ERP Call Centers: Benchmarking and Implementation

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Enterprise resource planning (ERP) systems that manage the business of higher education are sometimes supported through call centers geared exclusively to these systems. Many of these call centers apply strict standards of customer service that until recently were most often found in the private sector. A key question for large-scale ERP systems implementation is how well end users are supported in their daily tasks. Typical higher education call centers or help desks can guarantee response within 1 to 24 hours, making them ill-suited to providing real-time support. Increasingly the call-center model is based on providing end-user assistance about software functionality or business processes in real time, while the end user is on the phone.

This bulletin is based on the implementation of a call center during the Administrative Streamlining Project (ASP) at the University of Colorado (CU). Between 1999 and 2001, 20-year-old financial and payroll systems were replaced with new financial (general ledger, accounts payable, and purchasing) and human resources systems. The financial system, along with all the required technology infrastructure change, occurred in July 1999; the human resources system came online a year later. In both administrative areas, significant changes were made not only to systems but also to business processes. Procedures based in large part on manually routing paper forms through the institution were replaced with procedures employing online forms and online approval of transactions, and these changes had a significant impact on the administrative support staff of the institution. Many staff members who previously did not have computers, or who used them only for word processing, came to depend on them to accomplish daily work. Everyone involved in finance or human resources functions in the operational unit had to have basic skills in using Windows, Word, Excel, and the Web. Training in computer basics was provided well in advance of the go-live date for the finance system.

At CU, the call center was viewed as a component of ongoing training and administrative support for the end users. It was created as part of the initial service rollout for the software implementation, providing users with a live, on-call resource in addition to online library/help functions. Issues taken into consideration during the life cycle of the call center included call-center structure, reporting structure within the organization, staff hiring and training, and data security. The call center served 2,000 end users across five campuses and four geographic locations. It is important to note that as the ASP grew and additional software functionality was added to the systems, the call-center structure and staffing changed also.

Highlights of ERP Call Centers

One of the earliest considerations in creating a call center should be its structure. To a large extent this is determined by the number of systems implemented and the number of users who will be served. In many ways, it might be best to take the cue regarding the configuration of the call center from the way in which the end users themselves work.
Structure of the Call Center

Do the users work across multiple systems? Are these systems on similar platforms/equipment configurations? Would “one-stop shopping” be helpful for these individuals? From an administrative standpoint, is it desirable that we quickly have information about user response, system response, and any problems identified with hardware and software across various locations? The answers to these questions may change over time, making different call-center configurations preferable at various times during the ERP implementation.

Centralized call centers provide several advantages over decentralized centers.

- All call-center staff can be housed in one location, facilitating communication.
- Creation of a “call-center customer-focused culture” is easier to define and monitor.
- Consistent training can be provided.
- Consistent performance standards and review processes, reflected in salary structure, can be put in place and monitored.
- Cases can be maintained in a single trouble ticket database.
- Sharing of common issues occurs naturally, leading to the ability to quickly identify issues and provide a unified response.

Decentralized call centers provide a different set of advantages.

- Support can be tailored for specific systems and populations of users (for example, financials and student administration).
- Support can be tailored for the specific hardware and software configurations being used.
- Problem-tracking procedures can be tailored to serve specific requirements.
- Small, decentralized call centers have fewer physical space requirements than large, centralized call centers.

If an institution chooses a decentralized model, it is very important to keep in mind the issues of consistency and measurement across the centers. Standards of response time, while tailored somewhat to the type of call received, should be similar across call centers. A venue should be created where the call-center management and staff can meet to share their common concerns and issues. Managers should work together to assure that compensation and performance standards are consistent across the units. Where possible, decentralized call centers should use common trouble ticket software to enable managers to more easily spot issues across the systems (for example, performance at some campus locations, problems with Web forms, desktop issues such as Mac versus PC performance, printing, and so on).
In the case of the University of Colorado Administrative Streamlining Project, a centralized call-center model was initially adopted to cover the implementation of financial and human resources functions. Of the 2,000 end users, 80 percent used both systems (financial and human resources) through a Citrix interface. Having a one-stop location for user questions maximized staffing resources, minimized user frustration, and provided the best service overall. Initially, all aspects of the finance implementation were located in the call center—security and password resets, finance software questions, and business process questions, as well as issues regarding the new Citrix interface. This arrangement allowed the call center to identify problems quickly and respond because all calls came into a single physical area. The call-center manager worked in the same room as the staff members, sharing call and e-mail volume. The staff was located down the hall from the director of change management, the supervisor of the function, and in proximity to IT and functional finance staff members. The training team served as back-up resources for the call center, with second-tier escalation available to the IT staff.

