Supporting Microcomputers in a Multi-Vendor Environment

WILLIAM E. MIHALO

Vogelback Computing Center Northwestern University Evanston, Illinois 60201

INTRODUCTION

BEFORE THE POPULARITY of microcomputers, the computing environment in many universities was usually comprised of a single mainframe computer. Although the development of minicomputers started a drift away from a single vendor environment for computing hardware, the changes that occurred were of the type that many user services personnel could easily handle.

The popularity of microcomputers in a university environment has had a strong impact on the type of support which is given to users. Typically, users will insist on deciding what type of microcomputer they want to purchase, and then will make demands on user services staff for software support of their machines. In another situation, users who are accustomed to addressing all questions to the computing center will inquire about what is the best machine and software that can be purchased for a particular application.

The purpose of this paper is to describe some of the different models which are used for supporting microcomputers in a university environment. The advantages and disadvantages of each of these models will be discussed. The intention is not to suggest that one model is superior to another. Rather, the intention is to illustrate how different models are used to handle different situations.

DIFFERENT MODELS OF MICROCOMPUTER SUPPORT

Models of microcomputer support, which are discussed in this section, will be analyzed in terms of their specific advantages and disadvantages. Use of a specific model will depend upon a variety of factors, including the administration of the computing center, the attitude towards users, cost of implementation, and the level of skill users generally display in the area of computing.

Prohibition Model

In this model microcomputers are prohibited by a university. The attitude taken by university personnel is that microcomputers result in a proliferation of illegal software, poor computing practices, and no ability for supervising the type of work that is done on these machines. This model was popular in the late 1970's when microcomputers were regarded by many organizations as hobbyist toys with no practical application. The number of organizations that follow this model declined significantly when IBM announced its PC in 1981. The IBM PC seemed to legitimize the microcomputer as a tool for serious applications in an organization. Nevertheless, you may still hear phrases which are repeated by supporters of this model. Typical statements are: "Microcomputers are a fad," "Micros are only good for games," and "Micros have no practical benefits."

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Advantages

There are a number of advantages to using this type of model. It is relatively inexpensive to administer because it rejects microcomputers completely. User services staff are not expected to become familiar with microcomputers and no money is spent on acquiring different micros for use by a computing center. There is no need to worry about professional development of staff. Nor is there any need to keep track with the changing nature of microcomputer software currently available. Users with questions about using their microcomputers are told that they are on their own and will have to resolve any problems without the assistance of user services personnel.

On the surface, this model is very tempting for many universities. It encourages all computing to be done at a central site, which is strongly supervised by the computing center. Questions are easily answered because there is usually only one mainframe on campus.

Disadvantages

User resistance to this attitude is likely to be very strong. It may become difficult to retain good user services personnel to work in this kind of an environment. Moreover, this attitude goes against what is typically happening in most university environments.

Mainframe Model

The mainframe model suggests that a microcomputer is nothing but a small mainframe and will be supported on a similar basis. Consequently, only certain hardware and software products that have been approved by the computing center will be supported. Anything else will be ignored, or treated as unsupported by the computing center. The mainframe model is frequently adopted by universities as a first step away from the prohibition model.

Advantages

The mainframe model is easily implemented. It addresses microcomputers on a limited basis. From the user viewpoint, hardware and software is already preselected for them by the computing center. Users do not have to worry about hardware and software decisions because these are already made by the computing center. A computing center can follow this model by having one individual on the staff who is completely responsible for microcomputers. This model is relatively inexpensive to develop and administer at a university.

Disadvantages

The mainframe model may not please many microcomputer users. It is too rigid a model to follow for the microcomputer industry. Many users will simply ignore the recommendations that are made by the computing center and will make purchases according to what they feel is best. The end result is that some support is given to those individuals who follow the guidelines developed by the computing center, but other individuals are ignored. One of the biggest problems with this model is that it invariably encourages the development of a microcomputer "guru" within the computing center. As long as this individual is around questions can be answered fairly quickly. If this individual goes on vacation, becomes ill, or leaves the center users are at a loss about what to do. In the end the mainframe model requires users to be totally dependent on the computing center.

Distributed Support Model

With this model support for microcomputers is based on a number of different specialized groups which are spread throughout the campus. These support groups are usually given special locations on campusfrequently away from the mainframe site. The groups consists of experts who know everything possible about a particular microcomputer. The staff from these groups has little contact with the user services group nor does it have much contact with the computing center which controls the operation of the mainframe on campus.

Advantages

Users are free to select a microcomputer that interests them. Although this model provides flexibility for users, much of the decision-making in selecting a microcomputer and supporting software rests on users. Users are encouraged to make an "enlightened" decision in selecting a microcomputer by consulting the microcomputer experts on campus first. Support is given to advanced microcomputer users as well as to novice users.

Disadvantages

Expensive to implement. This model requires strong coordination for it to be successful. Costs are substantial, because it encourages the acquisition of software and hardware for as many different machines as possible. The administration of a university has to recognize the need and utility for microcomputers on campus in order for it to be effective. Moreover, this model encourages a split between personnel that work on mainframes and those who work on micros. Such a split may be too artificial and there may be some resentment on the part of staff. Users are also faced with a problem of finding the appropriate microcomputer group if they have a question.

Microcomputer Support Group Model

A single group is formed which handles all microcomputer hardware and software questions. Generally, this group is a small group and doesn't have much contact with the mainframe support group. This model differs from the Distributed Support Model primarily in the area of size.

Advantages

Easier to implement and coordinate than the Distributed Support Model. Keeps microcomputer questions away from the mainframe support group on campus. Encourages the development of experts.

Disadvantages

Microcomputer consultants are too separated from mainframe consultants. Thus micro consultants are not able to stay on top of developments in regards to mainframes and mainframe consultants are discouraged from learning about micros. The separation of these two consulting groups is too artificial.

Enlightened User Services Model

In this model the user services group with the computing center is acknowledged as the vehicle for answering all questions about microcomputers. The user services staff still has as its primary responsibility the answering of questions about the mainframe. However, as an adjunct to its primary duties microcomputer consulting is added as well.

Advantages

Users have little trouble finding help for microcomputer questions. An existing structure that is already present in most universities is simply expanded to handle microcomputers. User services staff are able to recommend to users when a mainframe may be necessary and when a microcomputer can be used. Staff stay familiar with mainframe and microcomputers at the same time.

Disadvantages

Cost is a major disadvantage. Many universities will not expand a user services group simply because microcomputers are becoming more popular. Consequently, user services staff becomes overloaded with questions from users. Worse, user services staff may not be accustomed to dealing with extremely novice users

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and as a result you may see frequent staff-user conflict. Finally professional development of user services staff members becomes more difficult. The expectation of having staff maintaining familiarity with a mainframe or two and several different types of microcomputers is too much to ask of many individuals.

SUPPORT MODELS FROM A USER PERSPECTIVE

Previously the discussion in this paper has been limited to support models to users, as a user services staff member might see the situation. An interesting exercise, would be to reverse the perspective and describe a number of different support models from the perspective of a user.

Get Lost Model

You are a user of mainframe computers. You have a fairly good background of what you are doing, but you are tiring of the increasing costs the computing center on campus levies for seemingly simple tasks. Out of desperation you purchase a wonderful new microcomputer at a terrific discount. You know nothing about microcomputers and purchased the system from the university out of good faith. After getting the system home, and installing it you begin to encounter problems. You call the computing center for help. They respond by telling you to "get lost, if you have a micro you're on your own."

Advantages

There are several advantages to this model. The clearest advantage is that everything is well defined by the computing center. There is no ambiguity at all here. If you are a user and you have a microcomputer you will simply not receive any help.

Disadvantages

Users aren't helped. Users become dissatisfied with the lack of service and complaints are made about the rigidity of the computing center.

Wrong Kind of Software Model

You are a user at a university where the computing center has announced that it will give support only to one brand of microcomputer. You purchase that brand. However, you want to do some word processing on a book you are writing and you purchase a very sophisticated word processing system-which is not recommended by the computing center. You begin to experience some problems with your word processing system. You contact the computing center for assistance but you are told that since you didn't buy a recommended word processor for your microcomputer you are on your own.

You like the word processor which you purchased because it provides you with some of the features that are needed for writing a document of book size text. However, the manual describing the word processor is not well-written and getting some of the features to work the way you want them to is a difficult undertaking.

Advantages

In this model users are told exactly what software will be supported by the computing center. This reduces the necessity of having all staff members trying to get some experience with a lot of different software packages, and increases the amount of time spent consulting with users.

Disadvantages

Unfortunately, many users are not being helped by being told they can only use a certain word processor with a certain microcomputer. Complaints constantly trickle in to the computing center about the rigidity of the software consulting restrictions for microcomputers. Some users have applications that cannot use the recommended software, and they benefit by buying something that is different. However, when they do this, they no longer receive support from the computing center. Ironically, other groups can form on campus to counteract this problem. These groups can be informally based, but the end result is that consulting problems begin to trickle away from the computing center.

I'd Like to Help, but I'm Too Busy

A recent discount program on campus has created a large number of microcomputer orders. Your microcomputer has finally arrived, but when you try and ask a relatively simple question about how to use the device, you find great difficulty in getting the smallest question answered. The number that you called to place your order is constantly busy, and the people who answer the phone at this number seem only interested in placing orders and nothing else. The computing center has attempted to provide support to microcomputer users, but the consultants are unable to help you with detailed questions. In fact if you ask a detailed question, the consultants all seem to get upset and brush your question aside. Help is available but only on a very limited and very superficial basis. After several months you find an acquaintance who is not affiliated with the computing center who is able to answer many of your detailed questions.

