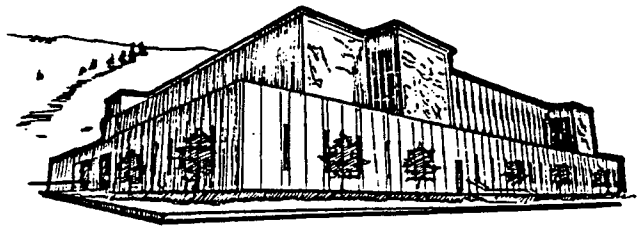
1992

Computers in small business accounting software problems

Eric J. Newman
The University of Montana



Computers in Small Business
Accounting Software Problems

By
Eric J. Newman
B.S. University of Montana

Presented in partial fulfillment of the requirements
for the degree of
Master of Business Administration
University of Montana
1992

Approved by

Chairman, Board of Examiners

Dean, Graduate School

July 1, 1992
Date

ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 - 1346

Table of Contents

The Accounting Process

Accounting information has always been an integral part of the business decision making process. The need to know instant cash flow, accounts receivable, accounts payable, and profits is important for business success. Accounting systems also play an important role in tracking revenues and expenses for tax purposes.

As businesses grew, accountability became harder to control. Many companies devised their own accounting methods. Understandably, the methods used were primarily designed to benefit the companies and to help them reduce taxes as much as possible.

History of Accounting Principles

Accounting principles developed over hundreds of years. The formal process of accounting today exists largely because of the Securities Act of 1933. Following the Securities Act of 1933 was the Securities Exchange Act of 1934 The Securities Exchange Act of 1934 intended to regulate securities trading and national exchanges. Under the Securities Exchange Act was born the Securities Exchange Commission (SEC) (20).

The SEC was given the authority to determine generally accepted accounting principles and to regulate the accounting profession. The SEC leaves much of the determination of the generally accepted accounting principles and regulation of the

accounting profession to the private sector. Thus, the accounting principles that exist today are a blend of public and private sector input.

Generally accepted accounting principles (GAAP) were influenced by two major groups. The two groups were the American Institute of Certified Public Accountants (AICPA) and the Financial Accounting Standards Board (20). In 1941, AICPA defined accounting as "the art of recording, classifying, and summarizing in a significant manner and in terms of money, transactions and events that are, in part at least, of financial character, and interpreting the results thereof" (21).

The AICPA modernized its statement in 1970 stating that the function of accountancy is "to provide quantitative information, primarily financial in nature, about economic entities that is intended to be useful in making economic decisions" (22).

FASB was recommended and implemented in 1973 by AICPA. Seven members were selected to serve on the board that issues four types of pronouncements: Statements of Financial Accounting Standards (SFAS), Interpretations, Technical Bulletins, and Statements of Financial Accounting Concepts (SFAC) (20).

Today, accountants focus on the needs of the people using the information, whether the users are inside or outside the business itself. Consequently, accounting "is not an end in itself." Instead it is defined as an information system that measures, processes, and communicates financial information about an identifiable economic entity. This information allows users to make "reasoned choices among alternative uses of scarce resources in the conduct of business and economic activities" (23).

After all the years of work GAAP has set a standard for accounting. Under GAAP businesses can understand the accounting methods of the accounting industry. GAAP also made it easier to compare company information because it is all done within certain guidelines.

Today Certified Public Accountants (CPAs) are the link between business and the accounting standards. Businesses depend on CPAs to help set up the books, keep track of financial transactions, and prepare tax forms.

Computers

In the 20th century, time is money. With the climbing cost of labor, businesses can't afford too many employees. Nor can a business afford outdated information. Trends change, competition is merciless, and a wrong decision can destroy the company To successfully compete in today's highly competitive business environment, computerization is generally a requirement.

Corporate Computer Use

In 1973 Richard Nolan, an industry expert, observed that large company computer expenditures could be graphed with an S-shaped curve. Nolan originally identified four computerization stages as follows:

1. Initiation - Slow growth in use. Most applications are cost-reduction accounting applications. Few controls.
2. Contagion - Rapid growth in use. Applications proliferate in all functional areas. Informal control only. Rising costs, due to new software and hardware components purchases.
3. Control - Growth is slowed due to imposition of rigid controls. No new software knowledge is gained, and software and hardware purchases are under control. Fewer new applications.

