements fulfilled</td>
<td>112</td>
<td>3.96</td>
<td>1.039</td>
</tr>
<tr>
<td>Complex-incident resolution time</td>
<td>252</td>
<td>3.85</td>
<td>0.841</td>
</tr>
<tr>
<td>Call abandonment rate</td>
<td>180</td>
<td>3.83</td>
<td>1.093</td>
</tr>
</tbody>
</table>

*Scale: 1 = almost never, 2 = seldom, 3 = sometimes, 4 = often, 5 = almost always*
impact on its constituents. The ideal way to assess impact, of course, is to survey the client population directly—something many of our respondents do regularly but which is beyond the scope of this survey. So to help sharpen our sense of help desk benefits, we asked respondents to evaluate the positive impact the central IT help desk had in the following eight areas:

- the institution’s instructional activities,
- the institution’s administrative activities,
- the institution’s research activities,
- central IT services’ general reputation,
- campus perception of the value of current central IT services,
- campus administration’s willingness to fund additional central IT initiatives,
- reducing central IT specialists’ workload, and
- reducing unit-specific IT specialists’ workload.

Figure 11-1 portrays the responses, with impact areas arrayed from left to right in ascending order of “high” positive impact responses.\(^1\)

Respondents reported that the help desk had the least positive impact on research activities: Nearly two-thirds said the extent of the help desk’s positive impact was “not at all” or “a little.” Slightly more than a quarter said impact was moderate, and fewer than 1 in 10 said it was high. (Note that only 87.4 percent of our survey population responded to this question, reflecting the many institutions at which research is not an institutional priority.) Research was the only impact area for which the percentage of low responses exceeded both moderate and high, and one of only two in which moderate response percentages exceeded high ones. As we saw in Chapter 5 (Figure 5-6), research applications is one of the four areas for which help desks provide assistance least often, no doubt helping to explain why respondents rated the help desk’s impact in this area so low.

Respondents gave us well-assorted responses regarding the help desk’s positive

Figure 11-1. Extent to Which Help Desk Positively Impacts Selected Areas

Definitions: low = “not at all” + “a little,” moderate = “somewhat,” high = “considerably” + “extensively”
impact on the administration’s willingness to fund additional central IT initiatives. Slightly more said positive impact was high than said it was low, while nearly 4 in 10 said it was moderate.

In all the other areas, positive impact was generally acknowledged to be high. Majorities said positive impact was high, except in the area of unit-specific IT staff workload. Respondents rated the help desk’s positive impact highest for central IT reputation and central IT’s perceived value.

Table 11-2 presents mean values for positive help desk impact. It shows, for example, that mean positive impact on research, at 2.16, was just above “a little” and central IT reputation, at 4.31, was nearly twice as great and approached the midpoint between “considerably” and “extensively.”

In several areas, mean extent of the help desk’s positive impact was significantly associated with other measures. Table 11-3 illustrates the strongest of those associations: Positive impact on central IT reputation, central IT’s perceived value, the workload of central and unit-specific IT staff, and the institution’s research activities were all higher where the help desk maturity level was toward the “optimized” end of our maturity spectrum.

Positive impact was also significantly associated with strategic plan status in the area of the institution’s research activities. Where the institution had either a stand-alone strategic plan or a strategic plan integrated into the central IT strategic plan, the help desk’s positive impact on the research area was significantly higher. Also in the research area, positive impact was significantly associated with agreement that the help desk uses metrics effectively to improve user service for research activities. Higher positive impact was associated with a higher level of agreement.

From these findings we can infer that having achieved a higher maturity level gives the help desk some advantage in positively impacting a range of campus activities. Along with maturity, having a strategic plan in place and using metrics effectively to improve user service are characteristics shared by many institutions whose respondents said their help desks positively impacted research activities.

**Overall Service Quality**

In general, our respondents took a positive tone in completing the sentence in our survey that began, “In terms of overall service quality, I believe our central IT help desk is...” The list from which they chose included poor, fair, good, very good, and excellent. As Figure 11-2 illustrates, only 0.7 percent characterized their help desk service quality as poor, 11.4 percent said it was fair, 32.9 percent said it was good, 41.8 percent said it was very good, and 13.2 percent said it was excellent. When converted

<table>
<thead>
<tr>
<th>Service Area</th>
<th>N</th>
<th>Mean*</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central IT reputation</td>
<td>449</td>
<td>4.31</td>
<td>0.779</td>
</tr>
<tr>
<td>Perceived value of central IT</td>
<td>446</td>
<td>4.18</td>
<td>0.825</td>
</tr>
<tr>
<td>Administrative activities</td>
<td>449</td>
<td>3.82</td>
<td>0.978</td>
</tr>
<tr>
<td>Workload of central IT staff</td>
<td>437</td>
<td>3.51</td>
<td>1.017</td>
</tr>
<tr>
<td>Instructional activities</td>
<td>444</td>
<td>3.47</td>
<td>1.044</td>
</tr>
<tr>
<td>Workload of unit-specific IT staff</td>
<td>390</td>
<td>3.17</td>
<td>1.152</td>
</tr>
<tr>
<td>Willingness to fund central IT</td>
<td>409</td>
<td>2.98</td>
<td>1.079</td>
</tr>
<tr>
<td>Research activities</td>
<td>397</td>
<td>2.16</td>
<td>0.969</td>
</tr>
</tbody>
</table>

*Scale: 1 = not at all, 2 = a little, 3 = somewhat, 4 = considerably, 5 = extensively*
to a numeric scale ranging from 1 to 5, the mean response was 3.55 (standard deviation 0.884), just over halfway between good and very good, and the median response was 4, or very good.

Using the same scale from poor to excellent, we asked respondents to tell us how they thought central IT help desk users would rate the support assistance provided for specific types of assistance. Table 11-4 lists those items and the results, which provide a finer-grained picture of the perceived quality of help desk services.

With the exception of assistance for research applications, the mean ratings for all types of assistance ranged between 3.26 and 3.79—roughly a quarter of a point above good to a quarter of a point below very good.

The relatively low mean rating for assistance with research applications is consistent with the findings illustrated in Chapter 5 (Figure 5-6), which show that more than two-thirds (67.4 percent) of respondent institutions reported providing assistance with research applications seldom or almost never. The finding about research applications reported above helps explain that high percentage; it suggests that to some extent the research community was not contacting the central IT help desk for assistance with its applications because, in our respondents’ estimation, researchers’ opinions of help desk assistance were relatively low.

