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Implementing a Combined Computing Services
& Library Help Desk

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Abstract: The University of North Carolina at Charlotte is in the final stages implementation phase of a combined User Support operation for Library and Computing Services. This User Support service is a team managed operation that uses the current approaches to providing “help desk” services and uses state of the art help desk technology. A key concept in this operation is that it provides expanded professional growth opportunities for Computing and Library staff. The unique approach to personnel allocation and classification taken by the this operation is changing the way support staff are viewed by the Office of State Personnel. This model for User Support has been termed a “world class” help desk by experts in the Help Desk industry.

Background

The University of North Carolina at Charlotte is an urban campus of approximately 13,000 students, 800 faculty and 1,600 staff. Only about 25% of the students live on campus. In 1992, Computing Services, the Library and Media Services were combined into one organizational unit, Library and Information Services (LIS). Computing Services is responsible for all academic and administrative computing and networking.

Every faculty and staff have a desktop computer on their desk connected to the Internet.

The 800+ computers in the 35 student computer laboratories are also connected to the Internet. There has been a 500% increase in the number of PCs on campus since 1991. In survey done in 1994, 80% of the faculty and staff reported that their network connection was more important than their telephone for getting their work done.

Computing Services had a “help desk” operation. It consisted of one, untrained clerical staff member to take phone calls. The clerical staff person filled out a ticket which was then passed onto second level technical staff (e.g. hardware, software, network). This is what is known in the help desk industry as a “referral” operation. In this help desk operation there was inadequate feedback or accountability from the second level staff to the help desk. So the help desk staff had no way of knowing what the status of help desk calls was. Consequently there was great unhappiness on the part of the campus with this support.

Development of a Plan for the New “Help Desk”

In 1994 Library and Information Services began planning how to improve its help desk operation. We began by becoming involved in the help desk industry and studying best practices. This began the partnership with the University and Rhonda Mancuso of the Renaissance Partners. Renaissance Partners helped in the review of our plan and also in the staff training.

There are six elements of a successful support center: business alignment, service culture, operational processes, people/motivation, people skills, and tools/technologies. The plan developed by the University addressed each of these six elements. The first, alignment with the business, was evident in one of the primary missions of LIS — to enhance the University’s operational effectiveness through the use of information technology. Its recognition that an improved help desk was needed and its responsibility, was seen by the University that LIS was indeed focused on supporting in an appropriate way the primary business of the University.

The first step in developing the plan for a new help desk service that would be known as User Support, was to define what would be supported and how. The University is by intent a heterogeneous environment, supporting the major different type technology platforms. However, until the planning for User Support began, there truly was not an established list of supported hardware and software. There was also not a process that engaged the campus in what would be supported or not. A key to solving this problem was to define what “supported” meant. Supported means that staff are trained in that technology, that they have access to reference materials, and that LIS has an ongoing relationship with the vendor of the technology. Before “supported” was defined in this way, we often were perceived as being arbitrary in what we supported.

The User Support service will only support telephone and electronic mail requests. Walk-in inquiries will be handled by other parts of the organization. We learned by others in the help desk industry that it is virtually impossible to operate an effective “help desk” service if walk-in traffic is mixed with telephone service. One group or the other suffers.

The goal of the User Support operation is to provide a “resolve” rather than a “referral” service. Specifically, User Support has the goal of resolving 65% of all calls on the initial contact, referring only 35% to second or third level support. This meant that the User Support staff would have to be well trained.

Other goals of the User Support operation are; to establish LIS as a leading example in both the application of technology and in the development of technical skills among its staff, to establish LIS as a leader in knowing how to provide good service, to more fully integrate LIS functions, to develop an organizational structure based on operational teams (e.g. Continuous Quality Improvement) and to provide career opportunities for staff. User Support is the first of many operational teams that will be created in LIS. User Support is to be as much of a team managed operation as possible. In order to effectively move to CQI operational teams, it is important that staff can have multiple career opportunities. User Support provides this for staff who otherwise would have difficulties moving into technology-related fields. The largest number of positions being created in technology fields is in the area of user support.

Because of the inadequacy of the University’s help desk, and also because of human nature, the basic support structure within the University had been “peer to peer” support. Peer to peer support is the model where the person asks their colleague in the next office or down the hall to help them with a hardware or software problem. There are two basic problems with peer to peer support. First, it is considerably more expensive for the institution. The cost for peer to peer support is basically three times higher than that provided by a central, effective support organization. Peer to peer support also leads to an unnecessarily diverse technology environment, which in a fully-networked environment can be almost unmanageable. In developing the plan for User Support, the issue of central vs. peer to peer support was discussed with the campus and a lot of education had to be done. User Support is focused on supporting the campus computing infrastructure — those things that are generally used by the campus. This allows the colleges, etc. to focus their in-house technological expertise on the areas that are specific to their needs.