4 Growth continues to slow. Resource-oriented planning and control are employed (19).

Due to the success of database management technology, in 1979 Nolan added two additional stages:

5. Data Administration - Introduction of new technology causes usage and costs to increase at a greater rate.

6. Maturity - Growth levels off, no new programs or hardware are needed. Relevant applications are automated (25).

Nolan identified a primary reason that companies buy computers as "to more efficiently manage information overload." Many companies are overwhelmed with paperwork that can be easily handled with a computer. Information processing by computers has been especially valuable in the accounting area (15).

Mainframe Computers

In the 1950s mainframe computers were the only computers on the market. The computers were large, occupying complete rooms, building floors, or basements. They changed slowly over the years until the 1970s. Mainframe companies like IBM kept the upgrades and new features on a schedule. IBM scheduled upgrades every five years, so companies would trade in the old computers every five years for the new models.

Mainframe computers were generally used only by the large companies because of the relative size and expense of the computer systems. IBM, for example, in 1970 leased mainframe computers for $250,000 a year. This fee didn't even include all the costs of programming (24).

Personal Computers

Intel developed an 8 bit computer chip in 1976. The chip size was 4"x4"x2" and could hold the same amount of information once held by a roomful of computer components. The cost of the computer chips fell from $3,600.00 to $50.00 between 1970 and 1980. With the new chips, IBM started producing smaller computers that could fit on a desktop.

In 1980, the computer industry changed faster than any other industry in history. In 1980, the first personal computer (PC) was developed. IBM offered their computer for others to copy. Other computer companies copied IBMs design, and IBM became the PC standard.

In the 1980s small businesses were being bombarded by computer salesmen and by articles touting the benefits of using computers. Computer salesmen used elaborate and colorful software programs to sell computers.

The new users of PCs were not familiar with computers. They accepted computer salesmens' reasoning and expertise. They were impressed by fancy looking graphics, such as those offered by calendar programs and other "gimmicks" used to sell

the benefits of owning PCs. PCs were cost effective compared to mainframes. However, all businesses still couldn't justify the cost.

Salesmen found that businessmen could easily relate to and see the benefits of using calendar programs. Calendars were easy to understand, and they were impressive in appearance. However, many businesses didn't realize that booting up the computer and loading the calendar program took ten times longer than simply opening up the calendar (8). Consequently, many PCs were purchased, but used less frequently, than anticipated.

Many computer advocates admitted that for a computer to be used in businesses efficiently, the company needed to hire a programmer (7). The programming process was so cumbersome and time consuming that many times frustration set in and the computer ended up placed in a corner, going virtually unused.

As years passed, computers became quicker and easier to use. Hardware became standardized with IBM, IBM compatibles and Apple becoming the norm. Software programs became more plentiful and easier to understand. Every year the computer and software industries became more competitive and computer systems became increasingly affordable.

In the 1990s computers, including PCs, are used to make better decisions, with current facts and figures provided by the firm. Processing accounting information is one area where computers excel. A computer can add, subtract, multiply, and divide numbers faster than the mind can think. Doing monotonous tasks, such as manipulating numbers and calculating formulas, is a major strength of computers.

Software

Accounting Software

The computer can only process accounting information with proper accounting software. One would think that locating good accounting software would be a relatively simple task. For example, a person might think that someone interested in purchasing an accounting software package could call up their accountant, CPA, computer company, or local software store and ask for the accounting software package. However, there are numerous accounting software packages available, each with different benefits, features and degrees of user friendliness. GAAP provides a standard for general accounting principles. The question arises, then, whether or not there is a standard for accounting software as well.

Custom Software

In the beginning, accounting programs were individually tailored for each business. A computer programmer had to develop a program in a programming language to fit the needs of a particular business. The programming jobs were very extensive and the programmer usually worked exclusively for an individual business. The software program was designed with feedback from the accountant and business management personnel. The resulting program usually provided information needed for management decision making and provided the tax information needed by accountants.

Packaged Software - An Overview

As computers, especially PCs, became more available, the variety of software selections increased dramatically. Programmers started developing software programs that any computer could run. As computer hardware became standardized the software market grew. Software programs, developed by programmers for all computer users, became known as packaged software.

Prepackaged Software - Purchasing Process

One of the main problems associated with packaged software programs deals with choosing the most appropriate software programs among the vast number available that offer similar, but unstandardized, features. For example, a business has many accounting software packages to choose from. Consider that in the February edition of PC Computing there was an article discussing the 11 best accounting packages under $300.00 (9). This is just one periodical providing critiques of programs under $300.00, and the editorial staff still recommends 11 programs. Who is going to make the decision on which program to buy? How do they know which program to is most appropriate for their needs?

