THE ROLE OF THE DEPARTMENTAL CONSULTANT IN THE COMPUTER CENTER

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Most university computer centers provide some generalized computing consulting services that are available to all users. When a department finds that it needs more consulting support than the computer center can reasonably provide, the department may decide to hire its own computer consultant just as it would hire a programmer. The departmental computer consultant can be available at all hours, can specialize in the computer knowledge most useful to the department and can provide continuity and guidance for a computer project.

When a department hires a computer consultant, the computer center also benefits. The departmental consultant relieves the consulting service of a substantial consulting load, adds expertise and energy to the consulting pool, helps the computer center to understand the needs of a large group of users and encourages greater computer use.

If the departmental consultant has a formal link such as a shared appointment with the computer center, the department can benefit from the knowledge and experience the departmental consultant gains by working for the computer center, and the computer center can share in the specialized knowledge and expertise the departmental consultant gains by working for the department.

Introduction

The User Service group of most university computer centers provides some general consulting services to all users. As the use of computers increases on campus, consulting must expand to cover new packages, operating systems, new computers and to handle more questions from increasingly sophisticated users. Although these demands perhaps could be met by more staff and more consulting time, they often come at a time when budgets do not permit expansion of staff and consequently the consulting group finds that it cannot meet the users needs for consulting.

Many users feel frustrated when they cannot obtain adequate consulting from the user services group. Some departments hire their own computer consultants to answer their questions, just as they hire programmers to do their computer work. A departmental consultant has many advantages for the department he or she: is available at all hours; is accountable to the department and not to the computer services department; provides continuity; and, since he or she is generally subsidized by the department, he or she does not cost out-of-pocket money to the individual researcher.

The need for hiring a departmental consultant may of course be seen as a failure of the user services consulting to meet the consulting needs of the department. However, it need not be accompanied by the feelings of resentment and antagonism between the department and computer services because the departmental consultant can also help the computer services department in many ways. He or she relieves computer services of a substantial consulting load, can add new or additional expertise and energy to the consulting pool, and can provide feedback to computer services on the needs of a large computing community. The presence of the departmental consultant will encourage computer use and, through teaching departmental users, lighten the teaching load on computer services.

The "Failure" of User Services Consulting

Most consultants must limit the amount of time they spend consulting to preserve their sanity and also to accomplish other work. This is often institutionalized in scheduled consulting hours, or the consultant may set aside a certain number of hours each day for consulting. But these limits are hard to enforce and the consultant may face "burn out" from trying to meet constant user demands.

The consultant must also deal with the impossible task of keeping up not only with changes to existing packages but with learning new packages. The SAS expert must now be able to explain the latest version of SAS and must also become expert with SAS/ETS, SAS/CMS and SAS/GRAPH. As computing expands, the number of computers proliferates and the consultant must understand how to use the current package on different machines. To use a program on two or more computers, the consultant must understand and be able to use the operating systems, editors and file management capabilities of those computers. For example, the SPSS expert must be able to compare SPSS on an IBM 370 and a DEC 2060.

Today, more students are exposed to computers before college, so instructors are more ready to use computers in course work. The burden of answering students' questions may then fall upon the consultants. As more people become aware of what the computer can do for them, more people use the computer. As more people use the computer, they learn more and try more challenging projects. Their questions become harder for the consultant to answer.

All of these factors contribute to an increasing load on the consultants and to an increasing demand for consulting services. This is often coupled with demands for decreased computing costs. The computer services department may find that it cannot meet both of these demands at once.

The Frustration of the User

The user relies heavily upon the consultant. Work on a project may stop completely
while he or she searches for knowledge of an obscure or undocumented feature or bug that only the consultant knows. The user with a complex SAS question may end up explaining the problem to a consultant who does not know SAS, and who may thus give an incorrect answer. Or the user may be referred from person to person until he or she finally finds the consultant who can answer the question. Of course, the user may have a question at a time when a consultant is not available or may find that the consultant does not have time to talk about it.

The Departmental Consultant

The departmental consultant can help with those problems. The departmental consultant is available for many hours each day, can often be contacted outside of standard working hours and has time to help the user solve problems. Since the departmental consultant is hired by the department to do consulting, his or her first priority is to be available and accessible to department members.

Each department has different computer needs and interests and the department consultant can concentrate on meeting those specific needs and does not need to know about all aspects of the computer. The consultant can specialize and become expert in those areas most beneficial to that particular department. A demography group might work extensively with census data, so their departmental programmer could become expert in working with large data sets, data management, using hierarchical data files, and in using packages like CENSPAC and SAS. A departmental consultant in an economics department could become expert in modeling, simulation estimation and in using packages like TROLL, TSP, and SAS/ETS. These are examples of specialized areas that could be covered only by a very knowledgeable user services consulting group.

