Chapter 7

Support and Help Desk Management

Learning Objectives

Upon completing this chapter, you should be able to:
➢ Differentiate indexed online help systems from context-specific help and wizards.
➢ Match Computer-Telephony Integration (CTI), Interactive Voice Response (IVR), and Web-enabled support to how each can support Help Desk service goals.
➢ Give examples of ways in which customer support software can be used in the Help Desk environment.
➢ Suggest ways a Help Desk agent can help callers explain their problems.
➢ List personal and professional characteristics of an effective Help Desk agent.

➢ Identify professional organizations devoted to training and supporting Help Desk professionals.
➢ Explain the value of evaluating Help Desk operations.
➢ List pros and cons of outsourcing Help Desk operations.
➢ Describe the Help Desk of the future.

7.1 INTRODUCTION

Information Systems Departments are responsible for ensuring that end users use the technologies designed to support their work effectively and efficiently. Well-planned and implemented training programs (as discussed in chapter 6) are vital strategies to ensure use and acceptance of information technologies. However, even the best of training program designers cannot anticipate the issues and problems that individual users will experience in their day-to-day work. One thing we know about systems is that they sometimes do not work exactly as expected, and system glitches and operator errors are commonplace. One thing we know about formal training is that its designers can't anticipate every application or problem a user may have. Therefore, ongoing support—or just-in-time learning—and troubleshooting is the focus of this chapter.

Just-in-time learning (J1TL) is the training approach that makes context-sensitive learning material available exactly when a worker needs to learn something specific.[1] This chapter explores two ways to deliver this JITL learning: mediated, *(performance support)* and live *(Help Desk).* Performance support tools include CBT-based course modules as well as online help and reference, hypertext, computer-based training, multimedia, databases, and expert systems. Performance support can also encompass printed materials, video, classroom training, or other more traditional materials. Like knowledge management, which describes efforts to capture an organization's collective experience and make it accessible to everyone, performance support's objective is to provide information or assistance at the time the user needs it, rather than to teach some broader set of skills and knowledge for future use. Sometimes one needs information, not learning. Alternatively, when a user gets immediate help from a person in real time via the telephone or asynchronously via the Web, these live professionals are called *agents,* analysts, or support engineers. They work in an environment called the Help Desk.

This chapter gives an overview of the considerations that go into developing and managing online help and Help Desk support systems. These support functions are vital as systems become more complex. Most large organizations use 30 to 50 different applications and types of hardware.[2] In any such environment, problems will occur; it is the goal of the IS Department to ensure that troubles disappear. The chapter concludes with a look at the Help Desk of the future.

7.2 PERFORMANCE SUPPORT

Performance support is an application of technology that provides direct links to performance. The most effective learning happens when training is embedded in the work that needs to be done. Noted consultant Gloria Gery pioneered this area by

emphasizing what technology *could* do for training, rather than what was being done with it through her books, *Making CBT Happen* (1987) and *Electronic Performance Support Systems* (1991), both from Weingarten Publications in Boston. This section will use performance support to encompass online help, hypertext, databases, and expert systems. Performance support is used much as a library—but with the added computer capabilities that ease communication, retrieval, examination, and manipulation of data.

7.2.1 Online Help

The goal of *online help* is to help users help themselves. Users are increasingly self-directed and independent learners. Most users prefer to figure out a problem on their own if they can do it quickly. Nearly everyone's first choice for assistance would be a tutor who shows up just at the right time to immediately help solve the problem. Because that is a costly and unrealistic solution, most individuals use the online help function when they believe it will provide help.

Help functions have evolved from being solely indexed lists to *wizards* that guide and sometimes demonstrate the task in question. Indexed lists linked with instructions on how to do tasks are useful only when users know the exact name of the feature they want to use. *Contextual help* addresses the "I don't know what to call my problem" issue. Word's Mr. Papercip, for example, appears automatically when it senses the user is floundering in an application. PowerPoint's wizard goes a step further in providing advice about structuring presentations, as well as how to use the system technically. Companies also design their own customized help systems for proprietary in-house developed applications.

7.2.2 Expert **Systems**

When knowledge is rule-based, rules can be automated. An *expert system* is a computer program that incorporates the knowledge of an expert or group of experts on a particular subject and enables a user to systematically ask questions related to

SPOTLIGHT ON SOLUTIONS $\rightarrow$ Technology, **People, Structure, Processes**

Eli Lily's Scientific Performance Improvement Network (SPIN) is based on Lotus Notes and includes threaded discussions, a directory of subject-matter experts who can be contacted, links to databases, and entire, online courses. SPIN is an example of performance support that is designed to impart existing knowledge, as well as create new knowledge through human interaction, JCPenney's performance support system of help, reference, and just-in-time training is integrated with
their network of transaction processing systems that support their retail stores. Each of Penney's 1,200 plus stores formerly relied on more than 100 reference manuals that had to be updated regularly. Online help and reference was built into existing systems and all new applications include help and training capabilities built right into the design. At JCPenney, hardcopy documentation is disappearing.

that knowledge. It mimics human reasoning by using facts, rules, and inferences, which respond to non-linear thinking and problem solving skills. Expert systems development requires that a computer programmer, known as a knowledge engineer, work closely

with a subject-matter expert (or domain expert) to ascertain the facts, identify the rules, and then develop an effective user interface.

