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Computers and Small Local Governments: Uses and Users

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Abstract

This article examines the adoption and use of computer technology by cities under 50,000 and counties under 100,000 in seven plains and mountain states. Smaller local governments were found to lag considerably behind their larger counterparts in computer adoption and extent of use. However, patterns of use were not substantially different, with basic "housekeeping" functions being the most frequently automated.

Computer adoption was associated with size, government form and type, and metropolitan status. No relationship was found between financial status and computer adoption.

Most governments used in-house computers, and most of these systems were minicomputers. The frequency of microcomputer adoption paralleled that reported in a recent nationwide study of micro use in city governments. Most in-house systems represented relatively current technology. Over 70 percent of these systems had been purchased from three of the country's largest computer vendors, IBM, NCR, and Burroughs.

Current use of computers was associated with future plans to acquire automated technology and with the type of system a government planned to buy. However, current use did not affect attitudes toward the future use of computers in general or micros in particular.

COMPUTERS AND SMALL LOCAL GOVERNMENTS: USES AND USERS

Introduction

A major nationwide survey conducted in the mid-1970s found that the vast majority of cities with populations over 50,000 and counties over 100,000 used computers in their operations, but less than 50 percent of smaller communities did so. The survey also found that as population declined, so did the frequency of computer use.[1]

In the years since that survey was conducted, a revolution in computer technology has occurred. Today, local governments of almost any size have access to a wide variety of electronic computers, ranging from hand-held portable models to micro and minicomputers and large mainframe systems. These vary in cost from a few hundred to millions of dollars. Local governments need no longer employ staffs of technical specialists to be able to use computers. Increasingly, vendors are offering "packaged" or "turn-key" systems tailored to meet the specific requirements of local governments, and specialized local government software has also become more widely available.

Virtually no systematic research has been done in recent years on the use of computer technology in small local governments, even though the revolution in the technology has brought computers easily within the grasp of most of them. In an effort to fill this research gap and also to assist in development of training and technical assistance materials and programs

on microcomputers for small and rural local governments, a survey of computers and small local governments in seven plains and mountain states was undertaken in the winter of 1983.[2]

Using a stratified, random sampling procedure, the researchers selected for study 75 cities with populations of 2,500 to 49,999 and 75 counties under 100,000 in the states of Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, and Wyoming. In addition, 15 Nebraska cities from 800 to 2,499 were randomly selected for inclusion in order to gain information on computer use in pre-urban places. This resulted in a representative sample of 90 cities and 75 counties.[3] (See Table 1.)

Findings

1. Computer Ownership

Due to the passage of time and the increased availability of computers, the researchers expected to find that a greater number of smaller governments used computers in 1983 than had been reported earlier. This hypothesis was confirmed. Over half (53.3 percent) of the surveyed governments used computers. However, this represents an increase of only 17 percent from the data reported by Kraemer in 1975.[4] This suggests that even though computer technology has become less foreboding, less expensive, easier to use, and generally more available in the past eight years, smaller and more rural governments have been in no rush to acquire computer systems. (Table 2 presents data on computer ownership.)

Additional hypotheses regarding computer ownership were also developed and tested with data from this survey. For example, researchers hypothesized that relatively more city than county governments used computers. This hypothesis was derived from the findings of prior research and from the field experience of the research team in providing data processing technical assistance for local governments. The data supported this hypothesis, showing that cities used computers in their operations nearly twice as frequently as counties. Over two-thirds (67.7 percent) of the cities used computers contrasted with 36.0 percent of the counties.

Data from earlier studies and the researchers' field experience also suggested that as population declines so does frequency of computer use. This hypothesis was also confirmed as 75.6 percent of the local governments with populations of 10,000 or more used computer technology, as did 54.5 percent of those from 5,000 to 9,999, and 41.3 percent of those under 5,000 in population.

Metropolitan status was also believed to be positively associated with computer use. Here, too, the data supported the hypothesis. Over two-thirds or 68.6 percent of the governments in or immediately adjacent to metropolitan counties[5] used computers while 46.5 percent of those outside of metropolitan areas did so.

Research into local government technology innovation has not found a consistent relationship between form of government (e.g., council/manager versus mayor/council) and the adoption of

innovations.[6] Nevertheless, based on their field experience, researchers for this study hypothesized that more council/manager than mayor/council cities would use data processing technology in their operations. The data from the surveyed communities strongly supported this hypothesis as over nine out of ten (91.4 percent) of council/manager cities used computers while just over a majority (52.7 percent) of mayor/council cities employed them.