The low mean ratings of assistance for administrative and instructional applications are of some concern. Along with research, these areas tend to be highly strategic for the institution and figure prominently in institutional goals. Ratings of help desk services are higher in more tactical areas such as support for identity management, desktop essentials (such as operating systems, security, and privacy), and communication applications.

We saw in Chapter 4 that providing infrastructure and services that further the institution’s strategic goals was the goal of more than two-thirds of our respondents’ central IT organizations. Thus, while overall service quality may be rated high, it concerns us that the help desk’s services, as reflected in these mean ratings, appear not to be operating as well at the strategic level as at the tactical.

### Table 11-3. Significant Positive Associations Between Extent of Positive Impact and Other Measures

<table>
<thead>
<tr>
<th>Service Area</th>
<th>Help Desk Maturity Level</th>
<th>Strategic Plan Status</th>
<th>Agreement That Help Desk Uses Metrics Effectively</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central IT reputation</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived value of central IT</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative activities</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Workload of central IT staff</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Instructional activities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workload of unit-specific IT staff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Willingness to fund central IT</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research activities</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**Service Quality and ITSM Practices**

Slightly higher levels of mean help desk service quality are significantly associated with the implementation of formal guidelines for the basic ITSM practices of capacity planning, availability planning, change manage-
ment, and release management. Table 11-5 presents the relationship: Among respondents who had adopted a given practice, we see a positive difference of about a third of a point on a five-point quality scale over those who had not adopted that practice.

By itself, SLA implementation, another ITSM-related practice, is not significantly associated with overall service quality.

In Chapters 9 and 10, as part of our discussion of the partnership between the help desk and the central IT organization, we discussed the adequacy of help desk staff inclusion in central IT’s activities in four ITSM-related areas. As Table 11-6 shows, the greater the number of ITSM activity areas in which the help desk is adequately included, the better the overall quality of help desk services.

The data as presented above mask marked increases in the mean number of ITSM activities help desk staff are included in, especially at the high end of the quality scale. Figure 11-3 orients the data differently and reveals the pattern. Because only three respondents reported poor service quality, we disregard

---

**Table 11-4. Ratings of Help Desk Assistance**

<table>
<thead>
<tr>
<th>Type of Assistance</th>
<th>N</th>
<th>Mean*</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identity management</td>
<td>444</td>
<td>3.79</td>
<td>0.938</td>
</tr>
<tr>
<td>Desktop essentials</td>
<td>442</td>
<td>3.77</td>
<td>0.879</td>
</tr>
<tr>
<td>Communication applications</td>
<td>446</td>
<td>3.68</td>
<td>0.889</td>
</tr>
<tr>
<td>Personal productivity applications</td>
<td>434</td>
<td>3.64</td>
<td>0.939</td>
</tr>
<tr>
<td>Campus IT infrastructure</td>
<td>437</td>
<td>3.57</td>
<td>0.949</td>
</tr>
<tr>
<td>Instructional applications</td>
<td>407</td>
<td>3.38</td>
<td>0.957</td>
</tr>
<tr>
<td>Administrative applications</td>
<td>399</td>
<td>3.26</td>
<td>0.961</td>
</tr>
<tr>
<td>Research applications</td>
<td>219</td>
<td>2.53</td>
<td>1.037</td>
</tr>
</tbody>
</table>

*Scale: 1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent*
that finding; where quality is better, we see a clear upward trend in the number of ITSM activities with adequate help desk inclusion. Respondents reporting excellent service quality also report nearly twice as many ITSM activities with adequate help desk inclusion as those whose service quality is only fair.

In summary, these findings show that ITSM practices and help desk service quality go hand in hand. Adoption of formal guidelines for each of the ITSM practices we asked about was associated with higher overall service quality. And the association between quality and the extent to which help desk personnel are included in the central IT organization’s ITSM activities was even more dramatically positive.

### Service Quality and Basic Organizational Parameters

The central IT help desk’s overall service quality was significantly associated with several

---

**Table 11-5. Overall Service Quality, by Adoption of Basic ITSM Practices**

<table>
<thead>
<tr>
<th>ITSM Practice</th>
<th>N</th>
<th>Mean*</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Capacity Planning</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No formal guidelines</td>
<td>191</td>
<td>3.39</td>
<td>0.851</td>
</tr>
<tr>
<td>Formal guidelines in place</td>
<td>231</td>
<td>3.73</td>
<td>0.849</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>422</td>
<td>3.58</td>
<td>0.865</td>
</tr>
<tr>
<td><strong>System Availability Planning</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No formal guidelines</td>
<td>137</td>
<td>3.36</td>
<td>0.872</td>
</tr>
<tr>
<td>Formal guidelines in place</td>
<td>294</td>
<td>3.67</td>
<td>0.861</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>431</td>
<td>3.57</td>
<td>0.875</td>
</tr>
<tr>
<td><strong>Change Management</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No formal guidelines</td>
<td>157</td>
<td>3.36</td>
<td>0.892</td>
</tr>
<tr>
<td>Formal guidelines in place</td>
<td>266</td>
<td>3.71</td>
<td>0.853</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>423</td>
<td>3.58</td>
<td>0.883</td>
</tr>
<tr>
<td><strong>Release Management</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No formal guidelines</td>
<td>161</td>
<td>3.37</td>
<td>0.907</td>
</tr>
<tr>
<td>Formal guidelines in place</td>
<td>259</td>
<td>3.70</td>
<td>0.858</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>420</td>
<td>3.58</td>
<td>0.891</td>
</tr>
</tbody>
</table>

*Scale: 1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent*

**Table 11-6. Overall Service Quality, by Number of Four Basic ITSM Activities in Which Help Desk Is Adequately Included**

<table>
<thead>
<tr>
<th>Number of ITSM Activities That Include Help Desk</th>
<th>N</th>
<th>Mean*</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>79</td>
<td>3.13</td>
<td>0.911</td>
</tr>
<tr>
<td>One</td>
<td>38</td>
<td>3.42</td>
<td>0.793</td>
</tr>
<tr>
<td>Two</td>
<td>76</td>
<td>3.41</td>
<td>0.751</td>
</tr>
<tr>
<td>Three</td>
<td>69</td>
<td>3.61</td>
<td>0.911</td>
</tr>
<tr>
<td>Four</td>
<td>185</td>
<td>3.81</td>
<td>0.850</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>447</td>
<td>3.55</td>
<td>0.884</td>
</tr>
</tbody>
</table>

*Scale: 1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent*
basic characteristics of the help desk, the central IT organization, and the institution.