7.2.3 Databases

While expert systems support structured information, most knowledge is less structured and takes the form of wisdom, experience, and stories rather than rules. Knowledge systems have been developed on groupware products such as Lotus Notes. Help Desk agents (discussed later in this chapter) often use *databases* of user problems and solutions as a means of tracking problems and sharing solutions among each other as well as with callers. The goal of such databases is not simply to create a warehouse of information but to keep track of the wide variety of wisdom, experience, and stories that comprise information. A side benefit is that such systems can reduce the need for paper documents and books, which can be hard to search and catalog. A database of frequently asked questions or well-described technical procedures can actually prevent calls to the Help Desk. Knowledge databases can be accessed through the corporate network or Intranet. When the company itself is the product vendor, it often offers such help facilities on its Internet site for its customers.

7.2.4 Hypermedia

Hypermedia is a way of accessing text as well as graphics, video, and audio information. The term *hyper* means over or above. One way to describe hypermedia is that it is software that sits over the application software. This provides navigation functionality that is independent of the sequential flow of the text. Employing hypermedia commands allows users to take multiple, alternative routes through information, depending on their particular needs. Hypermedia functionality is part of most CD-ROMs. And hypertext is the tool that allows users to surf the Web. This flexibility provides a wide variety of opportunities to meet the needs of audiences who have varying expertise and diverse strategies for using diverse sources and reference materials.

7.3 HELP DESK MANAGEMENT

Help! I was working on a file and it just disappeared!
Help! When I print text, it comes out as hieroglyphics!
Help! I think my computer just crashed!
Help! I need to create a table for a report due 5 minutes ago!
Help! I dropped my notebook computer and can't get it going again!

According to the Gartner Group, an organization with 2,500 desktops will pay support personnel costs ranging from $660,000 to almost $6,000,000 a year.[3] Support personnel are responsible for any number of different support tasks, including answering questions such as those listed previously, installing and maintaining computers and networks at the desktop level, and providing suggestions about

which are the best products. The individual calling for support expects an agent to solve problems and solve them quickly.

This section begins with a discussion of the technologies available to support Help Desk agents as they respond quickly and effectively to clients' questions. It continues with an overview of management issues, including how to hire, train, and motivate the Help Desk agent. Help Desk evaluation strategies are reviewed, and because the Help Desk is becoming a specialty of its own, a discussion of the pros and cons of outsourcing also will be offered. The importance of communicating or selling Help Desk services to clients is discussed, as well.

7.3.1 Help Desk Technologies

Traditionally, a Help Desk agent's responsibility is to respond to a user's question in real time over the telephone. The user describes the issue or problem, and the agent responds. Perhaps the biggest challenge to a Help Desk with many users is handling the large infusion of calls that are received daily, often *with* users calling at the same time (peak times) or with the same problems. Increasingly, too, users are needing support 7/24 (seven days a week, 24 hours a day). To respond to these issues, a wide range of technology options exists, ranging from call, center technology to Computer-Telephony Integration to Web-enabled support.

Help Desk management chooses the most appropriate tool for its clients (users), and at the same time must ensure that its agents know the systems they are supporting and have the interpersonal and communications skills to share what they know with their clients.

7.3.1.1 Call Center Technology

A relatively simple technology that begins to address the high volume of calls is call center technology. In its easiest-to-understand form, call center technology routes calls in a round-robin fashion to the help center's agents. However, Computer-Telephony Integration (CTI), Interactive Voice Response (IVR), and the Web are changing the basic definition of a call center. Some call centers are now being called contact centers because they also are fielding faxes, e-mail, and Web site hits.[4]

7.3.1.2 Computer-Telephony Integration

Computer-Telephony Integration (CTI) takes call center technology and goes one step further. As its name implies, computer support is bundled with the telephone system. With CTI, the client still calls the center, and as the client is describing his or her problems, the system automatically gives the agent the caller's history This history includes how previous problems were handled and a list of the equipment owned by the user, as well as system configuration details. Having all this information at the time of the call can speed up response time greatly.