2. Computers and Local Budgets

The study hypothesized that since most computer system acquisitions represent a substantial financial commitment on the part of local governments,[7] a relationship might exist between local finances and computer use. Preliminary data returns showed that 74.4 percent of the owned systems had been in place for four years or less and that 59.3 percent of those systems were mini-computers, so the likelihood of finding such a relationship between finances and computer use seemed even more probable.

However, as shown in Table 3, virtually no difference was found between governments that said their financial situations were "tight" or "good" and their use of computers. Nearly one-third or 31.4 percent of the governments that said their finances were "tight" were computer users compared with 32.4 percent that were not. Of the governments that said their finances were "good," 68.6 percent were computer users compared with 67.6 percent that were not.

A conclusion that financial condition is not associated with computer use may be weakened by the fact that 55.8 percent of the

owned systems had been in place for at least three years. If the assumption is made that the fiscal crisis said to beset local governments did not significantly affect the plains and mountain states more than three years ago, then the absence of a relationship between financial condition and computer use would be easier to explain. However, the researchers suspect that this explanation is faulty. That is, the financial crisis in local government has been around for at least three years, even in the plains and mountain regions.

The data on financial condition were provided by a single official in each local government, usually one directly involved in financial management. Although these officials expressed their perceptions of financial condition, other officials, especially those who authorize spending decisions such as city councils and county boards, might have seen things quite differently. An "objective" analysis of the financial conditions of these governments might reveal yet a different picture from that presented through the perceptions of local officials. Thus, reliance on one official's view of his or her government's financial status and the absence of a more "objective" evaluation of budgetary condition may have resulted in the failure of the expected relationship to appear.

The researchers suspect, however, that neither explanation is satisfactory. Instead, at least in this region of the nation, computer adoption by local governments appears to be independent of overall governmental financial condition.

Quite apart from the relevance of these data to computer ownership in small local governments, the researchers were intrigued to note that a relatively high percentage (68.1 percent) of all respondents said that the financial status of their governments was "good." Less than a third (31.9 percent) said their finances were "tight." Where, then, is the much heralded local government financial crisis?

3. Types of Computers Owned

Researchers also hypothesized that most local government computer users would have in-house systems and that most of these would be minicomputers. In fact, 86.3 percent of the governments using computers had in-house systems, 3.4 percent relied on systems owned jointly with another government, and 10.2 percent used data processing service bureaus. Of the governments that owned computers, 68 had one system, seven had two systems, and one had four systems for a total of 86 systems. (Table 4 presents the data on types of computers owned.)

Most of the in-house systems were minicomputers (59.3 percent), followed in order by desktop and microcomputers (22.1 percent), and bookkeeping machines (18.6 percent). None of the governments owned mainframe computers. Ownership of smaller computers is consistent with the size range of local governments in this study. That is, smaller governments have little need for the computing power and capacity of mainframes. Furthermore, the cost of these larger systems would put them well out of the range of affordability for small governments.

Interestingly, desktop and microcomputer use was about the same (11.5 percent of the overall sample) in this region as was reported in a recent nationwide survey of city governments. The researchers had expected governments in this region to lag substantially behind the national trend in their use of micros. In the national survey, 13.2 percent of 2,433 responding cities said they owned or leased micros.[8]

When analyzed according to type of technology, almost a quarter of the systems owned by the surveyed governments were dated or antiquated (24.4 percent), one in five (20.9 percent) represented a manufacturer's previous model, and over half (54.7 percent) were a manufacturer's current model.[9] Given the rapidity of change in the field of computer technology, finding that almost three-fourths of these governments owned essentially modern systems was surprising.

Systems were also categorized by manufacturer, and this produced yet another relevant finding, one that had also been hypothesized. Three of the nation's largest computer manufacturers, IBM, NCR, and Burroughs, accounted for the vast majority (70.9 percent) of the 86 owned systems, and all other manufacturers combined represented 29.1 percent. This suggests the existence of strong marketing programs as well as numerous sales centers by these vendors in this region. It probably also says that brand name identification is an important factor in computer system selection by small local governments.

4. Administration and Use

Previous studies have indicated that local government computer systems are most often administered in local finance departments and that the so-called "housekeeping" functions are among the most frequently automated.[10] Data from this survey reinforced these earlier findings.