During the second and third years of the implementation, CU chose to split call-center functions. At this point in the evolution of the systems implementation, users were generally more knowledgeable about the software, and calls were generally of a more specific and functional nature. Security-related calls were routed to the system office security staff, and functional calls were routed to one of two different consolidated functional service centers, one for procurement and one for payroll/benefits. Call-center staff currently report to three directors in three different organizations. While this model provides functional expertise, the tradeoff is that end users are sometimes routed among offices until the appropriate “expert” is located, which can be frustrating. Also, trouble ticket software is not shared among the call centers, so it is difficult to obtain a comprehensive picture of where system response time, software functionality, or network problems are occurring. A third issue for training of call-center staff is that to some extent they need to know basic technical troubleshooting to route calls to the correct location. Many of these individuals are not technically trained and do not feel comfortable working in this content area. As a result, problems sometimes take longer to route and resolve than if the staff were cross-training or had expertise in the more technical aspects of the software or hardware.

**Reporting Structure Within the Organization**

Institutions deciding where the call-center function should report within the organization should consider two issues. The first is the political question related to the ERP governance structure. The second is functional: Where does the call center fit relative to ability to get responses to end-user questions and concerns? In general, prudence would locate the call center where function is emphasized, while assuring that individuals responsible for the call center have access to the governance group when required. Nothing will sour an implementation in the eyes of the governance group faster than disgruntled users reporting one-hour wait times on the call-center telephones!
Even from a functional perspective, there are several options for the reporting structure of call-center staff. Again, institutional culture and the experience of end users are important considerations.

- *Place the call center within the IT organization.* This option may work well if the number of users is relatively small, if users are relatively experienced, and if users are able to focus quickly on the question from a technical perspective. This configuration probably will not work well with large numbers of users, if end users are unclear about what they are trying to accomplish, or if technical staff are also trying to triage system problems and respond quickly. In the last case, call-center staff will likely view the calls as irritations and will not be particularly customer oriented. IT staff also are less likely to be able to answer questions about business processes than about software performance. Users are often unable to discern the types of questions they have until they have reached a call-center representative.

- *Place the call center within the functional unit.* This option may work well if users work primarily in one subject area. Are they able to focus quickly on the question? If the call center is located in a functional unit, the unit might require that calls be restricted to a certain content area and other types of calls be routed to different locations. For example, a call center within the controller's office for answering general ledger questions probably will not be able to respond to calls regarding AP forms, Web access, or IT security. The functional expertise for those sorts of questions comes from different areas, and cross-training within a limited time may not be reasonable. In choosing this option, institutions must weigh the issue of functional expertise against the possible frustration for the end user who may not know whom to call and ends up getting routed to several offices before his or her issue is resolved.

- *Place the call center with the training and documentation group.* Locating the call center within this organizational structure plays on a number of strengths already in place in this type of unit, including responsiveness to the end user and responsibility for a breadth of information.

At CU, the call center initially reported to the director of change management, who was also responsible for end-user training and documentation. The locus of activity chosen represented a breadth of experience that seemed to parallel the needs of the end user as the ASP began—background in the functionality of the system, changes to business processes, forms, Web interfaces, and security. The director was a member of the project management team and had regular interaction with campus leadership and project governance groups.

**Additional Considerations for Structure and Location of the Call Center**

Institutions should take several other considerations into account in choosing the structure and location of the call center.
Decide on the scope of work to be supported and the estimated number of end users for each type of service to be provided. Analyze similar call centers inside the organization, and research call centers at comparable higher education institutions that were created as part of their ERP implementations to determine what level of service will be offered.

Be realistic in determining the workload patterns in the business processes the call center will be serving. What are the peak processing periods of the week, month, or year for these functions? What will be the hours of service, and how will service be provided (voice mail, telephone, e-mail)? Will call-center hours mirror those of system availability or be narrower or broader? Will the call center be an ongoing part of user support, or will it be available only during the first several weeks of implementation?

Determine a response strategy and set of expectations that will be shared with the campus community. Estimate the volume of calls from all the factors listed above, and then decide on a service-level goal. What percent of calls will the call center try to resolve at first response versus referring to a second-tier service group? This decision is key in terms of staffing the organization and of staffing demands that will be placed on the “downstream” organizations as well.

Determine service-level expectations for response time, average call length, and average wait time and publicize and measure these goals on a regular basis, sharing results with both the end-user community and the project governance group. Make sure that the statistics seem realistic given the end-user experience with the call center. Don’t believe “good press” simply because the workload statistics look good. Instead, ask end users about their experiences using the call center, via quick user surveys or open discussion/focus groups. The measurement and accountability aspects of service-level expectations are discussed later in this bulletin.

