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Help Desk Sourcing Options: One University's Solution

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In January 2007, in response to increased numbers of users and their expectations for support, Roosevelt University replaced a dated, in-house help desk system with a co-managed, 24 x 7 technology support service that brings together an institution-based user-services office with contracted services provided by an external vendor.

Roosevelt University, in Illinois, has just over 7,000 students, of whom 43 percent are full-time and 57 percent part-time. Over the past three years, this ratio has changed dramatically—the full-time student population has grown by 15 percent. Although overall student FTE headcount is down, the total number of credit hours taught is the highest in the institution's history. Roosevelt predicts that this trend will continue. At present, the average age of undergraduate students, now 28, is over a full year younger than it had been earlier. The average age of graduate/doctoral students, who account for 45 percent of total students, is 35, down nearly two years from three years ago. There are 210 full-time and 412 adjunct faculty members. The central Division of Information Technology has 40 full-time staff positions.

This research bulletin discusses the factors that drove the decision to “co-source” the information technology (IT) help desk, the unique challenges raised by the use of contracted services as part of a technical support solution, and how this form of service fits within the context of outsourcing in higher education. It includes a description of how the service addresses the needs of the three principal constituencies—users, agents, and technicians—and the communications methods that link them in a co-managed service environment. It concludes with an overview of the challenges that emerged from this project and suggests the accommodations that institutions might need to make in order to develop this type of support solution.

Highlights of Help Desk Sourcing Options

In considering options for improving and expanding help desk services, an institution must decide whether to provide in-house services or enlist the assistance of a third party through a sourcing arrangement. The literature generally speaks to variations on four sourcing models for services such as the help desk: domestic outsourcing, offshoring, co-sourcing, and, of course, providing the services in-house.

Domestic outsourcing: Outsourcing has been defined as a long-term contract between a customer and a vendor in which the institution delegates all, or a major portion, of an organizational operation or function to a single vendor. Ordinarily, in an outsourcing arrangement, the institution does not intend to perform the function with internal resources (Kancheva, 2002). An outsourcing arrangement may or may not involve having the vendor's personnel on the premises of the institution. The issues and opportunities related to outsourcing have been well documented, and they involve establishing a balance among four areas: “cost; service levels; human resources and cultural issues; and political issues,” all of which are salient to a decision to outsource help desk services (Kancheva, 2002, pp. 3–5). In considering outsourcing help desk

services, an institution can also consider a modification of standard outsourcing in which a selected part of the IT operation is outsourced rather than a major portion. Arrangements such as these have been termed *selective sourcing* or *micro-sourcing* (Lacity, Willcocks & Feeny, 1996).

Offshoring: Offshoring is a subset of outsourcing in which the vendor is located in a country other than that of the institution, with few, if any personnel in the country and/or on the campus of the institution. The primary motivation for offshoring is to take advantage of lower labor costs in a foreign country (Overby, 2007). Offshoring arrangements have raised privacy issues in higher education because information security systems and privacy policies at the offshore sites may not be as robust as an institution requires.

Co-sourcing: We use the term *co-sourcing* to refer to an arrangement where the outsource entity and the institution share certain responsibilities. Co-sourcing can be with a traditional company or it can be with other higher educational institutions (McCord, 2002; Hawkins & Oblinger, 2005; Goldstein 2007). Co-sourcing arrangements offer their own set of challenges, not the least of which is blurred boundaries between the responsibilities of each entity (Overby, 2005). A solution to the issues raised by co-sourcing—and some would argue to all outsourcing arrangements—is effective co-management to effectively coordinate campus services with those of the outsource organization (Cohen & Young, 2006).

In-house help desk: Providing help desk services in-house, of course, is the default option, and that employed by most institutions. In general, if an institution chooses the in-house help desk sourcing model, it must also decide whether to use and host help desk software in-house or outsource it to an application service provider. Typically, if the college or university opts to adopt one of the outsourcing models, it will necessarily also adopt the help desk software solution that is used by, and probably provided by, the outsource company.