As Table 11-7 shows, perceived adequacy of help desk funding increased from a mean of 2.94, just below “good,” where funding was seen as much less than adequate, to 3.92, just below “very good,” where funding was seen as more than adequate. Only one respondent said help desk funding was much more than adequate, so the “mean” of 3.0 at that level is best ignored.

We found no significant association between overall help desk service quality and the number of full-time equivalent staff working at the help desk.

Service quality is also associated with the pace at which institutions and their central IT organizations said they adopted new technologies. Table 11-8 portrays the differences in overall service quality for each of three paces of adoption. In general, overall help desk service quality was a bit higher relative to the institution’s adoption pace than to the central IT organization’s pace. Whichever entity’s pace we looked at, mean service quality was highest among early adopters (3.81 to 3.89, closer to very good than to good). Among mainstream adopters, mean service quality was a third of a point lower (3.54 to 3.56, halfway between good and very good), and among late adopters it was three- or four-tenths of a point lower still (3.15 to 3.32, relatively low in the good range).

These findings suggest that at most respondent institutions the additional support burden of early adoption of new technologies does not negatively impact overall service quality. We might even speculate that earlier adoption of new technologies lends a positive glow to help desk services, at least in our respondents’ eyes.

Finally, Figure 11-4 shows that as help desk quality increased, so did mean agreement that campus expectations of the help desk were aligned with its resources.

Mean overall service quality was lower where respondents disagreed or strongly disagreed that campus expectations and help desk resources were aligned, or where respondents were neutral. In these categories, mean service quality ranged from 3.24 to 3.38, less
than halfway between good and very good. Where respondents agreed that expectations and resources were aligned, service quality was much closer to very good than to good. Among the 21 respondents who agreed strongly about alignment, mean overall service quality was a third of the way between very good and excellent. It thus appears that where the alignment of campus expectations and help desk resources is perceived as better, service quality is markedly better. Where alignment is seen as poorer, service quality is also poorer, though the relationship is more diffuse.

**Service Quality and Help Desk Toolsets**

Overall help desk service quality is also associated with the richness of the various toolsets the help desk uses. For example, in Table 11-9 we see that mean help desk service quality increases with increasing agreement that the institution uses self-service tools effectively to reduce help desk demand.

We also found that service quality increased as the number of automated help desk functions increased and was significantly greater for respondent institutions whose automated help desk functions were part of an integrated system.

In general, service quality increased as the number of help desk staff support tools implemented increased. The relationship between service quality and the number of user tools the help desk had implemented was more complex: We found a striking difference in quality between respondent institutions with no user tools implemented (mean overall service quality of 3.30, stan-
Standard deviation 0.858) and the 14 institutions where all four had been implemented (mean 4.63, standard deviation 0.633), but among respondents who had implemented one, two, or three such tools, mean service quality was fairly uniform, ranging from 3.62 to 3.72.

All the findings reported in this section reinforce the idea that better help desk toolsets are associated with better help desk service quality. Thus it appears that if quality help desk services are a goal, at least one contributor to small improvements would be investment in a robust set of help desk tools.

**Service Quality, Goals, and Planning**

Figure 11-5 shows the clear, significant association between mean overall service quality and the number of goals the help desk met often or almost always. Institutions reporting no help desk goals rated mean overall service quality at 3.04 (standard deviation 0.892), “good” on our five-point scale. Service quality increases steadily as the number of goals met increases. Where all nine goals were met often or almost always, mean overall service quality was 4.19 (standard deviation 0.681), just over “very good.”
Respondents meeting intermediate numbers of goals had service quality ratings between these numbers.

Viewed as mean number of help desk goals met often or almost always, by overall service quality, this relationship holds as well. Among respondent institutions where service quality was poor or fair, the mean number of goals was 1.30 (standard deviation 1.500). Where quality was very good or excellent, the mean number of goals was three times higher, at 4.80 (standard deviation 2.940).

Strategic planning and mean overall service quality were also significantly associated. Where no strategic plan was in place, mean overall service quality was 3.40 (standard deviation 0.895). Where a strategic plan for the help desk was integrated into the IT institution’s strategic plan, mean overall service quality was almost half a point higher, at 3.86 (standard deviation 0.776). Where the strategic plan for the help desk stood alone, mean service quality lay between these figures.

These findings reinforce what seems obvious: A healthy set of goals and a strategic plan for the help desk go hand in hand with service quality.

**Service Quality and Metrics**

In our data set, positive associations are present but not strong between mean overall help desk service quality and both the number of metrics the help desk analyzed and the number of constituencies to which it reported those metrics. On the other hand, respondents’ agreement that the help desk uses metrics effectively to improve user service is more persuasively associated with service quality (see Table 11-10). Respondents strongly disagreeing had a mean service quality of 2.86, just under “good,” while those strongly agreeing had a mean service quality of 4.05, just over “very good.”

We found that regularly analyzing more metrics and reporting them to more constituencies were not associated with impressive gains in overall help desk service quality. However, when we asked a more probing question about the effectiveness of the help desk
Our respondents reported a more compelling positive association with service quality. While service quality may benefit from having metrics in place and reporting them to the appropriate entities, these findings suggest that these steps alone are not sufficient.

Our analyses found no significant association at all between service quality and either the number of methods used to assess help desk user satisfaction or the use of any of the individual assessment methods. While assessing user satisfaction may very well have benefits in planning, steering, and evaluating help desk services, it appears neither to drive overall help desk service quality nor to be driven by it.

**Service Quality and Communication of Costs and Value**

The extent to which the campus is aware of the central IT help desk’s costs and value is positively associated with help desk service quality. As Table 11-11 shows, for each of the four statements we proposed, respondents who strongly agreed had substantially higher mean overall service quality than those who strongly disagreed. For the statements about help desk costs, service quality among those who strongly agreed was about nine-tenths of a point higher on our five-point scale. For the statements about help desk value, the difference was between 1.6 and 1.7 points.

From these data it appears that successful communication of the costs and value of help desk services goes hand in hand with service quality.

**Service Quality and Help Desk Maturity**

As discussed in Chapter 10, we asked respondents to characterize their central IT help desks in terms of their organizational maturity. Not surprisingly, maturity is dramatically associated with mean overall help desk service quality, as depicted in Figure 11-6. Mean overall service quality at institutions whose help desks are at the “optimized” level is nearly two points higher on our five-point scale than among institutions with help desks at the “initial” level.