Hiring the Staff

Once the institution determines the overall staffing requirements of the call center, it should then address staff training requirements. What will call-center staff members need to know, and what are the initial and ongoing training functions required to keep their expertise up-to-date? The main challenge will be getting the group up to speed before the system goes online, so they will be a knowledgeable resource for end users in those first critical weeks of the system’s operation.

One consideration in hiring the call-center staff is whether they will comprise permanent staff, students, contract staff, or a mix of these groups, each of which has advantages and associated costs. Factors affecting the composition of the staff include the desired level of flexibility in matching staffing levels to call volume and the amount of training—and associated costs—necessary for competence both with the software and with business processes. Another consideration is the amount of overhead the institution is willing to absorb initially in scheduling a number of part-time employees or students versus having staff on site for standard-length work days. The call center’s hours of
operation also have a bearing on this consideration. Obviously, 12 hours of operation per day requires a different staffing pattern from 9 hours per day; Monday through Friday operations require different staffing from call centers available nights and weekends.

At CU, we initially chose to staff our call center Monday through Friday, 7:00 a.m. to 6:00 p.m.—the hours that the system was up—and to have a mix of staff and contract employees. Of the six staff hired for the financial implementation, three were regular staff positions and three were contract positions. Of the regular staff positions, some were from within the institution and could be characterized as “functional users”—familiar to some extent with existing university business processes and “knowledge networks” on campus. Of those hired as contract employees, some had previous call-center experience, and one had a technical-support background. This mix of staff experience proved to be valuable because it included experts both in business process and technical implementation. Additionally, the use of contract employees allowed us to quickly change the staffing pattern as we saw changes in the volume of incoming calls. Making those changes (in our case, quickly decreasing staff as call volumes reached a plateau) would have been more difficult if all employees had been CU staff who had an expectation of ongoing university employment.

**Call-Center Support Tools**

Another important decision is what types of software support will be available for the staff. The tools chosen will have a direct impact on the call center’s ability to provide measurement of activity and accountability to users and the governance structure of the ERP project, to provide timely feedback to the IT development staff regarding system performance, and to the training and documentation team regarding areas where end users are having difficulty using or understanding the system. Regardless of the tools chosen, automated options should be used as much as possible so that gathering the workload data does not become an administrative burden to the staff, which would reduce the time available to offer service to the clients. Often multiple software support systems need to be chosen for different tasks.

The telecommunications operations organization within the university might be able to install an automated call distribution system that routes calls to the least-busy operator. These systems might also provide daily production-call statistics related to call volume, average call length, average call wait, dropped calls, and others—statistics that become the benchmarks for quantitative workload of the call center. Additional detail might be available by individual operator, allowing call-center managers to review performance statistics on a daily, weekly, or monthly basis. If data are available by hour by day, this also allows for accurate comparative monitoring of workload across the business day and allows call-center management to shift staff to busier portions of the day and limit staffing during slower periods of the day.

Institutions should choose trouble ticket software for ease of use and for use across multiple organizations if a decentralized call-center model is chosen. Trouble ticket software allows the call center to gather qualitative information about the types of calls coming in to the center, and that data can be reviewed for patterns of technical issues, software problems, printers, browsers, and so on. This type of data can be used to refine
information provided to end users, update training materials, and isolate performance problems within the software where improvements can be made. At CU, feedback gathered using the trouble ticket software led us to develop a set of supplemental end-user materials—step-by-step guides—that became a constantly updated desktop reference manual divided by software application and business process. In polling our end users, we found that these guides are the reference material that users—especially infrequent users—referred to most frequently for the system. Common questions tracked on the call-center software can also be posted to a frequently asked questions (FAQ) Web site.

The third type of software that a call center might use is a shadowing tool that allows call-center staff to view and/or control the end user’s screen. Such tools greatly improve the call-center response time because they allow the staff member to see the problem the caller is having, rather than having the caller try to explain the problem. Shadowing tools also allow the staff member to demonstrate how to do something by taking control of the caller’s mouse. The “taking control” functionality should be used only occasionally, however, and only with the permission of the end user. At CU we found that we were able to resolve 90 percent of calls when using the shadowing software, compared to our original estimate of 60 percent resolution at first point of contact. This became such an important component of our call-center strategy that during our recent human resources upgrade, we insisted that shadowing software be available on our new Web platform.

Because both the trouble ticket and shadowing software allow end users to be identified by name and operator ID, it is important to secure that data. Only call-center staff should have access to the database and must use a personal ID and password to access the data.