So, the question becomes: how is the accounting software decision made? Unfortunately, the decisions are often very unsophisticated. Many times a purchase is made solely based on the effectiveness of the sales pitch. As Dennis Anderson of

Bentley College said, "business owners are disappointed with their computer systems everyday, and the system is doing exactly what it is suppose to." Obviously, many businesses receive less than ideal recommendations. If a standard could be established regarding program requirements for complete software accounting packages, businesses would have objective evaluation criteria to use in the software selection process.

Businesses usually depend on in-house personnel to make the final computer and accounting software purchasing decisions. The in-house personnel often lack the necessary expertise about accounting software to make truly informal decisions. CPAs who possess accounting knowledge may also lack the ability to recommend accounting software purchases. As a consequence, businesses ultimately decide on a variety of software packages which lack standardization among them.

Many times the purchase decision is made by unqualified personnel with little background to prepare them for making this important decision. The purchaser often doesn't know who to listen to or who to believe.

One might assume that a CPA would have an interest in and an opinion about accounting software. Afterall, if businesses used standardized accounting software, information could be transferred from the business to the CPA with a few keystrokes, saving money on unnecessary duplication of accounting information. However, CPAs are often just as confused about the plethora of accounting software programs as the businesspeople seeking their opinions.

CPAs are not tested on their computer skills in any way when becoming a CPA. For that reason, many colleges and universities do not teach any computer based accounting classes where accounting students learn to use specific accounting programs. Generally, CPAs have to learn only minimal applications of standard spreadsheet program such as Lotus 123 or Quattro Pro. This computer software education, while helpful, is very general in nature and does not provide familiarity with actual accounting programs. Consequently, CPAs often have very little computer experience or software expertise to be of significant help in the selection process.

Packaged Software- Hardware Compatibility

The matching of software and hardware is a very important issue to consider before making purchasing decisions. Most companies spend too much money on hardware and not enough on software. Frequently, they purchase machines with insufficient capacity to handle information processing tasks of the future.

When people talk about computer systems they usually refer to hardware more than software. However, software is "the brains" of the computer system and decisions on the most appropriate software for the specified task is one of the most crucial decisions made. And while computer hardware, such as disk operating systems (DOS), have become somewhat standardized, computer software has not. While hardware decisions largely fall with the decision to buy an IBM, an IBM compatible, or an Apple computer, the software decision is much more complex. There are literally thousands

of software packages on the market today. With all the software options, who will make the software/computer decision and how will they make the decision?

In a 1984 survey done by Stewart Malone, results revealed that 90% of the firms purchased an integrated hardware-software package, which company officers had seen demonstrated before the purchase commitment was made (1). In that same survey, 50% of the owner/managers said that the software was the most important consideration in their selection, while 40% rated hardware and software equally (1). Owners'/managers' knowledge of various systems was rated as the most influential factor when purchasing a specific system. Nobody cited manufacturers' advertising or professional computer consultants' recommendations as factors in the selection process. Accounting and bookkeeping procedures were cited by respondents as the number one use of computer systems (3).

Apparently, small accounting firms are either going to have to develop expertise in the computer technology area, ally with computer professionals, or hire professionals who can develop and provide in-house computer expertise for both staff and small business clients. It appears that this addition is a necessary component in order for a full service small accounting practice to continue to grow and prosper (4).

Proposed accounting software systems should be compatible with standard software packages(e.g. Lotus 123, dBase, or Excel), since unusual packages have many disadvantages. For example, the company might be forced to purchase all supplies and upgrades from the initial vendor, which limits flexibility and increase costs. Further,

should the company decide to expand the system, it might find the software incompatible with other packages or computers (4).

The Human Factor

Before a computer can effectively process information, someone needs to operate it. The computer is just a collection of electronic parts and the software is a collection of numbers. Computers can't do anything until someone "tells" it what to do. Computer operators are a very important aspect of the accounting information system because the computer can't operate without someone providing direction.

Some executives are skeptical about computer information systems. Many operators are still "afraid of the computer". In other corporations, middle management rejects the change from manual tabulation to computer information processing because of a "fear of failure" (16). They are afraid that they won't be able to run the computer successfully and that their output will be incomplete or faulty as a consequence.