7.3.1.3 Interactive Voice Response

Interactive Voice Response (IVR) networks are telephone-based menu systems that allow the user to interface with other technologies to get information to perform a specific function. The caller uses the telephone keypad to navigate through options,

listening to announcements and having the ability to be transferred to a live person, leave voice mail, and/or send and receive faxes. Additionally, the IVR can interface with call center technology to allow users to report problems, make requests, or check on a request status.[5]

For example, should the organization be experiencing a common problem or issue, the caller could expect to hear something like "Press (or say) 1 to learn the extent of the network downtime" or "Press (or say) 2 to learn about software upgrades." In situations where a considerable wait time is anticipated, the system could prompt the caller to "Press (or say) 3 to leave a message for an agent to get back to you." Lucent Technologies and Unisys, well-known voice technology vendors, are working with Help Desk vendors such as Remedy to change their touch-tone responses to natural language. Pushing the envelope even further, products such as Lucent's Intuity Conversant voice response system provides local language speech recognition and dial pulse recognition.

7.3.1.4 Web-Enabled Support

Web-enabled support has the dual goals of decreasing the number of Help Desk telephone calls and at the same time giving users a broader range of problem-solving possibilities. Introducing Web-enabled support is an attempt to change the established culture of picking up a phone to call somebody.[6] Several options exist that take advantage of the ubiquitous Web, whether it be Intranet or Internet based. In the most basic model, a Web site could be the repository for searchable help information. Help Desks keep records of the problems users encounter, and users may find a "frequently asked questions" list or a searchable, indexed database a useful tool. Another simple option would be to have an e-mail address to which users could address questions and expect a quick reply via that same medium.

Users who can explain exactly what the problem is can use an indexed database effectively or follow the directions of a help wizard. However, many users encountering problems do not have the vocabulary or technical know-how to describe their problem. In such situations, desktop conferencing systems (described in more detail in chapter 4) can be an invaluable real-time tool. Desktop conferencing or screen sharing systems can allow the Help Desk agent to:

- see and operate what is on the user's desktop, taking over keyboard and mouse controls.
- type information into dialogue boxes.
- install new programs.
- open configuration files.
- transfer or retrieve a file.
- use the screen to demonstrate new products.

Another option would be for a user to get online with an agent via desktop conferencing software such as Microsoft's Net Meeting. In yet another model, the user could initiate an instant messaging or chat session with an agent. When a Help Desk supports these Web-based services, it usually also supports faxes and e-mail messages. In such blended calls, agents respond to users using the most appropriate tool available. The key here is that users should have choices. Online help and Web-enabled support

are useful as learning tools only if they support the users' preferred information retrieving strategy.

In addition to desktop conferencing systems, another category of Web-based support, called "e-support," services exists. Figure 7-1 lists Web-enabled *customer support software* that supports companies' abilities to manage all points of contact with their customers. According to International Data Corp in Framingham, Massachusetts, the e-support market is around $10.4 billion.[7]

SmartDesk Service	Computer Associates International, Inc *(www.cmi.com)*
HP Front Office	Hewlett-Packard Co. *(www.hp.com)*
LANDesk Management Suite	Intel Corp. *(www.intel.com)*
eCRM	Primus Communications Corp. *(www.primus.com)*
Motive Solo	Motive Communications, Inc. *(www.motive.com)*
Ezdesktop.com	Perpetual Systems *(www.perpetual.com)*

Figure 7-1 Customer support software

Primus eSupport software, for example, describes its customer relationship management product, eCRM:

> eCRM is Customer Relationship Management for eBusinesses. Primus® eCRM software enables companies to effectively manage all points of contact with their customers by providing self-service and assisted service through a single integrated system. Witj~ Primus software, customers have fast access to the information they need through mu!tiple channels—web, e-mail, chat, voice—and businesses share valuable customer knowledge across the enterprise, leveraging the value of their customer interactions to grow their customer relationships.
>
> *Source:* Reproduced with permission from Primus.
> *http://eServer.primus.com.*

Another product, EZDesktop, is software that troubleshoots technical problems.

Here's how Perpetual Systems describes its product:

> Why EZDesktop? If you're supporting users' PCs, you know the kind of chaos application conflicts can cause. We even know of one major financial institution that has one full-time employee on every floor of every facility just to deal with application conflict resolution. EZDesktop doesn't deal with one problem at a time, nor with just one PC at a time. It looks at the whole PC to determine-and apply—the most effective combination of application configurations for an individual user, group of users, even multiple groups of users—all with different needs.
> Here's how it works: First, an agent on each client PC builds a snapshot of the applications on that PC, comparing each to a knowledge base of golden configurations. Perpetual hosts this database server, so there's no lengthy setup— and we do all the maintenance. (If your security policies require it, the server may

be hosted inside your firewall.) This comparison lets you pinpoint the cause of application conflict on a PC, so you can apply appropriate new golden configurations from the definition server to resolve it. And because EZDesktop lets you preview any changes to a PC or group of PCs, you can use it to discover in advance what conflicts will result when you roll out that new application or OS upgrade. You can even use it to handle the entire deployment process. EZDesktop is the solution to application conflict resolution: web-delivered technology that gets you out of the business of visiting every PC on the network to fix software conflicts and back where you belong. Using your hard-won skills on strategic priorities to keep your company at the cutting edge.

> *Source:* Reproduced with permission from Perpetual Systenis. *http:/www.perpetual.com/productinfo.html.*

7.3.2 Problem Management
The Help Desk agent's phone rings.

Agent: Hello.
Client: I've just lost my ifie.
Agent: What application are you using?
Client: Word processing.
Agent: Can you describe what you were doing when the problem occurred?
Client: I was just typing along and presto, the system froze.
Agent: And then what did you do?
Client: Well, I hit control, alternate, and delete and started over.
Agent: And what happened when you went back into word processing?
Client: Nothing, but my file is gone.
Agent: Open your temp file.
Client opens temp file.
Client: Great! Here it is. Thanks!
Agent: You're welcome.

Such is the gist of an incredibly lengthy discourse that frustrates both the caller and the Help Desk agent. What strategies exist to help the Help Desk agent respond in a more timely manner? What management techniques and communications skills can support a more efficient, effective problem/solution exchange?

Management techniques begin with the establishment of clearly defined procedures for handling calls. Once routed to the agent, the agent's first task is that of logging the call and categorizing it within broad domains. With a clear understanding of the caller's concerns, agents can handle the inquires themselves or route the caller to someone who can help. Caller logs are important records from the standpoint of documenting the number and type of calls received as well as documenting frequently asked questions and the development of a database of issues, problems, and how they were resolved.

The key to problem resolution is that the caller receives useful, timely information—that the problem is resolved! The success of the Help Desk is related directly to the skills with which a caller can explain the problem being encountered and the skill with

which a Help Desk agent can solve and communicate that solution to the user. Tools such as screen sharing software discussed earlier can support this communications process. Perhaps the best trainer, however, is experience. With positive experiences in encounters with Help Desk agents, clients become more adept at problem description. Consider the following dialogue as a counter to the opening passage in this section:

The' Help Desk agent's phone rings.
Agent: Hello, Help Desk. How can I help you?
Client: I was writing my monthly report when my system froze. I rebooted the system, but it seems the file is lost.
Agent: Not to worry Open your temp file.
Client opens the temp file.
Client: Presto! Here it is! Thanks!
Agent: You're welcome!

7.3.3 Hiring and Supporting the Help Desk Agent

"Frustrated user syndrome' is an affliction that is spreading with the increase of computer-based functions in corporations. It triggers instantaneous phone calls to the department at the smallest technical problem. The first symptom is an irritable voice."[8]

The Help Desk agent is the voice at the other end of the telephone that assesses, coaches, and guides callers to answer technical questions and solve a wide variety of hardware and software problems. A key job requirement is technical knowledge. At least equally important to that requirement, however, is a variety of communications skills and problem-solving strategies. A Help Desk agent often must coax callers into giving needed descriptions of their problems and then must be able to provide support in the form of well-considered, easily understood directions. When the Help Desk agent cannot do this, the previously cited frustrated user syndrome can occur, and such a caller is the agent's (and the organization's) worst nightmare. It takes special people to be successful in a Help Desk position. Noel Bruton, author *of How to Manage the I.T. Help Desk* (Butterworth—Heinemann, 1997), summarized these qualities as patience, assertiveness, thoroughness, enthusiasm, responsibility technical knowledge, empathy, communications skills, and the ability to work well under pressure.[9] Bruton contends that technical skills are best developed by education and experimentation. To develop interpersonal skills in someone who doesn't already have some, he suggests, is much more difficult. He recommends hiring personable people and teaching them to be technicians over hiring technicians and teaching them to be personable. Figure 7-2 offers some suggestions on how to handle problem users.
Hiring and then supporting Help Desk agents is important to the success of the Help Desk operations. The most useful training and support activities center around staff team building and the development of ways to avoid stress and burnout.

Begin by displaying empathy to their problem.

- Practice active listening—repeat key words; paraphrase the caller.
- Don't take user frustrations personally.
- When the caller has trouble articulating the problem, suggest nontechnical terms that might be useful.
- Take users through each step of problem resolution do not always assume they know basics.
- If you cannot solve the problem, pass the caller to someone who can; however, remain responsible to the caller.
- Avoid emotional trigger phrases such as "we can't," "we don't," and "you don't understand."
- End by being empathetic to their problem.

Figure 7-2 How to handle problem users

Team building is vital because Help Desk agents learn with and from their colleagues. When agents cannot handle a particular issue, they should be able to refer the caller to someone who can (and perhaps learn in the process). When individual agents believe that the work load is even and everyone has something to share with others, morale is high.

However, Help Desk agents, like any professional staff, need continuous training. Technical skills and interpersonal skills are in need of continual upgrading or renewal. Technical skills must be strong, and agents must be trained in a timely manner to deal with software and hardware upgrades, networks, and new systems. Additionally, ongoing interpersonal training can help develop the customer service skills and attitudes that ensure that Help Desk operations are smooth. Training can be formal programs and/or weekly staff meetings where agents have an opportunity to vent their frustrations and share their successes with others in the group in an environment where they learn from each other.