This section’s findings speak to a dramatic and statistically strong association between overall service quality and help desk process maturity. As always, however, it is impossible from the analyses we have done to confidently infer the direction in which the association between these measures operates. Do more mature help desks result in higher-quality services? Does having a higher-quality service suite incline the respondent to say the help desk is more mature? Or does some other factor or combination of factors positively impact both service quality and maturity? It is probably safe to suggest that help desk leaders who pursue both mature practices and service quality will find synergy on their side.

---

**Table 11-10. Overall Service Quality, by Agreement That Help Desk Uses Metrics Effectively**

<table>
<thead>
<tr>
<th>Level of Agreement</th>
<th>N</th>
<th>Mean*</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>37</td>
<td>2.86</td>
<td>0.918</td>
</tr>
<tr>
<td>Disagree</td>
<td>98</td>
<td>3.27</td>
<td>0.926</td>
</tr>
<tr>
<td>Neutral</td>
<td>127</td>
<td>3.57</td>
<td>0.822</td>
</tr>
<tr>
<td>Agree</td>
<td>142</td>
<td>3.80</td>
<td>0.755</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>38</td>
<td>4.05</td>
<td>0.769</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>442</td>
<td>3.56</td>
<td>0.884</td>
</tr>
</tbody>
</table>

*Scale: 1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent*
Looking at mean positive impact as it relates to help desk service quality, Figure 11-7 shows a general pattern of higher help desk service quality where the help desk has “high” positive impact and declining help desk service quality where positive impact is lower. For two areas, however, the difference was especially great: central IT’s perceived value and its reputation. In these cases, service quality appears to fall away quickly as the help desk’s perceived positive impact declines. Again, we cannot say for certain in which direction this association operates, but it seems intuitive that where service quality is low, what suffers most is central IT’s reputation and perceived value.

Table 11-11. Overall Service Quality, by Agreement About Communication of Costs and Value

<table>
<thead>
<tr>
<th>Level of Agreement</th>
<th>N</th>
<th>Mean*</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Costs Are Well Documented</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>24</td>
<td>3.04</td>
<td>0.859</td>
</tr>
<tr>
<td>Disagree</td>
<td>111</td>
<td>3.19</td>
<td>0.900</td>
</tr>
<tr>
<td>Neutral</td>
<td>73</td>
<td>3.63</td>
<td>0.773</td>
</tr>
<tr>
<td>Agree</td>
<td>151</td>
<td>3.66</td>
<td>0.825</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>82</td>
<td>3.95</td>
<td>0.830</td>
</tr>
<tr>
<td>Total</td>
<td>441</td>
<td>3.56</td>
<td>0.883</td>
</tr>
<tr>
<td>Costs Are Well Understood</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>54</td>
<td>3.31</td>
<td>0.968</td>
</tr>
<tr>
<td>Disagree</td>
<td>230</td>
<td>3.42</td>
<td>0.881</td>
</tr>
<tr>
<td>Neutral</td>
<td>94</td>
<td>3.82</td>
<td>0.803</td>
</tr>
<tr>
<td>Agree</td>
<td>39</td>
<td>3.77</td>
<td>0.810</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>16</td>
<td>4.19</td>
<td>0.750</td>
</tr>
<tr>
<td>Total</td>
<td>433</td>
<td>3.55</td>
<td>0.891</td>
</tr>
<tr>
<td>Value Is Well Documented</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>11</td>
<td>2.55</td>
<td>0.820</td>
</tr>
<tr>
<td>Disagree</td>
<td>107</td>
<td>3.07</td>
<td>0.882</td>
</tr>
<tr>
<td>Neutral</td>
<td>125</td>
<td>3.42</td>
<td>0.835</td>
</tr>
<tr>
<td>Agree</td>
<td>143</td>
<td>3.87</td>
<td>0.694</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>55</td>
<td>4.24</td>
<td>0.637</td>
</tr>
<tr>
<td>Total</td>
<td>441</td>
<td>3.56</td>
<td>0.885</td>
</tr>
<tr>
<td>Value Is Well Understood</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>16</td>
<td>2.69</td>
<td>1.014</td>
</tr>
<tr>
<td>Disagree</td>
<td>83</td>
<td>2.99</td>
<td>0.876</td>
</tr>
<tr>
<td>Neutral</td>
<td>105</td>
<td>3.45</td>
<td>0.734</td>
</tr>
<tr>
<td>Agree</td>
<td>167</td>
<td>3.68</td>
<td>0.809</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>68</td>
<td>4.29</td>
<td>0.600</td>
</tr>
<tr>
<td>Total</td>
<td>439</td>
<td>3.55</td>
<td>0.890</td>
</tr>
</tbody>
</table>

*Scale: 1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent
**Figure 11-6.** Mean Overall Service Quality, by Help Desk Maturity Level

![Bar chart showing mean overall service quality by help desk maturity level.](chart1)

*Scale: 1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent

**Figure 11-7.** Mean Overall Service Quality, by Extent to Which Help Desk Has Positive Impact

![Bar chart showing mean overall service quality by area of impact.](chart2)

*Scale: 1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent

Definitions: limited positive impact = not at all or a little, moderate = somewhat, extensive = considerably or extensively
Summary and Implications

In general, our respondent institutions did well at meeting their documented goals, with mean frequencies of success ranging from 3.83, just below “often,” to 4.67, not far below “almost always.” Goals met most often were for support service availability, incidents resolved per unit time, incidents resolved per staff member per unit time, percentage of user satisfaction, and calls resolved at first contact. Presumably these goals’ prevalence reflects their priority among most of our respondent institutions’ help desks.

Among the nine areas we asked about, the help desk had its greatest positive impact on central IT service reputation and perceived value. Because responses for these two similar areas were nearly identical, we assume that the distinction we were trying to draw, between “doing things right” and “doing the right things,” may have been unclear to many of our respondents. In any case, the work of the help desk seems to have a strong influence upon perceptions about central IT, reinforcing the idea that the help desk is in many practical ways the public relations “face” of the IT organization.

The help desk also has a substantial effect on instructional and administrative activities and the workloads of central and unit-specific IT staff. Surprisingly, the help desk had little positive impact on the campus administration’s willingness to fund additional IT initiatives, which suggests to us that such funding is most often based on other considerations. The help desk has the least positive impact in the area of support for research activities. This is explained at least in part by our finding that the research area is one in which our respondents’ help desks least often provide assistance.

Positive impact in several areas was higher where the help desk was more mature; in the research area, it was also higher where strategic plan status was more advanced and where agreement was greater that the help desk uses metrics effectively to improve user service. We speculate that help desks that “try harder” in these ways may improve their chances of providing beneficial services to the demanding research constituency.