The Need for Formal Training

Jim Seymour, a computer consultant, states that one of the major computer related problems in small business is "zero investment in training" (6). He states that most businesses expect employees to learn software on the job. If businesses sent employees to formal training, it would be less expensive in the long run. Formal training would drastically reduce the amount of employee down-time on their regular job while they are trying to learn the new software. Formal training would also help eliminate costly mistakes made as a result of being unfamiliar with the software.

Many of the businesses interviewed for this paper were experiencing unnecessary frustrations due to lack of formal software training. The employees of those businesses were struggling with the software programs. Many employees were using only the basics of the programs and were not taking full advantage of program features. The result was that many times it actually took longer to process complete information with the computer system than it would to do the calculations manually.

The Need for Better Training Manuals

Software manuals can also add frustration to the software training process. Many software manuals are far too complex for the average user to decipher. The manuals are written so technically that if the person doesn't have a basic idea about how to operate the program, they won't understand the manual. Often, manuals frustrate computer operators to a point that they quit reading them and just try to use the program without referring to the manual. Consequently, many program features go unused and full benefits of the software are never utilized.

Using Consultants

Accounting software can differ dramatically from one program to another. The differences make it hard for consultants or trainees to be thoroughly familiar with the vast array of programs available. In many cases computer consultants even try to get a firm to change its software just because the consultant didn't understand the program

currently in use. In such cases, the business owner is usually told to switch software because the other software is "better". Thus, every time a business hires a different computer consultant it runs the risk of having to change accounting software for no "real" reason.

Unfortunately, consultants have even been known to recommend the new software so they can make money on the sale of the new software and/or collect fees associated with software implementation and employee training.

Businesses must be very selective when choosing a consultant. The business must be sure the consultant is familiar with the software program and the type of business. The business owners and managers must be familiar with the businesses' needs so they are not easily talked into something they don't need.

Owners and Managers Involvement

Ideally, managers and owners will take an active roll in software selection and implementation. Mark Stevens, a small-business columnist, writes about a company whose management team made the software and hardware choice on the basis of employee suggestions rather than on the recommendation of an outside consultant. The company president said: "We believe that the people who would work with the system were in the best position to select the appropriate hardware and software" (2). They set up an employee computer committee composed of the controller, a production person and a sales executive.

With the input from everyone in the company the computer software purchase was quickly accepted. The needs of all the departments were represented in the accounting software purchase, and the company has profited by the results. Everyone learned and used the program quickly and efficiently.

When owners and managers are not involved in selection and implementation, frustration and disappointment is often the result. Dennis Anderson, who teaches small business owners about computers at Bentley College in Waltham, Ma., says computers disappoint their owners all the time. Anderson states, "Yet in the majority of cases, the system is doing exactly what it's supposed to do." The purchaser simply did not understand what he was getting (6).

Many times a manager thinks all his troubles will be answered with a computer. They expect the computer system to figure budgets, schedule workers, and write nice letters. They don't understand that people must operate the computer and all the information has to be stored within the computer. After the information is stored, the right entries must be used to get desired information. Managers often expect miracles from the new computer systems, failing to realize that the human factor plays a significant part in the success or failure of computer conversion.

Managers often don't know what to expect from the computer. They usually expect the employees to learn and operate the system. The expectations are usually higher than can be reasonably realized. Managers often tend to think that the employees can learn the programs on the job. Since the managers themselves don't

know how to operate the system, they often fail to understand and appreciate the need for more comprehensive or formal training.

Another faulty assumption is that an employee familiar with one accounting program will have no trouble operating a new one. Yet, every system is different, so every time an employee is exposed to a new system or software he must be retrained to become familiar with the specifics of the new program.

Purchasing Recommendations

There are many variables to consider before purchasing a computer software package. An individual can't expect to walk into a computer store and have the proper equipment and software picked out for them. Computer stores are in the business of selling, and they will sell you anything they can. A few of the more general recommendations to consider before purchasing a computer are listed below:

1. Keep in mind that service is as important as the product. Determine what support is available: an 800 number, a neighborhood store, a qualified technician. Another key issue with service is the level of support provided with the software. The decision can be greatly influenced by the level of support the purchaser decides is needed.
2. Beware of mail order. Despite low prices, mail order products become very expensive if you have to ship them back for service, repair, or maintenance (18).