A user with a research project may unearth consulting questions at many different stages of the project. Each time, the user may be forced to explain the project to a new consultant and may receive contradictory advice and inconsistent answers. A departmental consultant can advise the user on a logical sequence of steps for performing the data analysis on the computer, while maintaining an overall view of the project. He or she can answer questions that arise within the context of the project in a consistent fashion and, in addition, can answer the unasked, underlying question behind the consulting question, can ask the right questions, or point out the implications of certain actions because he or she has greater knowledge of the individual project than can the computer center consultant. A consultant was recently asked "how can I get data from SPSS onto a tape in raw data form?" A user services consultant could answer the question easily, and would have stopped there, but the user really wanted to use the data in SAS, and the intermediate step of writing to tape was unnecessary.

If the department can pay the departmental consultant out of general department funds, the cost of consulting is small for any individual project. The departmental consultant can save researchers money by helping them to avoid costly mistakes, advising them on cheap and effective computing methods, by putting them in touch with other users who can help them, and by helping them to plan their research. Because the consultant is available, researchers can concentrate on their work and not on the details of using the computer.

Of course, the departmental consultant may not always work out. He or she may not be able to fill the needs of all department members, may not get along with certain people, may not have time to work as much as is needed on all projects, or may not keep up with changes in computing and statistical packages. Gibbons and Freund argue that consultants may also be discouraged by the departmental consultant from seeking advice elsewhere when they find that person's advice inadequate.

The Relationship with the Computer Center

By filling certain computing needs with the department, the departmental consultant helps to reduce the demands made upon the consulting services of the computer center. However, in addition, the departmental consultant provides an additional resource for the computing center. The departmental consultant may be expert in an area where the computer services department cannot afford to hire an expert. The knowledge of the departmental consultant adds to the general pool of knowledge on campus that is available, directly or indirectly, to all users on campus. Whether through formal arrangements or informally, the departmental consultant becomes part of the general consulting pool.

The departmental consultant is a valuable channel for disseminating information about computing. The departmental consultant can make certain that his or her users are aware of changes in the computing system and can make people aware of all the computing resources available to them. Because his or her job is dependent upon a high level of interest in computing, the departmental consultant will naturally encourage more and better computing.

The departmental consultant can teach his or her users the specific computer skills they need, and can also provide computer support that the computer center can't provide for every department. For example, when a new computer is installed, everyone must begin learning about the new machine and user services is faced with the task of educating every user on campus. The departmental consultant can educate his or her users about the new computer by writing the documentation that they will need before it is available from the computer services department. The departmental consultant can speak to classes and set up computer accounts. This support is necessary in order to move users to a new computer but, computer services cannot provide the extensive support that the departmental consul-
As the departmental consultant works to provide the support that the users need, he or she must, by default, prepare documentation. Care must be taken to avoid duplication of documentation prepared by the computer services department, but with coordination, the departmental consultant may even contribute documents to the computer center.

Examples of Implementation

The organizational structure of departmental consulting can range from a part-time computer consultant, to an expert shared by many departments, to a smaller version of computer services providing a wide range of services for a school within the university.

On most campuses, the most common structure is that of a programmer hired by a single project who may be consulted by other members in the department. The programmer is not hired to be a consultant, consulting takes time away from his or her assigned tasks and there is no reward for consulting activities. Consequently, consulting is an intrusion and distraction and the quality of consulting will not be outstanding.

A preferred model is that of the departmental consultant who is hired as a consultant by the department and who may also have other duties. His or her primary responsibility is to answer questions and perhaps to help users with their computing work when they cannot do it themselves. The consultant gains knowledge and experience by working on a variety of problems and maintains computing skills by continuing to run some programs.

In the university environment, the departmental consultant can become involved in the teaching function of the department by teaching classes and training students to use the computer, as well as by providing consulting services to students.

The departmental consultant may be part of a larger computing support group which offers consulting as one of its services. If the group remains small, it may be able to maintain the close relationship with its user group that is necessary to provide good support. As it grows, this group begins to perform the same functions that the central computer services organization provides, and may even spin off its own departmental consultants.

Conclusion

The position of departmental consultant fills needs within the department, helps the computer center and is a good working situation for the consultant.

For the department, the departmental consultant is a person who is always available to answer questions, to offer advice and to help with computing. The departmental consultant is a specialist in areas of computing needed by the department and provides continuity through a project.

For the computer center, the departmental consultant adds specialized knowledge and experience to the informal consulting pool, encourages the use of computers, lightens the load on the formal consulting program of the computer center and provides a communications path between users and the department of computer services.

For the consultant, the departmental role is an attractive position. By working with a smaller group of users, he or she can develop good relationships and build a good reputation. By working with the same group of people, he or she can learn which advice is good advice, and can have the satisfaction of seeing a project through to completion. The departmental consultant can decide how best to meet the needs of users.

The departmental consultant fills a need for his or her department that the computer services group cannot hope to meet, and does work that the computer services consultants would otherwise be called upon to do. Since the role of departmental consultant is mutually beneficial to departments and computer centers, the two should cooperate and collaborate to share and support the services of the departmental consultant.

References: