

Small Digital Computers and Business Applications

PANEL DISCUSSION

THERE was a group of about 700 in attendance at the panel discussion on small digital computers and business applications. A show of hands was requested to clarify the composition of the audience. An estimated 15 per cent of the audience was interested in the design and manufacture of electronic equipment, while the remaining 85 per cent was interested in application and use of machines, being primarily business people. About 40 per cent of the audience indicated that punch-card equipments are used within their organization and that about 15 per cent now have some kind of electronic equipment in use. About 20 per cent of the audience indicated the intention of procuring electronic systems of some type.

Panel Discussion Method

A number of pertinent and controversial questions in the field of business use of electronic computers were discussed. Each of these questions was initially reviewed and discussed by panel members and then that particular question was thrown open to group discussion. Following this, a new question was then taken up in the same manner.

Questions Discussed

Business people have indicated that one of their most important questions about electronic data processing is: What is the state of the computer art so far as business applications are concerned? Should a company make plans now to acquire a computer system? An associated corollary question is: Has the design of computers stabilized so that a company can be certain that equipment secured now will not soon become obsolete?

Mr. Foster discussed the affirmative side of these questions and indicated that

the primary question should be whether or not money could be saved by using electronic equipments. If the answer to this question is "yes," then companies should start to apply and use electronic data-processing systems as soon as possible.

Mr. Murdock presented some of the negative aspects. The electronic computer field did not grow from the needs of business applications. Instead, electronic computers were developed to do technical and scientific computations. However, because many aspects of computation, entering of input data, and of the printing out of results, were common problems in business-data processing, these technical computers could be and were modified to meet the needs of business. Mr. Murdock argued that we still have much to learn about the fundamental requirements of business-data-processing systems.

What should the company interested in electronic data-processing systems look for? Mr. Schutzberger presented information on this subject and enumerated 31 points of comparison in selecting a computing system. He pointed out that not all of these points are of equal weight, and some are interdependent and overlapping. It is difficult to compare various computers, even those in relatively the same price and speed range.

Should equipment be purchased or leased? Mr. Foster defended the principle of leasing equipment, a method of operation that is followed by Prudential Insurance Company with whom he is associated. The advantages of leasing equipment were pointed out as:

1. Equipment can be carried on an expense basis rather than having to purchase capital equipment.
2. There is no concern about obsolescence of equipment under a lease arrangement.
3. Companies supplying equipment on a lease arrangement usually provide maintenance service so that the user does not have to deal with this problem.

Mr. Schutzberger discussed the advantages of buying equipment as follows:

1. Equipment may readily be modified.

2. Equipment may be operated any number of shifts or staggered shifts at no additional charge.
3. There is usually better control of maintenance personnel.
4. Purchasing equipment is much cheaper.
5. The greatest argument against purchase is that of obsolescence, but if a machine can be used 3 or more years, the user will not have lost money as compared to renting, and quite possibly will have actually made money.

What are the practical problems of programming? Mr. Foster reviewed this question, and there was a great deal of audience interest in the topic. It was agreed that the fundamental problem in applying electronic equipment to business problems was that of defining explicitly and clearly the exact problem which the machine is to do. Experience of organizations that are applying electronic equipments to business problems indicates that considerable time must be spent in studying problems, in doing systems analysis work, and in performing the actual programming and check-out on the electronic computer.

Further, it was pointed out that programming is often stated by some people to be very simple to learn and easy to do, and yet by others is claimed to be quite difficult. Actually, both groups are talking about different aspects of the same problem.

The programming of an electronic computer, for example, can be compared to learning to play chess. The command structure and the operations that are built into the computer are the mechanical rules of the game, and these are fairly easily learned, just as it is easy to learn the rules about the moving of pieces in chess. However, to learn the refinements and the special techniques that are available in electronic computers is considerably more difficult and takes a great deal longer to master, just as it takes a long while to learn how to play chess well.

Summary

Conclusions derivable from the panel discussion are

1. There is a great deal of interest on the part of business people in the subject of electronic data processing, and they are eager to learn more about such systems and how to use them.
2. There are many controversial subjects related to using computers for business applications, and much remains to be learned as to the proper equipments to use and the best methods of applying the machines.

PANEL MEMBERS: W. D. Bell (chairman), Melionics, Los Angeles, Calif.; W. L. Murdock, General Electric Company, New York, N.Y.; H. Schutzberger, Sandia Corporation, Albuquerque, N. Mex.; R. Foster, Prudential Life Insurance Company, Newark, N.J.