3. Check vender references thoroughly. Consider the vendor's likelihood of remaining in business. Some vendors provide some support over the telephone or on- call but give no guarantee of response time or results (17).

These are just a few of the more obvious recommendations. Other considerations should be kept in mind relative to the particular needs and individual situations of the business making the purchase.

One goal of the research is to see if there is an accounting software program that is the standard--one accounting program used by the majority of the business firms. An additional goal is to determine who makes the decision regarding which software to buy, and how the decision maker comes to their decision.

Methods

Participants

The subjects were 75 businesses from the Inland Northwest. The surveys were distributed by the research preparer with the help of fellow MBA students. A quota sample was used in selecting business participants. Businesses were then disqualified if they weren't using a computer system or preferred not to participate.

After the initial run of the survey data, the survey sample was compared to the state business population to insure a true sample. The survey sample distribution was graphed against the Montana statistics provided by the 1989 Bureau of Census. ndix A).

After the original survey data were analyzed, certain categories of businesses were surveyed in order to insure that the types and members of businesses surveyed were relatively consistent with the 1989 State of Montana County and Business Patterns.

Materials

The testing instrument used was a survey comprised of 15 questions with 43 variables. The survey dealt with computer hardware and software questions.

The questions were designed to acquire information on the type of business, computer hardware, software, training, and purchasing decisions. Questions were also included regarding the size of businesses, number of employees, number of computers, and users of their computers. Attitudes on efficiency and satisfaction were also

measured with likert scale questions with response options of very high, high, moderate, low, or very low.

Procedures

Personal interviews were selected as the survey method. Surveyors personally visited the businesses and waited while the surveys were completed by survey respondents. The survey used a combination of forced choice and Likert scale questions.

After the initial collection of surveys, businesses were selected by categories to provide a good population sample. Business were selected at random from the phone. The selection process provided a true sample of the business population which could not be achieved solely on a random basis.

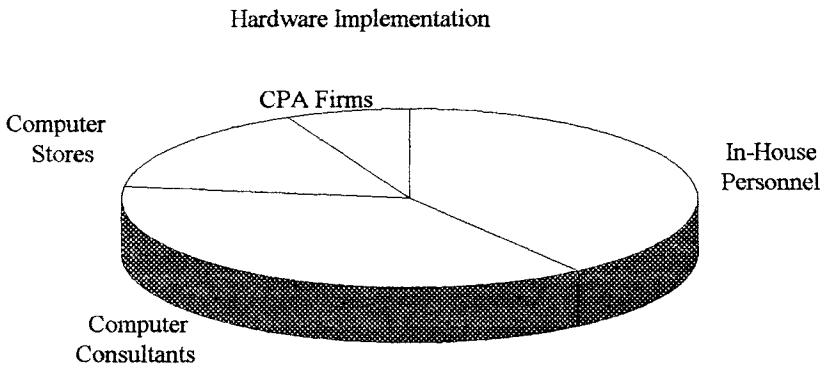
Survey Results

Hardware

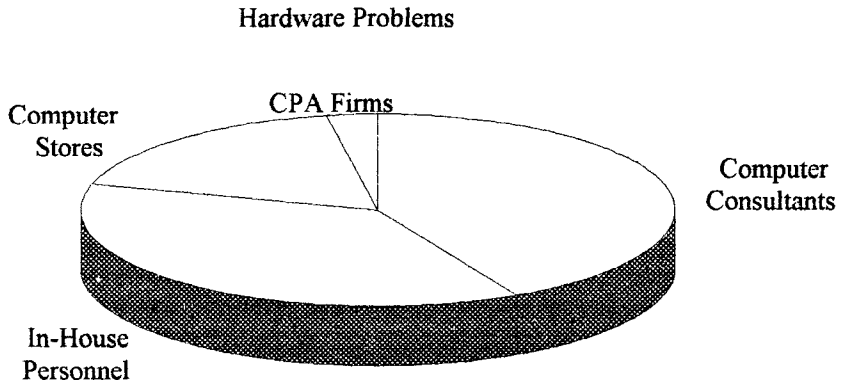
When it came to the number of computers used in the business, 46.7% of the respondents use a single microcomputer, 45% use multiple microcomputers (stand-alone and network), and only 5% use a minicomputer. IBM and IBM compatible computers were the dominant computer used, with 80% of the respondents using them, 5.3% of the respondents using minicomputers, and only 4% using the Apple Macintosh.

