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-
tation 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.

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>
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<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>
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<td>Four</td>
<td>9.0%</td>
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<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.”

![Figure 7-4. Status of Central IT Help Desk User Tools](image-url)
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 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.

<table>
<thead>
<tr>
<th>Number of Help Desk User Tools</th>
<th>N</th>
<th>Mean Agreement*</th>
<th>Std. Deviation</th>
</tr>
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<tbody>
<tr>
<td>None</td>
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<td>2.37</td>
<td>0.962</td>
</tr>
<tr>
<td>One</td>
<td>151</td>
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<td>Two</td>
<td>87</td>
<td>3.16</td>
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<td>Three</td>
<td>52</td>
<td>3.54</td>
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</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>
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</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