DOCUMENT RESUME

ED 115 357 JC 760 032

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TITLE Survey of Computer Facilities in Minnesota and North Dakota.
PUB DATE Oct 75
NOTE 8p.

EDRS PRICE MF-$0.76 HC-$1.58 Plus Postage
DESCRIPTORS Business; *Computers; *Computer Science Education; Curriculum Planning; Electronic Data Processing; Employment Qualifications; *Junior Colleges; Labor Market; *Manpower Needs; *Programing Languages
IDENTIFIERS Minnesota; North Dakota

ABSTRACT

In order to attain a better understanding of the data processing manpower needs of business and industry, a survey instrument was designed and mailed to 570 known and possible computer installations in the Minnesota/North Dakota area. The survey was conducted during the spring of 1975, and concentrated on the kinds of equipment and computer programming languages currently in use. Although the initial response was only 121 (21.23 percent), a second mailing resulted in a total of 208 completed questionnaires (47.03 percent). Eliminating educational installations, service bureau users, and terminal users, a total of 179 businesses, with 198 computers installed, were identified in the two state area. From the information gathered, it appears that a student graduating in computer curriculum in the Minnesota/North Dakota area has a 58.6 percent chance of working on an IBM computer. There also is a 67 percent chance that the computer would be classed as a small computer. The student should, therefore, have a background in the RPG and COBOL languages. Should he not be working on an IBM computer, the COBOL language still equips him with a language used on most other computers. The only exception would be on an NCR computer, which has only 8 percent of the total market. (Author/NHM)

"SURVEY OF COMPUTER FACILITIES"

IN MINNESOTA AND NORTH DAKOTA

Prepared by:

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October 1975

The advent of the computer has rapidly brought on many changes in the way businesses conduct their daily activities. This change has been felt in both large and small businesses. One of the more significant changes has been the need for a business to have some employees who are knowledgeable about the computer, how it works, and what its potential is. Some businesses retrain one or more of their current staff while others try to hire experienced people. Frequently, many positions are unfilled because of the lack of experienced people.

Many post secondary schools are trying to provide adequate training to enable people to get some of the experience they need to fill these positions. These schools have taken many different approaches in providing this training. In an attempt to get a better understanding of the needs of business and industry, a survey was conducted, during the spring of 1975, in the Minnesota/North Dakota area. The survey concentrated on the kinds of equipment currently in use and the computer programming languages being used.

A list of known and possible computer installations was compiled and an initial mailing of 570 questionnaires, with a cover letter, was sent out. A total of 121 of the questionnaires, 21.23 percent, were returned. A second mailing of 185 was then sent to some of those locations, most of them in Northern Minnesota, which had not responded. A total of 87, 47.03 percent, responded to the second mailing. A final total of 208, of the original 570, eventually responded to the questionnaire giving a final response of 36.49 percent.

An examination of the responses showed that 24, 11.54 percent, were educational institutions. Also, 51, 24.05 percent, were from North Dakota. Only 12, 10 of them educational institutions, of those responding indicated that they used a terminal for all or part of their data processing. One indicated that a service bureau was being used. Two responses indicated that no computer was being used. A majority, 65.87 percent, of those that responded were businesses in the state of Minnesota who operated their own computer installations. Most of these were smaller companies with a small computer center staff.

Eliminating educational installations, service bureau users and terminal users from those that responded, a total of 179 businesses, with one or more computers installed, were identified in the two state area. These installations are the ones included in the remained of this analysis.

TYPE OF COMPUTER

The 198 computers identified were initially grouped by manufacturer (Figure I) except for a group that included mini-computers, special purpose computers, etc. Since such a high percent were from IBM, these were further separated into IBM models (Figure II). The IBM System 32 does not appear since deliveries were just beginning at the time for the survey.

MANUFACTURER	NUMBER
Burroughs	16
CDC	2
Honeywell	21
IBM	116
NCR	16
Univac	3
Miscellaneous	24
TOTAL	198

FIGURE I

Computers By Manufacture

I B M MODELS	NUMBER
System 3	47
360 - 20	9
- 30	9
- 40	8
- 50	4
- 65	2
370 - 115	7
- 125	7
- 135	10
- 145	3
- 158	4
OTHER	6
TOTAL	116

FIGURE II

I B M Models

COMPUTER LANGUAGES USED

A tabulation of the languages used (Figure III) gives a clear picture of the computer languages being used on each type of computer. A summation of the number of computers using each language shows that the COBOL language is the one most frequently used followed closely by the RPG language. Looking at IBM computers only, the RPG language becomes the dominant language. All other languages, except the NCR NEAT3 language, appear to be a secondary language on most computers. The average number of languages used per computer is 1.55.

SUMMARY

From the information gathered, it appears that a student graduating in a computer curriculum in the Minnesota/North Dakota area has a 58.6 percent chance of working on an IBM computer. There also is a 67 percent chance that the computer would be classed as a small computer. He should therefore, probably have a background in the RPG and COBOL languages. Should he not be working on an IBM computer, the COBOL language still equips him with a language used on most other computers. The only exception would be on an NCR computer, which has only 8 percent of the total market.

COMPUTER	NO. COMPUTERS	LANG. NOT SPECIFIED	RPG	COBOL	FORTRAN	ASSEMBLER	OTHER
BURROUGHS	16	0	1	10	3	3	4
CDC	2	1	0	0	1	1	0
HONEYWELL	21	2	1	18	5	0	1
IBM System 3	47	9	36	3	0	0	0
360-20	9	1	8	0	1	1	0
360-30	9	0	6	5	2	7	5
360-40	8	3	1	5	1	1	0
360-50	4	0	1	4	2	2	2
360-65	2	0	0	1	1	1	1
370-115	7	1	5	6	5	4	2
370-125	7	3	0	2	0	2	1
370-135	10	0	1	8	3	3	1
370-145	3	0	0	2	1	1	0
370-158	4	1	0	3	2	1	2
Other	6	3	0	0	0	0	3
NCR	16	2	2	6	2	1	13
UNIVAC	3	0	1	2	1	2	0
MICS.	24	14	0	0	2	1	9
TOTAL	198	40	63	75	32	31	44

FIGURE III--Languages Used