There were many challenges to starting the User Support service. The first came from the 14 departments within LIS who asked how we were doing to do this on top of everything else we were doing. The answer was that we had to look at everything we were doing, and some things wound up being done in a less “perfect” way, while other things were either shifted to other parts of the University or were simply dropped. There was also a lack of true understanding on the part of LIS staff about what the different parts of LIS actually did. At times, a rigid state personnel system looked like it would pose an insurmountable challenge. This is covered in more detail below. And of course there was the fear of change. Many LIS staff worried that we simply could not make this large of a change.

Planning Assumptions and Decisions

The first major decision was that it would be staffed with existing staff. This was necessary because there simply were not new positions to use to create this service. This approach was also necessary to provide staff career opportunities. It was decided to use 40% of each participating staff member's time in User Support. This enabled us to draw staff from across the organization and yet minimize the impact of the lost of that staff person's time to the department where they worked the other 60% of their time. This also addressed the major problem in the help desk field — that of staff burnout. Studies have shown that if a person is on the help desk more than about 75 – 80% of their work time, they are far more likely to burn out, than if they work less than 75%. It was also decided that 5 hours of the 16 hours per week each staff member works in User Support would be off the telephone, so that the staff member can continue their training, work with second level staff, etc.

It was also decided early on that the trained technical staff would be second level support and not first level (User Support) staff. The staff answering the telephones and working with the campus users need to be generalist and need to be able to relate to the user's level of knowledge. It was felt that it would be easier and more effective to bring staff up to the level of technical competencies needed for first level, than to train other staff to fill in for the second level staff. It should be noted that the primary selection criteria for staff working on User Support is their ability to work with people and their service orientation — not their technical background.

In order to proceed in a manageable fashion, it was decided that User Support would start by providing support for basic computing, media equipment, and electronic information services, and would expand over time into other services provided by LIS. The long term goal is for User Support to provide a single point of contact for anyone calling or sending electronic mail. We believe it should not be the user who has to decide who in such a complex organization as LIS they need to be working with.

It was also decided to begin the service for normal working hours (Monday – Friday, 7:45 A.M – 5 P.M.). It is believed that it is critically important for the service to do what it does well and then expand the service, rather than to try and do too much or cover too many hours at the expense of the quality of service. User Support must work well the first time, because we do not believe that it would get a second chance among the campus community.

A necessary decision was that an adequate financial commitment had to be made to support the User Support operation. This investment was initially estimated to be around \$250,000. Without this investment, it was generally felt that User Support would not succeed, and therefore, would not even be worth pursuing. The estimate has proven to be correct and is described below.

It was also determined that User Support would become the primary driver for what services LIS would ultimately support, the training that LIS provides for the campus, etc. This is because User Support would have the best handle on what the needs are on campus and the trends affecting these needs are. Both the processes and the technology used by User Support will provide a much better view of what services we are providing than anything available to date.

Staffing

While it was always the position of the LIS administration that staff could be “drafted” to work in User Support, we did not have to draft anyone. We started by describing the service and the job description for someone working in User Support and asked for volunteers. Fourteen staff volunteered and were selected. There were 4 volunteers out of a total of 65 staff in Computing Services, 1 volunteer out of a total of 5 staff in Media Services and 9 volunteers out of a total of 100 staff in the Library. This self-selected group consisted of some of our most motivated and flexible staff.

Departmental managers had to figure out how to cover the time their staff would be involved in User Support. It turns out that this led to some creative solutions. It also encouraged cross-training of staff, which has strengthened the organization in many ways. Obviously there was some grumbling at first, but the organization proved to be very adaptable and able to deal with this change.

As we planned the User Support operation, it became clear that we needed one full time person in User Support to provide the consistency that changing shifts, etc. would need. This person came from Computing Services and had been doing much of the first level support being provided by Computing Services. She volunteered for this role and has been a key to keeping the User Support effort moving forward.

A major breakthrough came when the Office of State Personnel agreed to support what we were trying to do. Basically staff involved in User Support will have two different jobs, and their salary will reflect a pro-rated average of the position grades. For example, if a library clerk is a grade 59 and also works in User Support, which is a grade 65, then his/her salary will be derived using a formula of 60% at grade 59 and 40% at grade 65. Working this through the state personnel system took time and delayed the implementation of User Support. However this effort was critically important for the whole project. The aggregate position grades will be used as we establish other self-managed teams in LIS. It should be noted that after User Support is functioning for several months we will ask the Office of State Personnel to review the grade level for User Support, because it really does not take into consideration the concept of a self-managed team, as they have never dealt with one before.

Financial Investments

The financial investments included an integrated help desk system, the purchase of knowledge databases, staff training, technology for the User Support staff, and position upgrades.

A full function help desk system is necessary to provide the type of services envisioned for User Support. This system includes call tracking and management, integration with the campus telephone system to allow for “screen popping”, integration of knowledge databases, and asset discovery and management. A set of selection criteria were developed and the major systems were reviewed. For our application, the Vantive system was selected. It is one of the large-scale systems available and is used by a number of large corporations. As part of our requirements, we wanted a system that could support multiple call center operations beyond User Support. Once User Support is fully operational, it is

the intent of LIS to work with other parts of the University to determine what other operations could effectively use this system. Areas such as Physical Plant and Admissions may find this technology to be very useful. Our requirements also specified that the system must be accessible to our users, so anyone on campus can check the status of their call, or use the expert system based knowledge databases without having to call User Support.

The knowledge databases are purchased by software or hardware product and contain the 1,800 or so most commonly asked questions. The system is set up so that as User Support staff enter in a reported problem, the system will respond with possible solutions ranked from the most probable down. The system also allows for the inclusion of a locally developed knowledge base. We purchased all of the knowledge databases available for the 26 software packages, etc. that we support.

Training has been a major investment, costing approximately \$70,000. The first training was on how to be an operational team. This was an important first step, as it was critical to get the team to “gel” early on. The next training was on how to set up and manage a help desk. There was also training on how to set up and use the Vantive system. We decided to do basic desktop computing operating systems and applications software training for everyone in User Support regardless of how much they already knew. We felt that it was important that they all had the same knowledge and background about the software. We also provided training for the User Support team on writing technical documentation.

Customer support training was critical, as working with customers having problems can be very stressful. Lack of customer service training is one of the other major causes of burn out within the help desk industry. We found that within LIS, while we are basically a customer service organization, virtually none of our staff actually had any customer service training!

An unexpected benefit we found with the training, was the tremendous morale boost that it provided our organization. The large majority of our staff are SPA (“classified”) as opposed to professional or faculty. Spending this much money on training our SPA staff was a first and was appreciated even by the SPA staff not involved in User Support. All of the training except for the training specifically about the organization of LIS and the University, has been done by outside firms.

The technology investment for User Support staff included Windows and Macintosh computers, special telephones, fax machines, good printers, etc. Besides being needed for the successful operation, the investment in new technology for the operation is seen as a perk by the staff who stepped forward to be part of the new operation.

Progress as of November 1996

The User Support team has begun to function as a team and is defining its services, processes, etc. A current major activity of the User Support team is establishing service level agreements (SLA) with the second level support departments and staff. SLAs define expectations such as response time, feedback procedures, how calls are brought to closure, how calls are escalated in priority or to the next level, etc. Development of SLAs is resulting in some reorganization of the departments providing second level support.

Documentation development is another important activity of the User Support team. It is vital that User Support have and maintain documentation for both their own use and to provide to the user. One of the major functions of a help desk operation is to constantly be looking for ways to drive down the number of calls they get, or they will be overwhelmed by their own success. Part of this process is to proactively develop and distribute good and convenient documentation. They also need to be able to send a customer some documentation about a problem they have called in, even if User Support solves it, so that maybe the next time the caller can resolve it themselves.

The facility for User Support is being completed. While it is not actually necessary to have a separate facility for User Support given the way the technology works, it was felt that a separate facility was necessary in our environment. We believed that it is important that the staff leave their other work areas and go someplace different to do their User Support work. We also felt that it was important for the continued development of the team. The team has been very much involved in the design of their facility and this has helped to strengthen the team even further.

The Vantive system is being implemented. The initial implementation will be somewhat minimal, and will be enhanced over time. The system has so many capabilities that we are focusing our attention first on the core functions, and also trying to make sure that we do not make any decisions that would be hard to reverse.

Summary

We have developed a great amount of interest and enthusiasm for User Support both within LIS and within the campus as a whole. While we know we will have to adapt as we gain experience and still have much to learn the process has already paid dividends. The development of User Support has made concrete to the staff and the university in many ways what we mean when we say that LIS must be a “user-centric” organization. It has caused us to reconsider many of our beliefs and organizational models. Most importantly though, we believe that it is what we need to do to support the University in the most effective way that we can.