Before Co-Sourcing at Roosevelt

Before it was expanded, the mission of the Roosevelt University help desk was to serve employees during business hours. Students were entirely underserved, and evening and weekend services were not provided. Roosevelt's help desk staff consisted of one help desk coordinator, who answered phone calls and e-mail messages from 8:30 a.m. to 5:00 p.m., Monday through Friday. Desktop support technicians and part-time help desk assistants would answer calls when the help desk coordinator was on break and after work hours until 7:00 p.m., if they were not otherwise occupied with a service call. Monday through Thursday, students could receive technical support from computer lab aides on a walk-in basis until 10:00 p.m. On a limited basis, Friday and weekend hours were also provided in the labs. The help desk trouble-ticketing system was several generations old. The system was not available to end users, it required a client to be installed on user machines, and, because of its weaknesses, it was not used effectively. The ticket tracking system clearly needed to be replaced, regardless of the sourcing solution chosen for the help desk.

Motivations for Exploring Contracted Help Desk Services

The paucity of help desk support for students was brought into high relief when Roosevelt decided to bring a variety of new services online. Plans for fall 2006 included providing an e-mail account for each student for the first time, along with holding students accountable for reading their e-mail. In fall 2007, portal services were introduced. The portal will eventually replace several other systems that students use to access university information services. Additionally, Roosevelt will introduce single sign-on, and students will be required to sign on to computers in both staffed and unstaffed labs. While not a new service, the university's course management system, Blackboard, has also seen a significant increase in use.

As noted above, the nature of the student population at Roosevelt is also changing, as the numbers of full-time, traditional, and residential students increase. Additionally, the number of students in distance learning programs is rapidly growing. These factors led the university to reconsider how it provides technology help desk services. Students of all kinds need technical assistance 24 x 7, and it was in large part due to the range and magnitude of these changes that we investigated the possibility of contracted help desk services.

Requirements and Expectations

Given the onset of new technology services for students, combined with the changing student demographic mix, the IT senior leadership, in collaboration with the IT advisory committees and senior university leadership, developed a list of requirements with the intent of dramatically upgrading help desk services for all university constituents. These requirements and expectations formed the core of an RFP and were to be valid whether the service was eventually provided in-house or outsourced.

- The service will be available to all university constituents 24 x 7.
- If the decision was made to outsource, the help desk vendor must have a high degree of familiarity with higher education.
- The help desk must support all key Roosevelt applications.
- The technology help desk will provide a single point of contact for the user.
- The help desk will be Roosevelt-branded.
- Constituents will contact the help desk through a local Roosevelt phone number with a toll-free number for distance students.
- An outsource vendor would have to guarantee extensive communications with Roosevelt user services personnel.
- Regardless of the outsourcing decision, the help desk would maintain a comprehensive help desk system incorporating robust trouble-ticket tracking, a knowledge base that facilitates self-help, and a database of user information incorporating data from Roosevelt's directory.

- The ticket tracking system must seamlessly integrate with the Roosevelt portal.
- The help desk and its ticket tracking system must be available 99.9 percent of the time.

Co-Managed Outsourcing as a Solution

Several vendors replied to the RFP. In addition, IT developed a competing internal proposal for expanding the in-house help desk. Ultimately Roosevelt chose to enter into a co-managed outsourcing arrangement with a domestic vendor.

The literature points to four major reasons why institutions outsource IT services: lack of in-house skills, operating efficiencies, cost savings, and access to innovative services (Kancheva, 2002). Roosevelt's outsourcing decision was based on three of these factors.

In-house skills: The university wanted to expand and improve help desk service levels, which meant that the technical and service skill levels of the help desk staff needed to improve. The chosen help desk vendor has years of experience with software commonly used in higher education; provides a sophisticated internal training and development program for its staff; and can provide Roosevelt with fully trained help desk staff. While Roosevelt could certainly have hired and trained personnel internally, contracting with an outside vendor allowed us to achieve our goals more quickly. In addition, since the vendor serves a large number of institutions with a large help desk staff, the effects of staff turnover on any one institution are mitigated.

Operating efficiencies: Providing staffed, 24-hour help desk coverage necessitates some arrangement for a help desk technician to respond to a question in the middle of the night. In addition, a provision must be made for supervision and quality control at all hours. Economies of scale allow a help desk service vendor to provide after-hours technicians and supervisors to respond to inquiries from many institutions, thus providing efficient operations. Roosevelt considered providing 16 hours of help desk coverage in-house and contracting the "graveyard" shift but ultimately decided that outsourcing the entire help desk operation would best provide consistency of service and help eliminate blurred lines of responsibility.

