



STATISTICAL CONSULTING THE RESPONSIBILITY CYCLE

by

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Many User Services groups employ some members of their staff to support statistical software and consultation. The responsibilities of such a position vary and are dependent upon the service philosophy of the Computing Center. This paper will address the cycle of responsibilities which begins with the Center Directors' obligation to establish and publicize a service philosophy. According to this philosophy the user community must accept different responsibilities of preparation. The consultants must then display certain levels of expertise according to the user's education. Again the cycle returns to the Center Directors who must staff their organization in accordance with the level of service which they have established. In particular this paper will deal with some of the problems which arise with the type of consulting service offered at the University of Tennessee Computing Center at Knoxville.

When a Computing Center supports some statistical software it is imperative that statistical consultants be employed. The role of a statistical consultant is defined by the Center's philosophy. A Computing Center may require that the statistical consultant be well trained in those programming languages and techniques which pertain to statistical analyses, i.e. a programming consultant. Alternately, a statistical consultant may be expected to do statistical analyses and modeling as well as give programming assistance. It is the Directors' responsibility to initiate the cycle by making this distinction and publicizing the services which the Center offers.

Depending upon the service alternative chosen by the Center, the statistical user should have

different expectations and responsibilities. The user of the Center which staffs programming consultants - not statistical analysts - should be prepared to present analyses, models, and techniques and be willing to work with the consultant to complete the programming requirements. It is this type of service which is offered at the University of Tennessee.

The Center which employs statistical analysts for its users should expect to find its clientele searching for statistical methods as well as vast programming assistance. Here the users' responsibilities are little more than data collection.

The consultant's role in the cycle is to exhibit a degree of expertise commensurate with the expectations of the user community and to provide that amount of assistance.

At this point the cycle returns to its origin, the Computing Center philosophy. It is the responsibility of the Director of a Computing Center to staff their User Services group in accordance with the services that they wish to offer. In one case, the statistical consultants need only have a basic understanding of statistical techniques. Statistical analysts, however, must be well trained statisticians in addition to being capable programmers.

There are some particular problems with this responsibility cycle when the Center employs programming consultants rather than statistical analysts. The problem appears at the point of user-consultant interaction and may be illustrated by an example.

A psychology PhD candidate has collected large amounts of data from

a mail-out questionnaire, the analysis and interpretation of which will be the subject of this student's dissertation. The committee chairperson sent this student to the assigned consultant for help. The problem was apparent when the degree candidate asked how the computer could analyze the instrument, never mentioning techniques, models, or desired results. It is obvious that both the student and the advisor expected the aid of a statistical analyst, rather than a programming consultant. The student was in this case sent back to committee to determine hypotheses and models.

All too often, this type of action results in no further information. In such a case the User Services member has two alternatives:

- 1) Send the student back to committee or into further course work to obtain the necessary expertise, or
- 2) Embark upon what are thought to be the appropriate analyses and perform them.

Neither of these alternatives is appealing, although the former is preferable. Due to the increasing number of such cases, it is apparent that the cycle of responsibilities is not functioning properly. Either the user community has not been properly educated about the Computer Center's policies or the consultants are taking on too much responsibility and thus crippling the user group by providing a crutch.

No combination of remedies will alleviate the dilemma because there will always be overly demanding customers and some consultants will be willing to provide too many services. Several steps may be taken, however, to insure the best possible customer-consultant interaction.

Most importantly, the user community must be informed of Computer Center policies and services. This must be an ongoing project to maintain the current distribution of information. As Centers grow, policies may change. The user community may not be faulted for its requests if it is ignorant of the Computing Center's organization.

The Computing Center's customers must also be knowledgeable about the computer techniques that they will be using, in this case the statistical packages. If the Center expects the user to play an active role in programming as well as to supply the appropriate models and analyses, then the Center must accept the responsibility of providing the education whether it be directly

through live or videotape mini-courses, or indirectly through other departments.

It should be the user's responsibility to attend as many courses as are necessary to adequately handle the required research and statistical analyses.

For this arrangement to work, it is imperative that the consultants adhere to the system. A customer who comes to the Center without adequate knowledge or preparation must be sent back to the appropriate short courses. If the statistical background is inadequate the user must be sent to other sources. Perhaps assistance may be sought through the Statistics department; however, ideally a researcher should understand all phases of the analysis. This burdens the Center Directors with the additional responsibility of supporting their consultants in the event of inadequate service complaints which arise due to Center policies.

As long as the consultants perpetuate the attitude that it is easier to "do for" a person than to assist through a lengthy learning period, then the users will continue to lean on that crutch and department chairpersons and other project directors will send their computer users to the Center for all types of assistance. When the project directors realize, however, that some degree of statistical expertise is required internally, then the course enrollments will swell, the students and faculty will begin to develop their own computing abilities and the cycle of responsibilities will regain its proper balance.

THE RESPONSIBILITY CYCLE