One key suggestion to ensuring Help Desk agents' job satisfaction is to have them work as a team to develop their working schedules. Another is to ensure that they have job variety and are not tied to their chairs interacting with clients for long periods at a time. Special projects or opportunities for advanced training could be interspersed throughout their day.

Another increasingly important support tool is the professional association. Encouraging Help Desk agents to join professional groups of like-minded professionals from other companies and industries establishes their professional roles and at the same time gives them yet another outlet to learn, network, and share in-formation. Figure 7-3 is a listing of Help Desk professional associations that offer any number of information sharing and support services including newsletters, training, and conferences. For example, Help Desk 2000 educates Help Desk professionals in the best practices of operating a Help Desk and results in the certification of Help Desk professional managers, technicians, and instructors.

7.3.4 Evaluating the Help Desk
Evaluation strategies for evaluating the Help Desk mirror those of evaluating any training and support effort. As described in the previous chapter, the domains of training evaluation are reaction, learning, job behavior, and organizational re

Help Desk Institute
475 Tech Center Drive, Suite 210
Colorado Springs, CO 80919
800-248-5667 U.S., 719-268-0174 Worldwide
Fax: 719-268-0184

Help Desk Professionals Association *(www.hdpa.org)*
PMB 426
14241 NE Woodinville-Duvall Road
Woodinvile, WA 98072-8564
Telephone: (425) 398-9292
FAX: (425) 398-9494

Helpdesk 2000 *(www.helpdesk2O00.org)*
(decentralized; check Web site for mail addresses)

Figure 7-3 Help Desk professional associations

SPOTLIGHT ON SOLUTIONS →Technology, People, Structure, Processes

EQUAL PARTS CARE AND CURE: THAT'S THE RECIPE FOR THE MODEL HELP DESK STAFF AT SHELL SERVICES

As the main point of contact between IS and the rest of a company's workforce, organizations have tried to build desks that not only answer technology questions but show a positive face to the user as well. The essential ingredients are a diverse staff with a proper mix of customer service skills and diagnostic abilities

At Shell Services International, the independent IS arm of Shell Oil Co., the desk's success depends on the personal touch. "Remembering details about customers' lives, what kinds of issues they were having with their computers, knowing what's going on in their businesses, calling them after it's over to check up—those are just a few of the ways we stay in touch with our customers," says Reesa Thorne, Shell Services' manager of customer and infrastructure technology services for Europe and Africa.

Thome keeps her *staff* on the lookout for all kinds of problems, "both those that have already happened and those that might happen soon," she says. For example, the Help Desk recently received three calls from one building on the same day, all different problems, but all coming from the same floor. That was enough of an anomaly that one of the staffers suspected there might be a wiring problem. The help desk was not only able to respond to the calls, but it also fixed the wiring problem before it caused a real disaster.

Thorne attributes her staff's powers of deduction in part to its diversity~ The group includes the expected techies, but it also has a number of people with backgrounds in such areas as theology and zoology By employing different people with different problem solving methods, Thorne says, the Help Desk can act as more of a strategic resource.

—R. Greenberg

Source: R. Greenberg, "Equal Parts Care and Cure," *CIO,* May 15, 1998, p. 46

suits.[1o] With the overall goal of getting evaluative feedback on the impact of the Help Desk on one or all of these levels, a variety of evaluation options exists. These options range from focus groups, to structured interviews of individuals in key departments, to attempts to tie the workings of the Help Desk directly to the overall success of the Information Systems Department.

Perhaps the simplest and most frequently used method of obtaining feedback is a client satisfaction (reaction level) survey. Carefully written to ensure that the right ques-

tions are being asked and that they are aimed at the right survey audience, results from a client satisfaction survey could help the Help Desk agents identify their strengths, as well as areas in which they may need further training or development. Survey findings also could point out issues that are beyond the control of agents (e.g., a delayed system rollout) and are management issues, not agent performance problems.

7.3.5 Pros and Cons of Outsourcing

User support is a "must have" in an ever-changing, complex information technology environment. The question is not whether Help Desks are needed; it's how best to staff them and manage their operation. With information technology, it seems the more you know, the more you want to know, and the more technology that is on your desk, the more you will be challenged to use it in innovative ways. The extent to which clients can learn to learn on their own and use their preferred learning strategies is, likewise, an important consideration in choosing and supporting the wide range of Help Desk tools that are available. The overall goal is to ensure that the Help Desk contributes to the organization's competitive advantage through improved worker productivity. Therefore, the decision to keep the Help Desk in-house or to outsource it should be tied to this consideration.