Advantages

New friends are being formed in order to have many technical questions about microcomputers answered by users. A campus in this situation is likely to give rise to some very large user groups for particular microcomputers. The user groups will learn not to rely on the computing center for help. Computing center staff are not overloaded with questions, and the consensus on campus is to avoid asking the computing center any questions about anything related to microcomputers.

Disadvantages

An informal, decentralized user network is created to answer questions about microcomputers. A shift is made away from the computing center on the part of individuals. Computing center staff are not regarded as being very helpful.

ADDITIONAL CONSIDERATIONS

In none of these previous models is any discussion given to the different type of computing environment microcomputers are bringing to a college campus. Universities are offering discount programs on microcomputer software and hardware. Many universities actively solicit discounts from a variety of different microcomputer vendors. Also, many universities have computer stores. Discussion of any of the above models of microcomputer support must be tempered with the acknowledgement of the types of psychological problems a user may experience when spending a lot of money for a computer. Many users experience considerable anxiety about purchasing a microcomputer. This anxiety turns into frustration when the microcomputer "isn't working properly" and questions are asked about how to remedy the problem. Thus, the university environment for computing is changing from one of consulting to one of a customer service orientation.

An argument has been going around for years that user services at a computing center is nothing but a glorified form of customer service. With the popularity of discount programs on a university campus, this literally becomes true.

Another problem that is occurring is a change in the nature of users. Before microcomputers became popular, all computing was done on larger machines by individuals who were willing to spend the time to learn how to use these machines. Microcomputers have encouraged the idea that smaller is friendlier. As a result, people who wouldn't have anything to do with a mainframe computer are now willing to purchase a microcomputer. This leads to some considerable problems to more experienced user services staff members. Members who are accustomed to dealing with novice users who have the patience and desire to learn about a computer system may be surprised with microcomputer novices who may lack these characteristics.

In summarizing these additional considerations, one must take into account a situation which is developing at many universities where there is an increase in the overall number of computer users on campus. These

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users are not as experienced as previous ones, and may not be as patient and as willing to learn as previous users.

Some General Principles for Supporting Microcomputers

Microcomputers are responsible for moving much of the computing on campus away from a centralized location. Ironically, the forces which are attracting people away from mainframe computing and towards micros, also have a reverse effect. If you've been using a microcomputer for some time you may find that these devices don't have the capability to store large amounts of data in a manner that permits easy access and manipulation as can occur on a mainframe.

Other considerations also enter into the picture. For example, consulting for microcomputers should be centralized, even though much of the computing that is occurring on campus is done so in a decentralized manner. Centralized consulting avoids the problems of having different consultants at different locations.

Most of the principles discussed earlier in this document can be summarized as follows:

- Microcomputer activity on campus requires the support of a large computer. Many people have the
 misconception that microcomputers will replace all mainframe activity. This is not true. Furthermore,
 it could be argued that the presence of a large number of microcomputers on campus will have a
 stronger impact on mainframe computing than a single mainframe on campus with no microcomputers.
 Microcomputer users typically have need of the resources and capacities that are available only on
 mainframes.
- 2. Microcomputer support must be centralized. The best support for microcomputers is through an information center, which many universities already use for supporting mainframe users. However, in implementing this kind of support, several changes must be made. The personnel at the information center must be trained to answer microcomputer questions. They must also be trained to gracefully answer the kinds of questions that will come from novice, impatient users.
- 3. Microcomputer activity requires a good telecommunication system on campus. Sophisticated telecommunication systems are becoming more popular on many university campuses. However, the primary concern of many users is the ability to download and upload files for work on a micro.
- 4. Microcomputers are cheap, however the skills to use them are expensive. The prices of microcomputers have fallen substantially over the past few years. Once you purchase a microcomputer you are still faced with spending a large amount of time learning how to use the system. Novices, who have no computer background may find this learning experience to be very frustrating. Even the newer microcomputers which are supposed to be "friendlier" towards users, still take some time in order for someone to learn how the machine operates.
- 5. Consulting on microcomputers requires generalists. Use of generalists is nothing new for a user services environment. In making the switch from mainframe-based consulting to microcomputer consulting, you have to recognize the need to have a special group of consultants who can generalize the activities which are typically done on a microcomputer. An ideal microcomputer consultant can answer a question about a microcomputer without ever having touched a machine.

CONCLUSIONS

A number of different models are used to support microcomputer activity at a university campus. The particular model which is used can depend upon factors such as how a university is administered, the attitude towards computing on campus, and the attitude the university community has towards the computing center as a whole. At the same time, it has to be recognized that user needs change when a campus goes from mainframe-dominant in its computing towards a distributed, microcomputer-dominant environment.

Microcomputer activity attracts more people and it attracts the type of person who may not have seen any need for using a mainframe computer. In addition, the type of person who is needed to provide assistance to microcomputer users, must have the ability to generalize problems in order to give specific solutions.

The relationship of users, consultants, and the university administration must be strong enough to recognize the role microcomputers play in a university environment. The use of microcomputers must be defined by the administration of the university or the computing center. Without such a definition the full uility of microcomputers will not be realized by the user community.