Overall service quality is our primary measure of help desk outcomes. In general, we found that respondents were positive about the quality of the services they provide, with more than half rating overall quality either very good or excellent. Only three respondents characterized their help desk quality as poor, and only 51 (11.4 percent) rated it as fair. While it might be tempting to interpret these low negative responses as exaggeration or braggadocio, we saw in our investigation of help desk maturity that nearly three times as many respondents (35.7 percent) were willing to rate themselves in the lower two of our five maturity categories. While there may still be some self-praising bias in respondents’ service quality ratings, the low numbers reported for poor and fair overall service quality may also reflect natural selection at work: Help desks that provide truly poor-quality service may simply not survive.

When asked for their ratings of service quality in specific areas, respondents rated research support lowest, midway between fair and good. This goes along with our finding that help desks report the research area as one in which they least often provide assistance; only 337 of our 454 respondents offer any assistance for research applications, and nearly half of them report providing such assistance “seldom” or “almost never.” We don’t know whether this is because the help desk doesn’t have the skills needed to assist in the research enterprise or is simply not asked to do so; we suspect that in some cases both explanations apply.

Administrative and instructional applications also received relatively low marks, averaging less than halfway between good and very good. These areas can be very demanding and are frequently supported by
specialized help desks; our findings may reflect both of those factors, but they also suggest that the average respondent’s help desk is of only tactical importance in these areas of strategic importance to the institution. The remainder of the areas we asked about—IT infrastructure, personal productivity applications, communication applications, desktop essentials, and identity management—were rated more than halfway between good and very good.

Service quality was significantly positively associated with the adoption of formal guidelines for ITSM practices such as capacity planning, availability planning, change management, and release management. In general, the more of these practices an IT organization adopts, the higher the level of service quality. The greater the extent to which the central IT organization includes help desk staff in those activities, the better our respondent institutions’ mean overall help desk service quality. None of these findings is particularly surprising; a primary goal of ITSM practices is the improvement of service quality. While our analyses don’t lend themselves to identifying causality, these findings related to ITSM and help desk service quality at least give us no reason to suggest that ITSM does not work.

The use of SLAs was not significantly associated with mean overall service quality, despite SLAs’ important role in ITSM. This does not suggest that SLAs are ineffective, though. Because only 20.5 percent of our respondents are using SLAs, sorting those responses into our five service quality categories resulted in statistically unusable subsample sizes.

Not surprisingly, service quality was also higher where
- help desk funding was adequate or better,
- the institution and the central IT organization were more aggressive in adopting new technologies,
- the help desk’s toolset was robust and integrated,
- a strategic plan for the help desk was in place, and
- respondents rated the help desk as more effective in the use of metrics to improve user service.

Reinforcing both conventional wisdom and ITSM doctrine, we found that communication between the help desk and the campus was also associated with help desk quality. In general, the better the institution’s help desk service quality, the more likely respondents were to agree that help desk costs and value were well documented and well understood by the help desk’s constituents.

Overall help desk service quality varies dramatically with the help desk maturity rating. The more mature the help desk, the higher the service quality rating. This association might owe some of its strength to some respondents’ failure to distinguish between help desk maturity and overall service quality; for them, our two questions would have been asking the same thing, and their responses would have been highly correlated. We discount this explanation for two reasons. First, while our question about service quality offered no definitions for its options “poor” through “excellent,” we did provide clear definitions for the maturity-level options we offered, and only one of them mentioned quality. Second, as mentioned above, the distribution of responses to the quality question was much more generally positive than for the maturity question.

Finally, in all eight of the service areas we asked about, greater positive impact is associated with higher service quality levels. This trend is consistent across the dataset, although in the areas of central IT’s reputation and perceived value, quality is more dramatically associated with positive impact than in the others. Our interpretation is that while the other areas appear to reflect service quality to some extent, quality heavily influences reputation and perceived value.
Endnotes

1. Note that our initial five-point scale included the responses “not at all,” “a little,” “somewhat,” “considerably,” and “extensively.” To simplify presentation we compacted that scale into a three-point scale including “low” (“not at all” + “a little”), “moderate” (“somewhat”), and “high” (“considerably” + “extensively”). The significance of the statistical relationships within the data was not meaningfully changed by this compression of the response scale.


3. The ANOVA significance of this association is .000, indicating a vanishingly small probability that the relationships among the numbers are due to chance. EDUCAUSE seldom reports associations whose significance is higher than .000. For this association, as for all our comparisons of means, we also calculated Eta, a coefficient of nonlinear variation that speaks to the strength of an association. For this association, Eta was .553, indicating one of the strongest associations among all those reported in this study.
On the Horizon:
The Future of the Help Desk

The metaphor of the help desk “on the front line” suggests various other images. We may envision the help desk staff “in the trenches,” “dug in,” “under fire,” and so on. Unpleasant as these images may be, they can’t be far from the minds of most help desk staff after a shift on the phones during the first week of the semester—any semester. The stresses involved in help desk work encourage a focus on the here and now, keeping one’s head down, meeting the objective at hand, and just getting through the day.

Help desk leadership can’t rely solely on intelligence from the field, such as trends in demand gleaned from meetings with help desk staff and clients, or from the trouble ticket system’s logs. While information gained in this way may have tactical value, it does little to help inform long-range direction setting. Strategic information is required as well, and gathering that requires raising one’s head and scanning the horizon. This chapter identifies four cardinal points toward which our respondents are looking and summarizes what they—and we—see ahead of us.

The Client Community

One of our respondents’ chief concerns is the pace of increase in demand for help desk services. As we reported in Chapter 9, half of them told us that this is one of the primary barriers to their improvement of help desk services. Some of this stems from technological developments, and we address that in the next section. But many of the signs of stress emerging from our survey results and interviews relate to changes in how the client community uses existing technology. Video projectors are not new, for example, but only in recent years (and not yet on all campuses) has every classroom been equipped with one. To name just a few examples, the PowerPoint presentation, the DVD video, and the live demonstration of online information resources have penetrated the curriculum to the point that often, if the classroom technology is not working, class is canceled. Several of our respondents reported making sweeping changes in help desk procedures (and sometimes technologies) to guarantee a 5- or 10-minute response to technology problems in the classroom, and we predict that more campuses will move in this direction soon.