The hardware costs ranged between $1,501-$5,000, which coincides with the single microcomputer purchases. Sixty five percent of surveyed businesses believed that the ultimate cost of computer hardware came close to their original estimates and expectations.

The implementation of computer hardware was done mainly by in-house personnel (40%). Computer consultants were used by 37.3%, computer stores were used by 16%, and 6.7% used CPA firms.



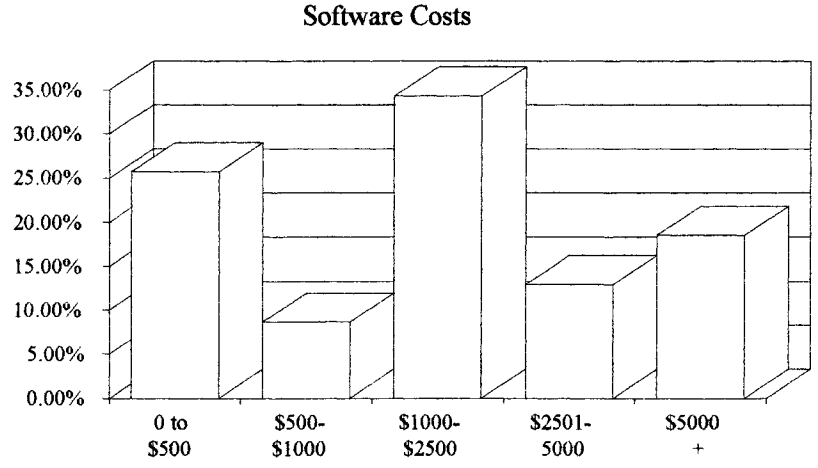
When hardware problems arise, computer consultants are used by 41.3% of responding businesses, and in-house personnel is used by 36%, followed by the computer stores as 17.3%, and CPA firms at 2.7%.



Software

Software operating systems were dominated by DOS with 86.7% of respondents using DOS. UNIX, which is typically used by networks, had a usage rate of 5.3%, Apple was 2.7%.

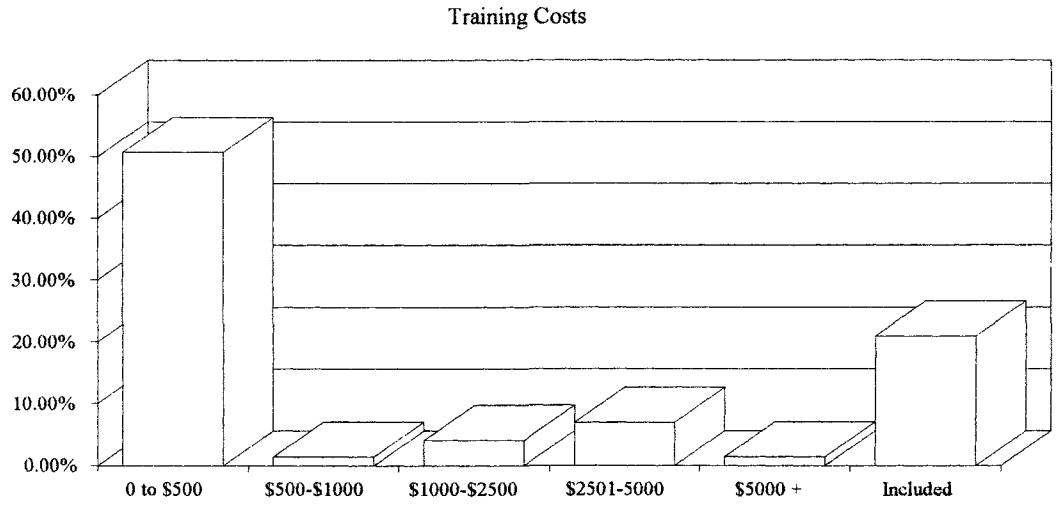
Sixty four percent of the respondents used different accounting software packages. Out of the 75 completed surveys, 48 different software accounting software packages were listed. The cost of the software packages broke down as follows: $500 and under (25 7%), $501-$1,000 (8.6%), $1,001- $2,500 (34.3%), $2,501-$5,000 (12.9%), and over $5,000 (18.5%). The software prices were close to estimates and expectations 55.7% of the time, they were higher 27.2%, and lower 17.2%.



In-house personnel implemented the software accounting packages 41.3% of the time, computer consultants were used by 34.7% of respondents, computer stores were utilized by 20%, and CPA firms were used by only 5.3% of respondents.