In the governments with in-house systems, the city or county clerk most frequently administered the system (43.4 percent), followed by a separate data processing department (21.1 percent). Administration occurred through the finance department in only 9.2 percent. (See Table 5.) Although this finding appears to contradict earlier studies, city and county clerks in small governments are heavily involved in financial management related activities. Hence, administration of computer systems through their offices is consistent with earlier findings among larger governments.

When analyzed in terms of functions that were automated on in-house, service bureau, and jointly owned computer systems, financial management activities clearly ranked first. Here again, these findings were expected based on earlier research among larger governments. Of the cities and counties using computers, 85.2 percent performed payroll functions on them. This was followed, in order, by accounting (80.7 percent), budgeting (72.7 percent), and utility billing (69.3 percent). Thereafter, frequency of use in specific functional areas fell below half the reporting governments (e.g., tax assessment--40.2

percent) and dropped to only 16.1 percent listing voter registration. (See Table 6.)

The consistency of these data with findings from studies of larger governments suggests that, on the surface at least, functional uses of computers in local governments do not vary significantly with governmental size. However, both the likelihood and the extent of use appear to be important areas of difference between large and small local governments. Proportionately fewer small and rural local governments use computers, and those that do are not so extensively automated. The average number of functions computerized by the smaller governments in this region was five.

5. Programmers and Programming

Computer systems today are frequently marketed to local governments as "total solutions." That is, they are sold with complete packages of programming. This represents a major change from the way systems were marketed even a few years ago. Contemporary computer technology is also sold as "user friendly." That is, the equipment is said to be operated easily by existing governmental staff who have no specialized computer training. As a result, governments purchasing fully programmed, user friendly systems have little or no need for in-house programmers. However, many older or larger systems in local governments require them.

Because of the size of the local governments in this survey as well as the increasing availability of turn-key systems and

packaged programming, the researchers expected to find that few of the governments would employ programmers. Of the governments with in-house computers, 38.2 percent or nearly two out of five reported that they had computer programmers. This is a relatively high percentage considering the size of the surveyed governments and the fact that nearly three-quarters of the systems had been purchased within the past four years. Of the governments with programmers on staff, 58.6 percent employed a single person in this capacity and 41.4 percent two or more. (See Table 7 for data on programmers and programming.)

Even with the increasing availability of packaged software, turn-key systems and user friendly equipment, acquisition of programming to perform various functions can often be a problem. This is partly because of the uniqueness of some local government functions, the specialized nature of certain types of programming (e.g., "fund" accounting), and the relatively narrow local government software market.

In general, local governments have two options in acquiring computer programming: buy it from another party or create it in-house. The researchers hypothesized that local governments in this region would be most likely to acquire their programming from organizations serving the computer marketplace, e.g., computer hardware and software firms. This was consistent with the earlier hypothesis that relatively few of these governments would employ programmers.

As the data in Table 7 show, this was the case. Over three-fifths (60.5 percent) of the governments with in-house computers acquired their programming from computer software or hardware organizations while 11.8 percent had it written by in-house staff. Contrast this with the 38.2 percent with staff programmers, and it suggests that these persons may do less original programming than system support and maintenance.

Only a small proportion of these governments (6.6 percent) acquired their software from a business or industry, and only 2.6 percent acquired it from another governmental unit or agency. Another source was listed by 3.9 percent, and 13.2 percent cited more than one software source.

6. Future Computer Use

In addition to hypotheses that adoption of computer technology was a dependent variable positively associated with primary organizational characteristics such as government size, form, and type, the researchers hypothesized that computer use would also be found to be an independent variable affecting a government's perceptions and plans for future computer use.

The study team wanted to determine if use of a computer by a local government was related to plans to purchase computer equipment. As Table 8 shows, a positive relationship appeared to exist between use and plans for future acquisition. Over twice as many users as non-users reported plans for equipment acquisition in the next two years (34.1 percent versus 15.6 percent).

The governments that said they planned to purchase computer equipment in the next two years were asked the type of equipment they planned to buy. Here another clear division between users and non-users appeared. As Table 9 shows, two-thirds of the non-users versus 38.5 percent of computer users planned to buy either microcomputers or micros and other computer equipment.[11] Over three-fifths or 61.5 percent of computer users, on the other hand, said they would purchase systems and equipment other than micros (e.g., minicomputers and peripheral devices). This can be explained in part by the fact that governments that do not use computers tend to be smaller in size and, hence, are organizations for which microcomputers may be a better functional fit. In addition, governments that already own systems are probably more involved in the care, feeding, and expansion of those computers, rather than acquisition of new, smaller models.