Similarly, technology plays an increasingly pervasive role in the lives of the higher education IT help desk’s clients. For example, the proliferation of laptop computers allows more faculty, staff, and students to work off campus and outside of normal business hours. Distance-learning activities, as well, occur and require support at varied locations, around the clock, and—with the
increasing globalization of higher education services—in a variety of time zones.

The personal habits of college-age students have always had a strong after-hours component, but with today’s highly available learning management systems and Internet research resources, serious technology-based academic work can occur at any time, day or night.

All these phenomena complicate technical support in several ways (distance from the client, off-campus network configurations, and the like), but the conventional help desk may have the most trouble with the need to offer technical support well beyond normal campus business hours. As we learned in Chapter 5, very few of our respondents offer 24 x 7 help desk support, although many of their clients are coming to expect that level of availability. Commercial Web sites reinforce this expectation by offering 24 x 7 availability of customer support services. In the foreseeable future, this trend will likely not only persist but also accelerate, and the help desk that wishes to remain relevant will need to address it.

The client community is changing, as well, in terms of its technological expertise. In a recent issue of its e-mail newsletter, The Muns Report, the help desk membership organization HDI published an article, “Service Desk 2010,”¹ that discussed likely future scenarios for help desks and related organizations. Among its many specific predictions, HDI foresaw customers becoming more knowledgeable and therefore placing more rigorous demands on service desk personnel. Our respondents and interviewees have seen this happening as well. Jeanna Reedy, manager of the IT help desk and IT labs at Sinclair Community College, observes, “Our help desk calls have been lasting three minutes; five years ago, it was one minute. The problems we run into now are harder. We have a self-service password reset now so we don’t get as many of those simple calls anymore. But the technology is driving the difficulty of the questions, too. Everything is so much more complicated.”

The changes in the client community we’ve discussed so far have been incremental or evolutionary. At the moment the horizon is clear of the kind of revolutionary change in client behavior that came with the personal computer revolution of the 1980s, in which every computer user became an amateur system administrator, or the Internet revolution of the 1990s, in which networked information turned our computer screens into windows on the world. To date, client behaviors associated with the likeliest candidate for revolutionary change agent—social networking and other manifestations of Web 2.0—appear to have had only an evolutionary impact on the help desk. Of course, it is the nature of truly disruptive technologies² to be invisible to all but the most prescient of us until the moment they change our lives.

The Technology Environment

Driving many of the changes in the help desk client community are changes in technologies themselves. Often these changes derive from revolutionary advances in miniaturization that allow the integration of multiple technologies into complex, converged devices—for example, mobile telephones that also function as handheld personal computers. Other changes, particularly in software, have revolutionized IT device and application user interfaces, enabling the emergence of such potentially transformative technologies as online collaborative spaces and virtual worlds.

Higher education has unique characteristics with regard to technological change. The evolution of the technology environment in the governmental and commercial sectors often proceeds at a moderate pace, being driven by business decisions about “what is necessary” and guided by centralized IT
management with absolute control over technology purchases. In higher education, however, technological evolution seems to be driven more by “what is possible,” and technology purchases are often controlled loosely, if at all. In the academy there is little if any lag time between the emergence of a new technology and its adoption, official or unofficial, on campus. The help desk’s challenge is to keep up with this rapid pace of technological change.

One specific challenge for the help desk is that new technologies come onto the scene more rapidly than old ones can be retired, which sometimes requires difficult choices. At Dartmouth College, Vice President for Information Technology Ellen Waite-Franzen cites this example: “Dartmouth is not a BlackBerry campus; we are a flavor-of-the-month campus.” While that level of flexibility is part of a strong customer service ethic, Waite-Franzen acknowledges that “in the future, we might have to choose services for which we provide premium support; others may receive less comprehensive support.”

Priscilla Alden, assistant vice chancellor for ITS user support and engagement at UNC–Chapel Hill, cites the transition from Windows XP to Vista as another example of the stresses technological change places on the help desk. “Self-service will eventually replace human intermediation for most repetitive, routine help desk functions, freeing the help desk to address more difficult problems. But that process will take more than three years.” Change and increasing complexity extend well beyond operating systems, of course, to integrated enterprise resource planning systems, learning management systems, and portals, not to mention the latest generations of personal productivity applications.

Dean Williams, director of client services at the University of Vermont, reinforces the point with an example from the classroom, where personal entertainment technologies are finding a place. “Most of the pervasive use of iPods or music players is recreational currently,” Williams says. “As academic uses of audio and video increase, support for those devices will rise to a new level when it impacts students’ academic success.”

Technological change per se is nothing new in higher education; it is something our help desks have faced for decades. But the current drive toward integration of technologies and applications has advanced past the expectations of many help desk staff, and responding to it is changing the help desk’s role. John Underwood, help desk manager at North Dakota State University, summarizes the situation this way: “Today the help desk has to look more at how the components of integrated systems fit together—not just at applications, but how clients interact with it all. It’s not unusual for us to bring three or four specialists together to solve a problem. The new role of the help desk is to get everyone talking together.”

Emerging Web 2.0 technologies such as blogs, wikis, trackback, podcasting, and videoblogs, and social networking tools like MySpace and Facebook may have a short-lived social and recreational popularity among college-age students, but they are already being harnessed for instructional and research purposes in meaningful ways. They seem poised to become revolutionary, transformative tools, and they are in our midst right now. That they are often hosted off campus has mixed implications: While off-campus hosting may reduce the support burden on the central IT systems managers and, to a lesser extent, on the campus help desk, it takes potentially important curricular tools out of their control, posing risks to system longevity, stability, and the security of sensitive information.

Mobile technology is the area that HDI predicts will have the greatest impact on the help desk between now and 2010. Currently a lack of standards stymies broad academic adoption of mobile computing technologies such as PDAs and smart-
phones, though of course those devices are becoming essential gear for most college-age students. Institutions such as the University of Cincinnati have developed services for campus-provided cell phones, but projects to press students’ smartphones into academic service are still on the horizon.

HDI made two other predictions about mobile technologies: that service desk agents themselves will increasingly use wireless devices to serve clients, especially when dispatched to provide services at remote sites, and that help desk staff will need to be equipped with the technologies their clients are using. Both predictions are relevant to higher education, but the latter will be especially challenging, given most institutions’ complete lack of influence on the personal mobile technologies their students bring to campus.

While the emergence of mobile communication technology was more gradual than that of many other disruptive technologies, no one walking across a campus between classes could disagree that the mobile telephone has revolutionized how students (as well as most faculty and staff) communicate with one another. The recent emphasis campus administrations have put on obtaining students’ mobile telephone numbers for use during emergencies indicates that the institution increasingly sees value in having a two-way radio in essentially everyone’s pocket. Harvesting that benefit for purely academic purposes now seems only slightly below the horizon.