Cost savings: The operating efficiencies mentioned above led to overall cost savings in providing 24 x 7 help desk services because we arranged to pay for an estimated number of help desk service requests regardless of the time of day they were received. This meant that if we received only a few after-hours inquiries, we were charged only for the time it took to handle those inquiries. The estimated number of service requests will be adjusted in subsequent years to reflect the actual numbers of requests received the previous year.

Key Elements of A Co-Managed Solution

A comprehensive help desk is more than a technology consulting and repair service. It is a communications environment in which problems must be clearly articulated and promptly connected with solutions, and in which end users and technical support staff

must be kept informed in a timely manner at the appropriate level of detail. The decision to place the call center under external management broke the main link in the communications chain connecting users with IT staff, disrupting traditional lines of communication. Rebuilding this communications bridge was the central challenge in the development of the new service.

Division of Labor

The new help desk service went into effect in mid-January 2007, a week before the start of the spring semester. At the cutover to the new system, the internal help desk phone number was redirected to the vendor's call center, and agents at that location began handling requests.

A ticket is created for every inquiry. Requests that cannot be handled by agents are transferred electronically to subject queues, each of which is monitored by local IT managers who either resolve the requests or assign them to technicians. This escalation process is controlled by a customized set of routing rules that reflect the negotiated division of labor between the contractor's agents and university technicians. It serves not only to refer the request to the appropriate technician, but, more important, it transfers responsibility for the request from the domain of the contractor into the domain of the university. This process must be efficient and transparent to the user, who should be unaware of the organizational boundaries within the system.

New roles emerged to support the co-managed solution. The senior help desk coordinator at Roosevelt, who served as the main agent under the old system, became the primary contact person and troubleshooter. Instead of taking requests from users, she now handles communications from agents who have questions about Roosevelt procedures or need to convey urgent requests. In addition, the senior administrator for user services at the university consults on a weekly basis with managers at the contracting service about various procedural issues. These managers train and supervise the agents who are assigned to Roosevelt, and they are responsible for improving the quality of service provided by the agents.

Communication

In the legacy help desk system, requests were frequently, but not always, logged in the call-tracking system. Requests were sometimes handled informally between user and technician. While this was convenient for both parties, it was not conducive to generating reliable performance reports, nor was there an easy way to follow up if a request was not handled promptly or effectively. It also led inevitably to time-consuming games of phone tag. Personal relationships were able to compensate in part for the looseness of the system, but as the pressure of increasing technological complexity and expanding services increased, this informal model began to break down. The new co-managed solution has forced a change in communication style. Because agents on one hand, and users and technicians on the other, do not share an organizational history and culture, informal communications are no longer reliable. A key factor in bringing order and coordination to this system is a new request-tracking system, which encourages the conversion of requests into accurate, carefully classified, properly annotated tickets.

Customers may use any of three different channels to submit requests, each resulting in the creation of a ticket in the database: telephone requests (currently accounting for nearly 75 percent of all requests), written requests using a form on the help desk support Web site, and online chat. The ticket management system not only facilitates the escalation and resolution of requests, but it also provides to users a new service: the ability to examine their own ticket history from a Web-based interface, submit their own comments, and, if necessary, reopen closed tickets. An integrated database of users supports personal user accounts and facilitates the linking of requests with personal contact information.

Voice communication is important mainly at the front end of the process, when a user calls the help desk. Occasionally, if the matter is urgent or the agent has a question, he or she might phone a Roosevelt staff member, but normally communications between agents and technicians takes the form of internal comments to tickets. Although voice communication can be quick and convenient, the information exchanged during a phone call leaves no trace in the database and is therefore out of reach of anyone who may subsequently need to work on that ticket.

E-mail plays only a secondary role in this system. There are two problems with e-mail. First, user requests submitted as free-form e-mail messages are likely to omit important information. Second, e-mail messages submitted outside the ticket tracking system are not included in the ticket history and are therefore invisible to technicians assigned the case. Although the ticket tracking system uses e-mail to send various alerts and confirmation messages to users, agents, and technicians, it is not supported for the submission of requests and is less effective than ticket annotations when technicians and agents have questions for each other.