**Call-Center Training**

Three factors determine the training offered to call-center staff: time available before staff is needed online, cost, and the scope of work to be supported in the call center and how many calls (and what type) will be handed off to a higher-tier response team. The third of these determines how completely the call-center staff will be able to answer questions about both the enterprise’s software and business processes.

In choosing a training program, CU decided to have a call center that would resolve at least 60 percent of calls at first point of response, across two business systems. Our training program for call-center staff, therefore, mirrored that planned for our end-user community.

- The focus was on using resource materials already prepared for the end user—tutorials, prototypes, and software overviews.

- The call-center group worked directly with the training team.

- The learning shadowing software was a first priority.
• The call-center group met with campus IT offices to share information about campus network infrastructure and problem resolution—who would be handling what types of calls.

• The call-center group worked with the end-user training materials as they were prepared.

• The call center worked as teaching assistants in the training classroom as training sessions began so they would become familiar with end users and hear the types of questions coming up as people began using the software.

• Call-center staff were given early access to the online practice area, providing them a production-like environment to review processes and step-by-step guides before the system came online.

• Call-center staff had to go through security training and signing of confidentiality agreements for the systems—the same requirements as for end users. In addition, call-center staff members were informed of issues regarding the use of the shadowing software (always asking for permission to shadow) and the trouble ticket software information that contained personally identifiable operator ID and contact information. For the finance call center, there were no issues regarding the Health Insurance Portability and Accountability Act (HIPAA) or the Family Educational Rights and Privacy Act (FERPA). For the human resources call center, where staff members answer university staff benefits-related questions in addition to payroll questions, HIPAA training has been required.

What It Means to Higher Education

As higher education invests in ERP implementations, organizations are under scrutiny to carefully review project progress and to develop call centers with customer relations service standards that previously applied primarily to private-sector organizations. A key question in such an implementation is how well the end user is supported in daily tasks.

• Higher education may not be accustomed to working with the rapid level of change often required in ERP implementations.

• Many ERP systems distribute functions to units where the transaction begins versus looking at centralized service centers. While this streamlines approval and data-input steps, it also places more accountability on the end user to get the data correctly into the system.

• End-user training has often been done on an ad hoc basis. The ERP implementation may for the first time prompt development of a dedicated and ongoing training program within the institution.

• Call centers provide a point of contact and quality control for the end user. Call centers can also provide a “just in time” training function. Because formal training often occurs well in advance of the software’s being available to the end
user, the call center functions as an ad hoc training component as software or business processes continue to change.

- Call centers provide ERP managers a point of assessment for how smoothly the implementation is occurring, based on volume of calls, kinds of questions, and so on.

To answer many of the questions that arise regarding accountability, higher education management will begin using assessment criteria such as

- volume of calls resolved at first point of contact;
- number of calls answered, average length of wait time, and average length of call;
- daily statistics to modify staffing pattern if necessary;
- planning tools to adjust staffing to optimize response around critical deadlines (overstaff in advance to optimize response time to the customer—for example, fiscal year-end close or payroll deadlines);
- common themes from tracking data;
- sharing of call-center statistics with the call-center staff to ensure the call center is accountable internally; and
- sharing of call-center statistics with end users to ensure the call center is accountable for meeting service-level agreements.

Outcomes that may result from assessment of call-center activity include

- modifying training materials or bulletins to end users to clarify issues that come up frequently;
- refining processes that appear to be problematic (forms, security, end-user step-by-step guides, or an online library of materials); and
- offering additional venues for user feedback—e-mail line, user forums, brown-bag user group meetings, and so on.

**Key Questions to Ask**

- What level of support will be offered by the call center? Will it provide one-stop problem resolution, or will calls for various types of questions be routed to different organizations?
- Which services will be available to assist the end user—consulting via phone, e-mail, online shadowing?
- What level of call volume can be anticipated?
What level of staffing will be required for the call center, and for what period of time?

What type of training will be available for call-center staff?

What type of service-level expectation is agreed to with the end users? Agreements should include estimated level of resolution to questions at the first response, escalation procedures, and average response time for incoming calls.

As the ERP implementation “settles in,” does the service model for the call center change? For example, is there a goal to reduce the reliance of end users on the call center over time? If so, how will this be done (for example, improving end-user resource materials based on questions received in the call center, or developing quick reference guides or FAQs)? If this function is decentralized, are resources adequate within the service organizations to take on these tasks?

Where to Learn More

- For an example of service-level expectations related to call-center performance, see <http://www.cu.edu/pbs/> and click on “Role & Mission—Service Level Expectations.”

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