**Support Tools and Methodologies**

The technologies the help desk uses to provide support for IT users are many. Naturally, as HDI has pointed out, those tools must begin with the supported technologies themselves; help desk staff must be not just familiar but also accomplished in their use if they are to assist others. If HDI perceives this as a significant, future-oriented issue in the commercial and governmental sectors—where most of their client base operates and where close control of the institutional IT environment is usually a fairly simple policy matter—it must be doubly significant in higher education, where such control is rare.

Our survey respondents told us that integrated software suites for managing the help desk are fairly pervasive among higher education help desks. Also common are Web-based tools such as support document repositories and knowledge bases for both help desk staff and client use. But both of those populations used some technologies only rarely. For at least two of them—large-screen video command centers for help desk staff and intelligent, “learning and adapting” FAQ systems for help desk clients—current implementations may be few, but planned implementations promise to multiply their penetration into the higher education market severalfold in the next few years.

An example from the University of Delaware makes clear the importance of the large-screen video command center in managing explosive growth in the use of classroom technologies, one of our points from the Client Community section above. As Frank Eastman, campus IT associate II, describes, “Two years ago we investigated control system programs to control the media in the classroom. A vendor approached us with their software that monitors, controls, and supports the equipment in the classroom via the network. Consequently, we outfitted the 150 centrally managed classrooms with, first, an IT camera that is focused on the screen to visually see the sources going through the video projector; second, an IT phone so the faculty member can call directly to our call desk without leaving the room to find a landline or to use his/her cell phone; and third, the vendor’s control software. All the classrooms’ controls are standardized, so
no matter what room the faculty member teaches in, the controls are the same. We discovered that in the first one or two semesters that this system was operational, we were able to respond and resolve 50 percent of the calls immediately."

Also poised to become many times more pervasive than at present are interactive, text-based communication modes between the client and the help desk. Internet-based instant messaging is now the most pervasive of these support methods, with almost 7.0 percent of respondent institutions using it. If implementations planned and under way are successful, its penetration will increase eightfold, to about 57 percent, in the foreseeable future. Chat rooms and cell phone–based text messaging, each used by about 3.0 percent of respondent institutions' help desks, should increase to 40.8 percent and 32.4 percent penetration, respectively, in the same time frame. Chat-based customer service features are available on many high-profile direct marketers' Web sites and have led the current generation of central IT help desk clients to expect that service option there as well.

At the University of Alberta, where the development and deployment of user self-service tools has been a priority, chat has been a popular addition to the support modes available on the help desk’s home page. According to Alberta's Brian Acheson, director, central systems and support, “The use of chat wasn’t ‘forced upon’ the users; it was developed with the knowledge that chat was becoming a popular method of communication, and it was an addition to the varied methods of contacting our help desk. All of our other help desk functions remained available. Nonetheless, chat adoption by the campus community has skyrocketed!”

Other support technologies our respondents and interviewees told us were on the ascendant in their environments were tools for remote control of clients’ desktops, automated tools for pushing software updates to clients’ workstations, and disk cloning technologies, such as Ghost, which simplify the rebuilding of compromised systems. All of these technologies promise to save the help desk time and effort and provide a more seamless client experience.

Our findings suggest that two support methodologies have potential for substantially changing if not revolutionizing the nature of IT support on campus. The first of these is outsourcing, which we discussed in some detail in Chapter 5 of this report. According to David Gregory, chief information technology officer at Colgate University, outsourcing can be transformative, if not revolutionary, in allowing the university’s own help desk personnel to concentrate on more strategic, higher-level problem solving. Gregory’s advice to institutions thinking about outsourcing is, “Outsource your nonstrategic services and focus your staff on what is strategic to your institution. Offer high-value services that essentially support and further the mission of the institution. Frankly, any skilled technical operator can answer tier-one help line calls. It’s important to get your local support staff trained to assist faculty and staff with their specific problems. Those are the strategic problems.”

The other potentially transformative support methodology is the use of IT service management databases. Nearly 4 in 10 of our respondent institutions already use asset management databases; if planned and in-progress implementations are all successful, this percentage should rise to 45.8 percent in a few years—1.2 times current usage. Only about 2 in 10 respondents now use configuration management and customer relationship management databases, but again, if planned and in-progress implementations all succeed, they will grow to 2.3 times current usage. The IT service management (ITSM) literature puts great store in these tools and their ability to impact the quality of service the client receives.
Again, the only revolutionary support tools on the horizon are embedded in Web 2.0. Because these tools are highly user-centered, the campus may sacrifice a good deal of control in adopting them. A technical support wiki, for example, built by the help desk but expanded and edited by the client population, could become an effective self-service supplement to help desk assistance; but it could also become a maintenance nightmare if help desk staff take responsibility for the accuracy and appropriateness of its content.

While none of our interviewees mentioned such a project under way, we look forward to the day when the campus help desk has a branch office in Second Life and student avatars, with bit-for-bit accurate virtual representations of their laptop computers under their arms, walk into it for technical support.

Management Practices

The final direction in which we look for predictions about the help desk’s future is toward practices in place for organizing and administering IT organizations. As we have maintained throughout this report, the service framework and body of practices lumped under the term IT service management, largely based on the U.K. Office of Government Commerce’s IT Infrastructure Library, looks to be the standard for the early part of the 21st century, at least.

However, as we pointed out in Chapter 9, in our pool of qualitative interviewees the frequency of formal ITSM implementations was quite rare, with only New York University reporting a formal ITIL implementation project—a very successful one—under way.

The reasons ITSM projects are underrepresented in higher education are complex. Jack Probst, executive consultant for Pink Elephant, a firm that specializes in ITIL implementations, offers the following explanation: “I am aware of only about a dozen universities that are in the throes of implementation. The higher education environment is a very difficult one to implement ITIL within because of the fragmented governance structures that exist relative to technology use and deployment. And to make matters worse, IT normally has its hands tied when dealing with the administration, academics, and researchers. They basically have to figure how to respond as quickly as the academics would like (which is usually yesterday) and do so without damaging the environment.”

The situation Probst describes cries out for a new method of bringing best practices in IT service management to higher education. It is a market niche that, as far as our research can determine, has not yet been effectively filled. Perhaps when several more implementations like NYU’s are completed and their successes are documented and shared with peer institutions, demand for higher education-specific ITSM implementation methods will stimulate the market to respond.