Joint Management of Knowledge Base

Integral to the system is the knowledge base, a framework for building a comprehensive, searchable archive of problems and solutions that is accessible to all users. Technical documentation, of course, is widely used as a form of technical support but gains utility when integrated with the ticket tracking system and developed as part of a comprehensive help desk solution. With the assistance of the contractor, we began building the knowledge base by conducting a series of focus group sessions with Roosevelt staff. These discussions yielded descriptions of processes reflecting our own technological environment that were adapted for entry into the knowledge base. The contractor also contributed a collection of articles on standard topics. We imported into the knowledge base much of our existing Web-based documentation, most of which existed in the form of brief FAQ-style documents on the Roosevelt Web site. Articles are added to the knowledge base on a regular basis as new needs arise.

The integrated, co-managed knowledge base provides a number of benefits:

- The contractor's agents, lacking the same familiarity with the Roosevelt environment that is expected of a local technician, rely on the knowledge base to provide quick answers to callers.

- Any knowledge base article can be quickly imported into a ticket by either an agent or a Roosevelt technician and sent to the user as part of a problem resolution. This not only contributes to the efficiency, accuracy, and consistency of help desk performance, but it also records the solution as part of the ticket history.
- When a unique problem presents itself and a technician creates a new written solution to the problem, that solution can be captured and imported into the knowledge base, where it can be reused.
- Users, through the Web-based support site, have access to the same knowledge base used by agents (with the exception of a special set of internal articles available only to agents), encouraging self-service problem solving.
- The process of creating and maintaining the knowledge base helps expose obsolete and incorrect information and maintain currency.
- Because the vendor uses the same knowledge base structure with all its clients, it can easily develop knowledge base articles on standard topics (for example, Vista) for all its clients with one effort.

What It Means to Higher Education

A co-managed support system is more complex organizationally than an in-house solution, requiring the coordination of two separately managed enterprises: the university and the contracting firm. In contrast to more narrowly targeted outsourcing solutions that address only selected areas such as hardware maintenance or online learning system support, our solution was intended to be comprehensive, covering all technology areas. Achieving this goal has presented a variety of configuration and service issues, some centered on procedural and technical matters of interest primarily to agents and technicians, and others having to do with managing the expectations of the user community. Any institution embarking on a co-managed technology support solution can expect to encounter challenges in some or all of the following areas.

Ticket structure design: The central communications tool in our system for bridging the organizational and physical distance between users is the ticket tracking system. To do its job, a ticket record must include an accurate and unambiguous description of a problem; store the historical record of an incident from original request to solution; contain sufficient detail to support a range of reporting functions; and be flexible enough to meet the diverse needs of users, agents, technicians, and managers. Fortunately, the default ticket structure is easily modified. Unfortunately, because users' expectations of the ticket structure are not always the same, achieving consensus on the ticket data structure is not easy, and developing a common solution from a wide variety of design requests takes time, effort, and a spirit of compromise.

Workflow design: A ticket-based support system benefits from a system of electronic workflow controls for allocating requests to technicians, keeping users informed about

the status of their requests, and providing tools for annotating, modifying, and reassigning tickets. At the same time, the system must avoid burdening users with irrelevant information. The ticket management application relies heavily on configurable, data-driven routing rules that maximize precision and minimize noise and that, like ticket structure decisions, must be created with institutional needs in mind. Reducing real-world problems to formal written requests and designing tools for handling them efficiently requires close attention to system performance and a readiness to modify workflow rules as the environment changes

Knowledge base: A well-constructed knowledge base is an essential component of a full-featured support service (Saunders 2004; Elmore, Holloway & Workman 2004). We found the construction of the knowledge base to be a challenging exercise in knowledge engineering. One issue was format. Considering the problem of converting existing documentation into knowledge base articles, we favored concise answers to specific questions over longer user guides, which, in our experience, users tend not to read. The shorter formats in the style of frequently asked questions were also more compatible with the search engine provided with the system. A second issue was the need to include in the knowledge base information for use by the contractor's agents about aspects of Roosevelt technology that had never been formally documented, substantially widening the scope of the knowledge base. In addition, it became clear that the maintenance effort would be large and would need to be monitored continually for accuracy. Because of the central role played by knowledge base articles, incorrect or obsolete information can seriously erode the reliability of the service.