PROS	CONS
• Staffing and supporting Help Desk agents is in the hands of professionals	• Complaints that outsourcers' failure to learn their clients' business prevents them from answering users' questions
• Reduced physical facilities costs when vendor is located outside the organization.	• Contracts must be designed and managed carefully
• Help Desk databases can include problem resolution strategies from a variety of organizations.	• Vendor must learn the corporate culture.
• Help Desk data are professionally managed.	• Day-to-day operations are outside organizational control

Figure 7-4 Pros and cons of outsourcing the Help Desk

Perhaps the biggest challenge to staffing the Help Desk is that the Help Desk operator often is viewed as an entry-level employee. Moreover, as discussed earlier, technical and interpersonal skills training must be developed, and Help Desk personnel at this point often do not have a definitive career route.[11] Organizations can choose to address these issues or opt for outside management of their services.

According to International Data Corporation (IDC), the market for Help Desk outsourcing is more than $3 billion worldwide.[12] Many organizations, IDC reports, cite the complexity and costs of managing a Help Desk and the complexity of client/server software as being reasons to turn to outsourcing. Figure 7-4 lists the pros and cons of outsourcing the Help Desk, and Figure 7-5 lists considerations for choosing the right outsourcing firm.

Another issue to consider is whether or not an externally run Help Desk should be located off premises or on site. Advantages of on site include being closer to the clients being served and a greater understanding of the firm's culture. However, when the vendor is on site, the organization does not see any reduced costs related to physical facilities. Moreover, off-site

vendors typically are required to offer more feedback on their services (called *metrics)* than they might if they were on site. Such metrics include:

- average time until a call is answered by a live person.
- average time for problem resolution.

- Vendors should specialize in a variety of systems.
- Vendors may offer a wide range of training options.
- Vendors should be able to respond to geographically dispersed users.
- Vendors should have a proven record of quick response time.
- Vendors should be willing to be compensated on a sliding scale, contingent on its ability to perform against definite response metrics, throughout the duration of the contract.

Figure 7-5 Considerations for choosing the right outsourcing firm

- the number of callers who hang up before a call is answered.
- customer satisfaction.

While the number of firms that are outsourcing Help Desk operations is increasing, many organizations are finding that the time required to manage these vendors and difficulty in responding to clients who are finding the services unuseful are troublesome. To this end, contracts should be complete and precise. Vendors need to know the customer's equipment and technical infrastructure, as well as the number of calls the current Help Desk takes, in order to develop appropriate bids. Organizations need to ensure that key metrics (such as those described earlier) are reported frequently and include service-level definitions.[13]

SPOTLIGHT ON SOLUTIONS →Technology, People, Structure, Processes

NEW BREEDS OF TECH SUPPORT
No computer comes worry free. Despite all the advances in computers, software, and networks, our wired universe, sadly, often becomes tangled. And since the pace of business has revved up to Internet speed, random crashes and network traffic jams are becoming more taxing than ever. Of course, if your budget has room for a full-time tech-support team, kinks like these are mere headaches. Pop an Advil and call the help desk. But what about the smaller and solo businesses that can't afford to devote precious resources to computer support?
One option is performance support. You have to know what type of support you need and what sort of turnaround time is sufficient. Do you need live chat, or will e-mail be fast enough? Will remote diagnostics serve your purposes, or do you require onsite support as well? With all the options available, including Net marketplaces, interactive tech advisors, knowledge bases, Web-based problem-tracking software, and remote-diagnostic tools, you should have no problem finding a solution that meets your needs.
Many e-support companies targeting small businesses offer a blend of these services. Net marketplace NoWonder *(www.nowonder.com),* for instance, puts you in touch with thousands of support providers in more than 100 countries. These providers participate in a reverse-auction bidding process. You submit a problem and select a service option, either a spot transaction or a long-term contract from numerous providers Solutions can range from figuring out why a printer won't print to providing ongoing support for an upgrade from Windows NT 4.0 to Windows 2000. Support options include live help, e-mailed solutions (turnaround time is usually 24 hours), and links to self-help. Desktop sharing, which gives a technician access to a user's system, can enhance the process.
But what if you need more? A growing band of support warriors including CenterBeam and Ever dream are providing affordable and timely help. By providing standard sets of PCs, software, and

networking products and, in some cases, by requiring lengthy subscriptions—these new businesses cart keep their costs so low that even soloists and two- and three-employee companies can have full-service tech support at their beck and call. Some of these technology soldiers configure, install, and regularly monitor individual companies' systems in an effort to spot problems before they turn into crises. Just call it Fortune 500 service for mom-and-pop shops.

While this type of support is relatively new, and there are not many national providers of this type of support, their popularity is growing. Competition is expected to increase and bring lower prices and better-quality service, which is good news for small companies that until now were unable to afford the kinds of services that their larger counterparts benefited from having.

Source: Adapted from Anne Marie Barrego, "It's Midnight. Do You Know Where Your Tech Support Is?," *Inc.,* March 15, 2000; Dennis Schaal, "E-Support Goes Live—Online Support for Small Businesses is Moving into the Real-time Realm," *Computer Shopper,* June 2000.