In an effort to determine the attitudes of the surveyed governments toward future computer use in general and microcomputer use in particular, the study team asked three questions. These were whether the respondents believed local governments would make more use of computers in general and micros in particular in coming years and whether they felt their governments should acquire a microcomputer. Most of the respondents (94.5 percent) agreed that local governments would make more use of computers in general in the next three to five years. The difference here between computer users (97.7 percent) and non-users (90.8) percent was not substantial.

By a somewhat smaller margin (85.8 percent) the sample governments agreed that the use of microcomputers by local governments would increase in the next three to five years. The difference between the responses of computer users and non-users was relatively small. Nearly nine out of ten (89.2 percent) of computer users versus 81.9 percent of non-users agreed. (See Table 10.) At least at the general level, then, these respondents thought that computer use, including microcomputers, would increase in coming years.

In order to move the issue of future computer use from the general to the specific, the researchers asked whether respondents felt it would be a good idea to acquire a microcomputer for use in their governments regardless of future plans. As Table 11 shows, substantially fewer (43.6 percent) of these governments felt that purchase of a micro would be a good idea. The differences between the responses of computer users and non-users were minimal. Over two-fifths (40.9 percent) of the users and 46.8 percent of the non-users said use of a micro in their governments would be a good idea.

7. Summary and Conclusion

This analysis of data from a regional survey of computing in small local governments detected patterns of computer ownership and use that were relatively consistent with the findings of earlier analyses of computer use in larger local units.

More smaller governments owned computers than in the mid-1970s, but the relatively small increase (16 percent) did not indicate an overwhelming trend toward adoption of computer technology by smaller cities and counties.

Population, metropolitan status, city government type, and council/manager form of government appeared to be primary organizational characteristics that were positively associated with computer adoption by small local governments. This is probably reflective of no more than a generalized "need" for the technology. That is, larger governments, those in metropolitan areas, cities, and cities with professional managers may be said to have greater actual or perceived needs or requirements for the use of computer technology in their operations than smaller and rural governments, counties, and cities without professional managers. In fact, organizational need for use of advanced technology may more fully explain adoption patterns than simple reference to primary organizational characteristics.

No relationship was found between a local government's perceived financial status and the likelihood of adoption of computer technology. Indeed, this study failed to detect any evidence of a serious fiscal crisis among the surveyed governments, as 68.1 percent of the respondents said that their financial situation was "good."

Most responding governments that used computers in their operations had in-house systems, and most of these were minicomputers, followed in order by desktop and microcomputers and bookkeeping machines. In addition, microcomputer use among the surveyed governments was quite similar to the use reported in a recent nationwide survey of microcomputers in city governments.

Over half the reported owned systems represented a manufacturer's current model. The remainder varied from one generation removed from the current model to systems that were dated or antiquated. Three of the largest computer manufacturers in the nation, IBM, Burroughs, and NCR, accounted for the vast majority of owned systems, with all other manufacturers accounting for less than one-third.

Most in-house systems were administered in departments associated with financial management in local governments, and only one out of five of these governments had separate data processing departments. Basic "housekeeping" activities, mainly in the area of financial management, were the most frequently automated functions. In fact, very few other activities were automated, leading to the conclusion that computers were not extensively employed in the operations of small local governments in this region.

Current use of computers was found to be associated with future plans to acquire computer technology and to affect the type of equipment that a government planned to buy. However, respondents' attitudes toward future computer use in general and microcomputers in particular did not reveal an expected relationship to their current use of computers.

FOOTNOTES

[1]This survey was conducted in 1973-75 by researchers at the University of California, Irvine, under the direction of Kenneth L. Kraemer. Among the numerous published works based on data from that survey, see especially Kenneth L. Kraemer and James L. King (eds.), Computers in Local Government (New York: Praeger, 1977), and Kenneth L. Kraemer and James L. Perry, Technological Innovation in American Local Governments: The Case of Computing (New York: Pergamon, 1979).

[2]The data reported in this paper are drawn from a study of computers and small local governments that was conducted with support from a grant from the W.K. Kellogg Foundation. See Donald F. Norris and David R. DiMartino, Computers and Small Local Governments: A Summary of Computing in the Plains and Mountain States (Omaha: Center for Applied Urban Research, University of Nebraska at Omaha, 1983).