Boundaries of responsibility: One of the issues we faced when moving from a somewhat loosely organized local support system to a more compartmentalized co-sourced system was delineating the boundary between the responsibilities of call agents (Level 1 requests) and of university technicians (Level 2 requests). Initially this boundary was poorly defined and unstable. Our initial target was a 50-50 division of labor, with approximately half of all inquiries being handled by agents and the other half escalated for local attention, but during the early months of the service the load has been skewed heavily toward the university. One of the reasons for this is that external agents with limited knowledge of Roosevelt are serving as first responders. Increasing the percentage of Level 1 requests will require helping agents better understand the university and developing a more comprehensive knowledge base. It is not yet obvious to us where the division of labor should lie or what level of administrative access to local systems is safe and appropriate. For example, if we want agents to be able to handle password resets, we have first ask ourselves how much access external agents should have to sensitive student information.

Colleagues and strangers: The user community did not quickly and easily adjust to the switch from the familiar informal request system to a more structured request method. Many users, in spite of our reminders, continued to rely on personal friendships with various IT staff to resolve technical problems. Clearly, for some users, a pleasant conversation with a friend is a more positive experience than a call to a help desk agent, regardless of how competent or efficient the agent may be. When new systems impose major changes on organizational culture, such reactions may be unavoidable.

Call queuing and wait times: One of the most common sources of complaints about professional help desk services is lengthy telephone wait times. Although the average wait times on our system are not bad by industry standards, falling from 2+ minutes to about 45 seconds during the first several months, our users were frustrated with even this relatively short wait. Assurance that service levels of the help desk overall were improved because of expanded hours and improved technical expertise did not make up for the fact that we had not adequately informed users about the call queue. This and the previous point both confirm the importance of managing the expectations of the user community before the implementation of any new system.

Initial Benefits

Because of its collaborative design, the new help desk service will require time to mature. Our expectations are that the service will become more effective as the help desk agents become more familiar with the Roosevelt community, as we turn over more support tasks to the off-campus agents, and as members of the university community adapt to the new service. We can report at this time, however, the following initial benefits.

Always-available services: The new service has substantially extended help desk coverage in two ways. Most obviously, agents are available 24 hours a day, every day, at a cost less than that of creating our own extended help service in-house. In addition, the ongoing construction of the knowledge base is helping develop a reference and teaching resource that will enable our end users to quickly find answers to their questions at any time of the day or night.

Technicians able to specialize on technical work: Before the implementation of the new service, Roosevelt technicians not only performed technical support work but were partly responsible for handling telephone requests and entering them into the legacy call-logging system. The problem was that these roles were mutually exclusive: a technician staffing the phones could not be out doing field work, and a technician in the field could not staff the help desk phones. This was inefficient and led to bottlenecks and service delays. Key to the new service is a division of labor that makes it possible for technicians to focus on service without compromising communications.

Reliable statistical reports: Running a high-quality technical support operation requires collection and analysis of reliable performance data (Bird, 2000). The old call-logging system included support for reporting, but the fact that many help requests were never recorded on this system limited its utility as a management tool. The reporting capabilities of the new ticket tracking system make it possible to capture detailed information on the performance of the new help desk service. Although it is too early to draw reliable conclusions, we have established baseline data that we can track as the service matures, and we can use those data to make improvements in its design.

Better understanding of our own organization: Beyond the service benefits of our new help desk service, we find that the process of developing the co-managed help desk service has forced us to take a closer look at how we do things. The process has shed light on inefficient procedures, poorly documented processes, and ambiguous boundaries of responsibility.

Key Questions to Ask

- What are the best ways to identify and mitigate the weaknesses in your current help desk support service?
- Which areas of your support service could be effectively handled by a contracted support service, and how would this affect your user community?
- Is your written documentation, and by extension your understanding of your own technology services, sufficiently rich that it could be used to support off-site agents? If not, do you have the capacity to create this body of documentation?
- How do you measure the success of your technical support service?
- How might increased specialization and division of labor improve the effectiveness of your technical support operation?

Where to Learn More

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