7.4 THE HELP DESK OF THE FUTURE

The overall goal of the Help Desk is to make users more successful, not just satisfied.[14] Call centers and Help Desks continually compile data describing organizational operations. These sites contain large amounts of data, information, and knowledge. Data, information, and knowledge lie along a continuum. Data are individual incidents and facts, information is what is made of data, and knowledge is what someone does with the information. In discussing the Help Desk of the future, central is the role of an integrated service desk's contribution to developing knowledge and a means of distributing that knowledge to the organization as a whole.

The term that describes this compilation of data is data *warehouse.* Organizations striving to become learning organizations collect bits and pieces of data and store them for future use. What's missing is the organization of these disparate data. While information systems professionals are adept at developing ways to plan for storage, access, and networking, they need to understand what the content should be. An integrated service desk, which can ensure that users get one-stop shopping for all their information needs, can increase an organization's ability to learn. The best of these desks make employees, customers, vendors, and even competitors sources of knowledge.'[5]

The Help Desk or integrated service desk of the future will rely on the technologies discussed previously in this chapter. Emerging technologies—including intelligent tutoring systems, neutral networks, fuzzy logic, and expert systems— are expected to organize information into knowledge systems that are comprehensive data sources and that are accessed easily. The integrated services desk is, in other words, providing the content and a means of accessing it for the entire learning organization.

7.5 SUMMARY

Online help and Help Desks are user-support mechanisms that have a goal of ensuring that learners are successful in using their information technologies. To this end, this

chapter began with an overview of the role of online systems and went into detail describing the mission of the Help Desk and strategies for managing its operation.

Online help—whether it be indexed lists of functions, contextual help, or a wizard—is a component of a comprehensive perf5rmance support system (PSS), discussed in chapter 6. PSSs are typically developed in tandem with system development, which means they are rolled out for use at the same time the system is ready. Online help is a just-in-time learning resource that is usually the user's first stop for assistance. However, when online help isn't useful and the user needs a real person to address the problem, the Help Desk is called.

Help Desks, increasingly referred to as integrated services desks, are staffed by Help Desk agents who tutor users through their technical problems. Most large Help Desks are supported by call center technologies that help route callers to available agents (call routing); that bundle computer support with the call (Computer-Telephony Integration); that allow users to use voice commands rather than keypad or pulse commands (Interactive Voice Response); and that allow users to use their Web browser to access central databases or communicate directly with Help Desk agents (Web-enabled response). Key to selecting and supporting these technologies is to give the user a wide variety of choices for accessing Help Desk agents for timely resolution of their problems.

Frustrated user syndrome describes the ailment of callers who are having trouble explaining their problems or understanding the Help Desk agent's directions for problem resolution. Because people skills are so vital to success in this position, it is recommended that Help Desks hire individuals with interpersonal skills and then train them on the technical solutions. Help Desk professional organizations are increasingly popular locations for individuals to network with others in their field and share and learn from each other's experiences.

The outsourcing of Help Desk operations is an option that relieves the organization of problems related to hiring and supporting Help Desk personnel and at the same time may provide more timely problem resolution. On the other hand, an outsourced Help Desk operation may not know the business and may not perform as effectively as anticipated. Suggestions for managing this complex relationship include having detailed contracts that mandate frequent performance data (metrics) and continual communications between the organization and the vendor.

The Help Desk of the future, the integrated services desk, is in a position to use an organization's data repository. Data, information, and knowledge are continuums on which a learning organization relies. By determining what is useful and not useful data and/or information, as well as who has the data and/or information, the integrated services desk is in a position to be a focal point for knowledge management.

KEY TERMS
- Computer-Telephony Integration
- Contextual help
- Customer support software
- Expert Systems
- Frustrated user syndrome
- Help Desk

- Help Desk agent
- Hypermedia
- Interactive Voice Response
- Metrics
- Online help
- Performance support
- Web-enabled support
- Wizards

DISCUSSION QUESTIONS

1. What is the Help Desk? Who usually is responsible for its operations? What role does it play in providing user support?
2. What is a call center? Differentiate among call routers, Computer-Telephony Integration, and Interactive Voice Response.
3. Under what circumstances might ~ user prefer to contact a Help Desk agent via the Web? What Web-based tools might be used to establish this connection?
4. Describe the consummate Help Desk agent. What professional and personal qualities should this person possess?
5. Under what circumstances might an organization consider outsourcing its Help Desk operations? What are pros and cons of this management strategy?
6. Discuss the role of the Help Desk in light of its role as a keeper and manager of information.

APPLICATION EXERCISES

1. Assume your organization is interviewing a Help Desk vendor. Create a list of the questions you would ask.
2. Using the Internet, identify two Help Desk vendors. Compare the offerings of the vendors on criteria including their scope of services and past performance metrics.
3. Visit the Web sites of the three Help Desk professional associations identified in this chapter (Help Desk Institute, Help Desk Professionals Association, and Helpdesk 2000). What services do they have in common? What services are unique to each organization?