Summary

We have seen how the future of the help desk may be affected by both evolutionary and revolutionary changes in four areas:

- the client community’s needs, expectations, and behavior;
- change—and the pace of change—in technology itself;
- evolution in the tools and methodologies the help desk uses to assist its clients; and
- more speculatively, the potential for change in central IT management practices that could impact help desk services.

Our vision of the future comes from many sources, and the overall image strikes us as something like what a dragonfly must see through its multifaceted eyes—a jaggy, pixilated view of something we will comprehend much more fully when we are closer to it and some of its component sub-images converge.

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Despite this lack of continuity in our view of the future, our overall impressions are clear enough to share. The findings we have shared in this report suggest that while its clients value the central IT help desk as a stable source of support, constant churn in the IT industry ensures that client expectations will continue to broaden and deepen while help desk resources, if they increase at all, do so at a much slower pace. The particular challenge of the central IT help desk is to adapt rapidly to fast-paced technological change while providing its clients with a reliable, seamless, and comfortable support environment. All good help desks will do this; the best will make it look easy.

Endnotes
2. The term disruptive technology applies to a technology that eventually supplants the existing equivalent technology. A contemporary example might be the in-progress, widespread replacement of incandescent light bulbs with more energy-efficient compact fluorescents.
7. Jack Probst, e-mail message to author, October 10, 2007. Quoted with the sender’s permission.
Appendix A
Institutional Respondents to the Online Survey

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Pace University
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Pepperdine University
Philadelphia University
Phoenix College
Pima County Community College District
Pomona College
Prairie State College
Prince George’s Community College
Princeton University
Purdue University Calumet
Queen’s University
Queens College/CUNY
Raritan Valley Community College
Reformed Theological Seminary
Rhode Island School of Design
Rider University
Roberts Wesleyan College
Rollins College
Roosevelt University
Rosalind Franklin University of Medicine and Science
Rutgers, The State University of New Jersey
The Sage Colleges
Saint Joseph’s College, New York
Saint Leo University
Saint Louis Community College
Saint Mary’s University of Minnesota
Saint Meinrad School of Theology
Saint Michael’s College
Salem State College
Sam Houston State University
Samford University
San Diego State University
Santa Fe Community College
Saskatchewan Institute of Applied Science & Technology
Seattle Pacific University
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Shepherd University
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Simmons College
Sinclair Community College
Skidmore College
Soka University of America
South Carolina State University
South Dakota School of Mines & Technology
South Dakota State University
Southeastern Louisiana University
Southwest Tennessee Community College
Southwestern Assemblies of God University
Southwestern University
St. Cloud State University
St. John Fisher College
St. Lawrence University
St. Olaf College
St. Philip’s College
Stanford University
State Fair Community College
Stony Brook University
SUNY College at Brockport
SUNY College at Cortland
SUNY College at Fredonia
SUNY College at Geneseo
SUNY College at Plattsburgh
Sweet Briar College
Syracuse University
Taylor University
Texas A&M University at Galveston
Texas Christian University
Texas Wesleyan University
Thiel College
Thomas Nelson Community College
Thompson Rivers University
Toccoa Falls College
Trinity University
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UCLA
Ulster County Community College
Union County College
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University of Wisconsin–Stout
University of Wisconsin–Superior
University of Wisconsin Colleges
University of Wisconsin Extension
University of Wyoming
Ursuline College
Villanova University
Virginia Military Institute
Virginia Tech
Wagner College
Walsh College
Walsh University
Washington & Jefferson College
Washington University in St. Louis
Weber State University
Webster University
Wellesley College
Wesleyan University
West Chester University of Pennsylvania
West Liberty State College
West Texas A&M University
West Virginia School of Osteopathic Medicine
Western Iowa Tech Community College
Western New Mexico University
Whitman College
Wilfrid Laurier University
Willamette University
William Paterson University of New Jersey
Williams College
Wisconsin Lutheran College
York College of Pennsylvania
York University
Zane State College
Appendix B

Interviewees in Qualitative Research

**Bergen Community College**  
Ed Pittarelli, Director of Technologies

**Berry College**  
Timothy Farnham, Chief Information Officer

**Boise State University**  
Mark Fitzgerald, Manager of User Support

**Bowdoin College**  
Mitch Davis, Chief Information Officer

**Brandeis University**  
Perry Hanson, Vice President and Vice Provost for Libraries and Information Technology

**Calvin College**  
Bill Vriesema, Assistant Director of Technology Support Services

**Colgate University**  
David Gregory, Chief Information Technology Officer

**Dartmouth College**  
Ellen Young, Consulting Services Manager  
Ellen Waite-Franzen, Vice President for Information Technology

**Indiana University**  
Sue Workman, Associate Vice President for Support  
Dennis Gillespie, Support Center Manager

**Johns Hopkins Bloomberg School of Public Health**  
Jon P. Garvin, Associate Director, Information Systems

**Metropolitan State College of Denver**  
Denise Schuette, Customer Support Services, Information Technology

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New York University
Marsha McMillan, Associate Provost and Chief Information Technology Officer
R. Ben Maddox, Director of Client Services

North Dakota State University
Rosi Kloberdanz, Director, IT Client Services, Help Desk Manager
John Underwood, Help Desk Manager

Nova Southeastern University
Ginny McLain, Vice President for Information Technologies
Wayne Gooden, Manager, Help Desk
Greg Horne, Executive Director

Okanagan College
David Harris, Director, IT Services

Parker College of Chiropractic
Rob Robitaille, Coordinator of Academic Computing

Regis University
Vivianne D. Johnston, Help Center Manager

Sinclair Community College
Jeanna Reedy, Manager of the IT Help Desk and IT Labs

University of Alberta
Alex Nagorski, Team Lead, Outreach
Brian Acheson, Director, Central Systems and Support
Brent Voyer, AICT Helpdesk Analyst

University of Colorado at Boulder
Herb Wilson, Director, IT Support

University of Delaware
Christine Murphy, Systems Planner
Kathy Beardsley, Help Desk Manager
Karl Hassler, Associate Director of Network and System Services
Frank Eastman, Campus IT Associate II

University of North Carolina at Chapel Hill
Priscilla Alden, Assistant Vice Chancellor for ITS User Support and Engagement

University of St. Thomas (St. Paul, MN)
Samuel J. Levy, Vice President and Chief Information Officer

University of Vermont
Dean Williams, Director of Client Services
David Todd, Chief Information Officer
Appendix C

Bibliography


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