Training

Of the 75 businesses surveyed, 50.7% spent $500 or less on software training. Twenty one percent of the businesses had training that was included with their software package. Other amounts spent on training included 1.4% of the businesses spending between $501-$1,000, 4.1% spending between $1,001-$2,500, 7% spending between $2,501-$5,000, and only 1.4% spending over $5,000 on training.



The costs of training were close to original expectations and estimations for 52.9% of the respondents. Of all respondents, 25% indicated that training costs were higher and 22% said they were lower than originally expected.

The majority of training was done by in-house personnel. Sixty percent of the respondents said they learned the software in-house; 69.3% said they were trained by in-house personnel. In-house personnel were also responsible for helping employees overcome user resistance in 64% of cases.

Helpfulness of Accounting Information Systems

Of all the businesses surveyed, 69.3% had processed their accounting information manually and 20% had used a different software package prior to receiving their present system.

The reasons businesses decided to automate their accounting information functions were cited in the following frequencies:

-To increase efficiency of business (70.7%)

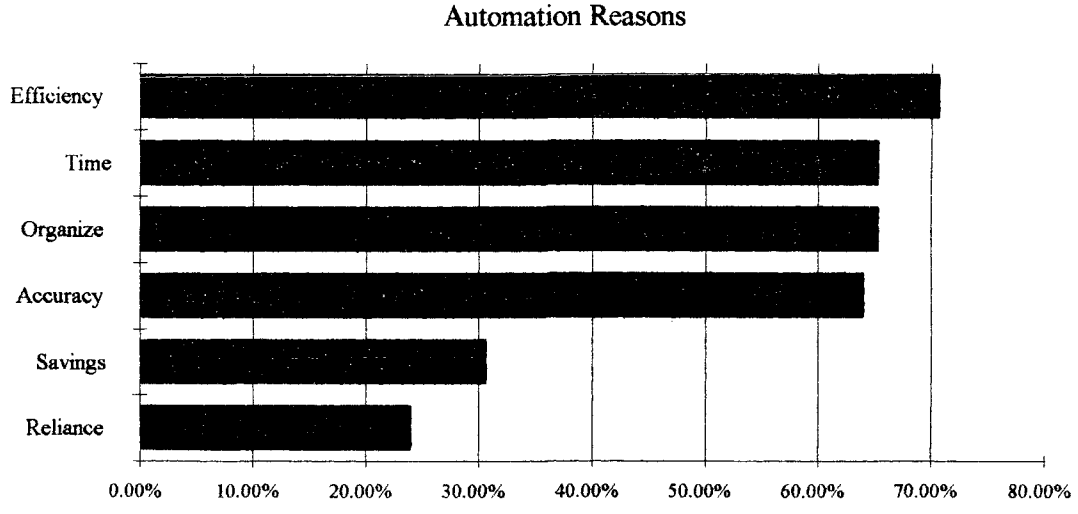
-To increase timeliness of information (65.3%)

-To better organize record keeping (65.3%)

-To increase accuracy of records (64%)

-To save money in accounting operations (30.7%)

-To decrease reliance on external organizations (24%)



The accounting information system is used daily by 78.7% of respondents. Bookkeepers are the primary users of accounting programs (80%), followed by management (62.7%), accountants (42.7%), payroll clerks (40%), purchasing (21.3%), and auditors (20%).

Eighty percent of the respondents have 1-5 people using the system regularly. When asked if the accounting information system increased profitability, 50% of respondents said the profitability increase was "moderate," 31.5 said the increase was "low" or "very low," 19.5% of the respondents stated they experienced "high" or "very high" profitability increases. Seventy six percent of the respondents said the computer system was "successful" to "very successful" in fulfilling their accounting needs.

Conclusion

The problems with accounting information systems focus on two main facets; the lack of standardization in software programs and the lack of software training.

Software standardization

The software industry continues to grow in all directions. The software industry is producing more user-friendly programs that need less programming than earlier packages. As the programs become less complicated, there are also more programs to choose from.

Choosing an accounting software package is difficult because of the large number of software programs available. Each business has to evaluate its own needs and decide what software features are needed to provide the desired results in the most cost effective manner.