[3]With a sample size of 165, the margin of error at a 95 percent confidence level is approximately 8 percent.

[4]Kenneth L. Kraemer, William H. Dutton, and Joseph R. Matthews, "Municpal Computers: Growth, Usage, and Management," Urban Data Service Report (Washington: International City Management Association, November 1975) p. 2. Survey data provided by Kraemer and his associates from cities 50,000 and larger supplemented by an ICMA survey of cities from 10,000 to 49,999 showed that only 36 percent of the smaller cities had computers.

[5]Governments were considered metropolitan if they were located within a county classified as part of a Standard Metropolitan Statistical Area (SMSA) by the Census Bureau or if they were located in counties adjacent to SMSA counties. In this way, all cities and counties falling within the primary or tributary market area of major urban centers were classified metropolitan. All other cities and counties were labeled nonmetropolitan.

[6]For example, see Richard D. Bingham, The Adoption of Innovation by Local Government (Lexington, MA: Lexington Books, 1976), pp. 212-213, and John A. Agnew, Lawrence A. Brown, and J. Paul Herr, "The Community Innovation Process: A Conceptualization and Empirical Analysis," Urban Affairs Quarterly, September, 1978, p. 23.

[7]Until the advent of the personal computer, even very small local governments could easily spend $50,000 to $100,000 for quite basic systems, and higher costs were not unusual.

[8]Donald F. Norris and Vincent J. Webb, Microcomputers, Baseline Data Report (Washington: International City Management Association, July, 1983).

[9]Current technology was defined as a manufacturer's most recent commercially available system(s) at the time of the survey. Dated systems were those that were one generation removed from a manufacturer's then current model. Antiquated systems were those that were two generations or more removed from a manufacturer's then current system.

[10]Kraemer and King, Vol. I, pp. 24-5 and Vol. II, p. 36.

[11]Responses to this question revealed that only 10.9 percent of the total sample had plans to buy micros in the next two years, although in a nationwide survey of city governments in 1982, Norris and Webb, op. cit., found that 35.3 percent of 1,814 respondents planned to buy a micro in the next two years.

TABLE 1

SAMPLE CHARACTERISTICS OF RESPONDENT GOVERNMENTS

	Number	Percent
City or County		
City	90	54.5
County	75	45.5
	165	100.0
Population		
Under 2,500	23	13.9
2,500-4,999	57	34.5
5,000-9,999	44	26.7
10,000 and over	41	24.8
	165	100.0
Metropolitan or Non-metropolitan		
Metropolitan	51	30.9
Non-metropolitan	114	69.1
	165	100.0
Form of Government		
Mayor/Council	55	33.3
Council/Manager	35	21.2
County	75	45.5
	165	100.0
Geographic Region		
Plains	116	70.3
Mountain	49	29.7
	165	100.0

TABLE 2

USE OF COMPUTERS

A. Computer Use by All Respondents

	Number	Percent
Yes	88	53.3
No	77	46.7
Total	165	100.0

B. Computer User Characteristics

	(N)	Number	Percent of (N)
City-County:			
City	(90)	61	67.7
County	(75)	27	36.0
Population:			
Under 4,999	(80)	33	41.3
5,000-9,999	(44)	24	54.5
10,000 and over	(41)	31	75.6
Metropolitan or Non-metropolitan:			
Metropolitan	(51)	35	68.6
Non-metropolitan	(114)	53	46.5
Form of Government:			
Mayor/Council	(55)	29	52.7
Council/Manager	(35)	32	91.4
County	(75)	27	36.0
Geographic Region:			
Plains	(116)	58	50.0
Mountain	(49)	30	61.2

TABLE 3

LOCAL GOVERNMENT FINANCES

	Finances Tight		Finances Good		Total	
	Number	Percent	Number	Percent	Number	Percent
Users	27	31.4	59	68.6	86	53.8
Non-users	24	32.4	50	67.6	74	46.3
Total	51	31.9	109	68.1	160	100.0

Note: 160 of 165 governments responded with a characterization of their finances.