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Case Study Sarah's Experience

When Sarah took over the Help Desk, it was in a sorry state. She had come into Support from Development, where she had been a project manager. (Sarah is philosophical about this—with all this shrink-wrapped software, who needs projects anymore?) Out of six Support staff, she had Mick, a supervisor who resented her coming in, believing the job should have been his; Ron, whose hypochondriac absenteeism verged on the legendary; Susan, who had already handed her notice in and was there in body if perhaps not in spirit; Sam, rather older than the others, a hardware specialist who had designed his own job; and Tim and Jean, two of the most knowledgeable, overworked computer wizzkids she had ever come across whose desks looked like the aftermath of a hurricane.

   She was not sure if she had been put there to change things or to stop her from having to be made redundant. Her boss did not seem to know what he wanted, except an easier time from his peers, whose numerous and highly vocal complaints about Support were beginning to turn into threats. Sarah knew that 'created job' or not, she had to achieve

something. Her first attitude had been along the lines of 'they put me here against my will, this is their problem, not mine.' After a long soul-search, and it must be said, no sympathy for that attitude from her husband, she decided the only thing to do was make the best of it. Like the theme-park employees who clean up behind the tourists, she would do it with a smile, because the smile would be her ticket to something better.

The first thing she did was tell Mick she would achieve nothing without him, and she asked him to write a brief list of the things he would have done had the job gone his way. She called Ron at home (he was off sick at the time) to introduce herself and start her strategy for him. She needed Ron back, she said, because a little bird told her he might have some useful pointers for her. As well as getting him thinking, this told Ron she was not considering his prolonged absences, at least for now, so he did not have to be so much on his guard. She asked Susan to meet her for lunch, a long way off site, where they could talk freely— after all, Susan had nothing to lose by giving her frank criticisms that other employees might prefer to keep to themselves. The conversations with Sam, Tim, and Jean were cursory; Sam was giving nothing away, preferring to protect the niche he had carved for himself. Tim and Jean were too busy; their heads too full of detail and their perspectives too short to be of any long-term use. She knew that in practice these conversations would provide information she could use in the long term. The reason she held them before doing anything else was to get the staff on her side. It could have been disastrous if she had come in and started changing her people's working lives without consulting them.

Two weeks before taking over the job, she had started to ask around, to get impressions of the Help Desk's image in the company as a whole. She did not emphasize that she was moving to the Help Desk—that might cause her interviewees to complain rather than inform. By the time she got to her new desk, she knew what she had to do. She realized there must be more success than failure in Support, or it would have been reorganized out of existence by now. What she had to do was find that success and focus attention on it. Then she had to pick the Help Desk's dirtiest linen and wash it in public. For both of these tactics, the key was going to be communication.

She spent a couple of days watching the way the department worked, identifying its main services and taking measurements of its output. With what she found, she created an alternative picture of success, which the company knew too little about. She took that picture straight to her boss, so he had a more positive view of the Support Department with which to defend himself against his critics. It would give her boss a reason to get on her side, and to get others on it too. She also fed the results of this back to the Support staff. The effect on morale and productivity was nothing short of dramatic. By the time Ron got back from his latest illness, the place was humming—and Sarah was ready for him with a nice juicy project for him to get his teeth into. Ron was going to improve the department newsletter—the communications medium she needed. He had to get out a four-pager in less than a week. He complained, but he made it. The department did not miss him from the support effort, and now Sarah had something she could measure him on.

The main complaint of the users had been about the reliability of response to their queries. It had shown up in a number of ways: Some thought that from a response point of view, reporting a problem was akin to tossing it into the Grand Canyon; others simply complained about not knowing when or how a problem would be dealt with. When Sarah looked at the way problems were handled, she found that 80 percent of the queries

were ultimately dealt with by the highly overworked Tim and Jean. She gave Mick the job of watching every incoming query to see that there was at least a response to it within an hour, and if not, to ask the technician why not. She left it to Mick to figure out, as he did, that he would have to start to take more control of Sam too, as just watching Tim and Jean quite rightly showed they could not do it all themselves.

The result was a turnover in the department's performance and their image within around three weeks. Over the longer term, Sarah began to implement the ideas she had heard in her earlier conversations with her staff and the users. The Support staff were all the more willing now to accept these incoming changes; they recognized the ideas as their own, with a bit of managerial improvement here and there, and they had clear evidence that Sarah could deliver the goods. Late that summer, on a Florida beach, Sarah congratulated herself on a job well done and holiday well deserved.

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CASE STUDY QUESTIONS

1. Summarize the problems Sarah faced in her new position. Are these technical problems or management problems?
2. Before moving to the Help Desk, Sarah interviewed users to discover what they thought worked well and what didn't—why was this a useful tactic?
3. What specific strategies did Sarah use to develop the Help Desk team of agents?
4. What metrics did Sarah use to analyze Help Desk operation? Can you think of others that might have been useful?
5. What advice do you offer Sarah for ensuring the continued harmony of the Help Agent team?