Training

Training is a critical component of any software purchase. A given software program is only as good as its operators. If the computer operator doesn't understand the software accounting program, the business is unlikely to obtain needed information easily and efficiently. Without proper training, the accounting software can only be marginally effective, because software can only be as good as the operator

The survey shows that most businesses use in-house training and expect employees to learn the accounting software programs on the job. Survey results showed that reliance on in-house training resulted in employee downtime. The downtime causes dissatisfaction and expense. If the employees are properly trained the downtime and inefficiency is reduced. The reduction in downtime and ineffiency provides higher profits and better utilization of the accounting system. The training cost is quickly recovered by the more productive accounting process.

Consequently, many respondents stated they were not satisfied with the efficiency of the software programs or the ease of software use. The survey results show the high use of in-house personnel in training, and the low expenditures used in personnel computer training. There is a direct correlation between costs of training and satisfaction.

Managers or owners planning to purchase an accounting information system for their business need to research extensively prior to purchase. To insure that the accounting software program will fulfill specific accounting needs in a cost effective manner. There should also be congruency between the business and its accounting firm to eliminate unnecessary duplication costs. A software package that is somewhat the standard for a particular type of business, would also be preferred.

A business must also be prepared to spend money on software training. A key issue is to find a software program that provides excellent training and user help lines. If the software package itself does not offer adequate training, a computer consultant

familiar with the program should be retained. Another option is to look for Adult Education classes that teach technical applications of accounting software programs.

Software purchasing decisions tend to be made primarily by in-house personnel. These decision makers should get input and feedback from all personnel who will use the program or have an interest in output results. They should also talk with software consultants to be sure their software choice will produce the results needed by the particular business.

References

1. Malone, Stewart C. (1985) Computerizing Small Business Information Systems, Journal of Small Business Management, April, pp. 10-17

2. Stevens, Mark (1987) Computerizing Your Business Working Woman September pp. 33-39

3. Eby, Sheila M.
Eight Problems a Computer Can't Solve

4. McThomas, David W. Microcomputer Problems: Are CPAs Helping Small Business Users, Management of Accounting Practice

5. Computer Selection, Small Business Report
March (1988)

6. Seymour, Jim (1991) Where Small Business Goes Wrong, PC Magazine, September 10 pp 93-94

7. Flatley, Marie E. (1983) Yes, You need a Computer NOW, Journal of Business Education, February

8. Garris, John M. (1983) Small Businesses and Computer Panic, Journal of Small Business Management, July, pp. 19-24

9. Smith, Jan (1992) Getting Down to Business with Accounting Software, PC Computing, February, pp. 244-259

10. Chou, Lynette (1990) Microcomputer Problems: Are CPAs Helping Small Business Users? The CPA Journal, July, pp. 78-79

11. Harris, Thomas M. (1989) Decision Support Systems For Small Business, Journal of Systems Management, February, pp. 37-44

12. Computer Selection (1988) Evaluation Process is Key to Success, Small Business Report, March, pp. 22-25

13. Stewart, Walter T. (1988) Essentials of Information Systems

14. Quinn, James Brian (1991) Intel Corporation, The Strategy Process pp. 173

15. Cooley, Phillip l. (1987) A Research Agenda for Computers and Small Business, American Journal of Small Business, Winter pp. 31-42

16. Bennett, Earl D. (1987) A Survey: how do you justify an investment in technology? Financial Executive, September/October, pp. 44-48

17. Karasik, Myron S. (1984) Selecting a small business computer, Harvard Business Review, January/February

18. Lewin, Marsha D. (1989) Computer Purchases: When, What, and How to Buy, Small Business Reports, August pp. 62-65

19. Nolan, R.L. (1973) Managing the computer resource: A stage hypothesis, Communications of the Association for Computing Machinery, pp. 399-405

20 Gibson, Charles H. (1989) Using Financial Accounting Information, Financial Statement Analysis, 4th Edition, pp. 2-3

21. Committee of Accounting Terminology (1953) Accounting Terminology Bulletin Number 2, New York: American Institute of Certified Public Accountants, pp. 9

22. Statement of Accounting Principles Board Number 4 (1970) "Basic concepts and Accounting Principles Underlying Financial Statements of Business Enterprises", New York: American Institute of Certified Public Accountants, Paragraph 40

23. Statement of Financial Accounting Concepts, Number 1 page 5

24. Quinn, James Brian (1991) IBM, The Strategy Process, pp. 962

25. Nolan, R. L. (1979) Managing the crisis in data processing, Harvard Business Review, pp. 115-126