TABLE 4

A. TYPES OF COMPUTERS USED

Type	Number of Governments	Percent
In-house computer	76	86.3
Joint use	3	3.4
Service bureau	9	10.2
Total	88	100.0

B. NUMBER OF IN-HOUSE COMPUTERS

Governments		Number of In-house Computers	Total Number of Computers
Number	Percent		
68	89.5	1	68
7	9.2	2	14
0	0.0	3	0
1	1.3	4	4
Total 76	100.0		86

C. TYPES OF IN-HOUSE COMPUTERS
(n=86 systems)

1. Type	Number	Percent	
Minicomputer	51	59.3	
Desktop and microcomputer	19	22.1	
Bookkeeping machine	16	18.6	
Total	86	100.0	

2. Model	Number	Percent
Current model	47	54.7
Previous model	18	20.9
Dated or antiquated model	21	24.4
Total	86	100.0

3. Years System Owned	Number	Percent
2 years and under	34	39.5
3-4 years	30	34.9
5 years and over	18	20.9
Don't know	4	4.7
Total	86	100.0

4. Manufacturer	Number	Percent	
IBM	23	26.7	
NCR	22	25.6	70.9
Burroughs	16	18.6	
Others	25	29.1	
Total	86	100.0	

TABLE 5

ADMINISTRATION OF COMPUTER SYSTEM

Administrator in Charge	Number	Percent
City or county clerk	33	43.4
Data processing department	16	21.1
Finance department	7	9.2
City manager	5	6.6
Utility department	4	5.3
More than one	1	1.3
Other	9	11.8
No answer	1	1.3
Total	76	100.0

TABLE 6

FUNCTIONS CURRENTLY AUTOMATED
(N=88)

Functions	Number	Percent*
Payroll	75	85.2
Accounting	71	80.7
Budgeting	64	72.7
Utility billing	61	69.3
Tax assessment	35	40.2
Tax billing	32	36.8
Personnel	31	35.6
Police	21	24.1
Inventory	15	17.2
Voter registration	14	16.1
Other	3	3.4

*Responses are not additive as each potential respondent (N=88) could check each applicable category.

TABLE 7

PROGRAMS AND PROGRAMMERS
FOR IN-HOUSE COMPUTERS
(N=76)

A. Computer Programmers Employed

	Number of Governments	Percent (of 76)
Yes	29	38.2
No	47	61.8
Total	76	100.0

B. Source of Programs

	Number of Governments	Percent*
Computer hardware or software organization	46	60.5
Written in-house	9	11.8
Business or industry	5	6.6
Another government	2	2.6
Other	3	3.9
More than one	10	13.2
No answer	1	1.3

*Responses are not additive as each respondent (N=76) could select each applicable category.

C. Number of Programmers Employed

	Number of Governments	Percent (of 29)
One programmer	17	58.6
2, 3, or 4 programmers	12	41.4
Total	29	100.0

TABLE 8

PLANS TO PURCHASE EQUIPMENT IN NEXT TWO YEARS

	Plans to Buy		No Plans/Don't Know		Total	
	Number	Percent	Number	Percent	Number	Percent
Users	30	34.1	58	65.9	88	100.0
Non-users	12	15.6	65	84.4	77	100.0
Total	42	25.5	123	74.5	165	100.0

TABLE 9

TYPE OF EQUIPMENT PLANNED TO PURCHASE

	Micro		Other Computers		Both		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Users	8	30.8	16	61.5	2	7.7	26	100.0
Non-users	6	50.0	4	33.3	2	16.7	12	100.0
Total	14	36.8	20	52.6	4	10.5	38	99.9

TABLE 10

ATTITUDES TOWARD FUTURE COMPUTER USE

A. Computer Use Will Increase in Next 3 to 5 Years

	Agree		Disagree		Total	
	Number	Percent	Number	Percent	Number	Percent
Users	85	97.7	2	2.3	87	100.0
Non-users	69	90.8	7	9.2	76	100.0
Total	154	94.5	9	5.5	163	100.0

B. Microcomputer Use Will Increase in Next 3 to 5 Years

	Agree		Disagree		Total	
	Number	Percent	Number	Percent	Number	Percent
Users	74	89.2	9	10.8	83	100.0
Non-users	59	81.9	13	18.1	72	100.0
Total	133	85.8	21	13.5	155	100.0

TABLE 11

LOCAL GOVERNMENTS SHOULD ACQUIRE MICROS

	Yes		No/Don't Know		Total	
	Number	Percent	Number	Percent	Number	Percent
Users	36	40.9	52	59.1	88	100.0
Non-users	36	46.8	41	53.2	77	100.0
Total	72	43.6	93	56.4	165	100.0