A Critical Analysis of Computer Attitudes in the Small Business Environment

An Honors Thesis (ID 499)

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Introduction

In an attempt to critically analyze reasons small businesses often shy away from the installation of computer systems within their companies, three areas are extensively researched throughout this paper. First, computer fear within various organizations is explored to assess why persons have this phobia and possible methods for overcoming it. Secondly, the impact which microcomputers have had on the small business environment is examined to determine the benefits computers can give smaller business firms. In addition, other reasons managers of small businesses may wish not to obtain a computer for their companies are evaluated. And finally, a mid-western survey is analyzed which researches the attitudes of several central-Indiana small businesses regarding computer systems and their bases of computer knowledge in general. It is this researcher's desire through these evaluations to better understand attitudes in the small business environment as they relate to computer systems and actions managers within these organizations can take when resistance to technological advances is encountered.
Evidence of Computer Fear in Business Organizations

With the advent of the computer age, an increasing number of smaller businesses have begun to automate their operations through the use of microcomputers. However, when implementing operational changes for these computers, numerous obstacles are apparent in today's companies.

In many instances the employees of a company do not welcome a computer into their work environment because it means new methods and skills must be learned for tasks they have been used to performing in the same manner for years. This requires the workers to think about how to do something that was once routine and required little, if any, thought. Many of these individuals reject the computer because it has upset their established environments. Some, when asked to sit at a computer for the first time, experience physical anxiety symptoms such as sweaty palms, shortness of breath, dizziness and feelings of "unreality."(1) These persons have what is termed cyberphobia or a fear of computer-related technology. Not all persons with this fear, however, experience physical symptoms. Some simply avoid computers due to a lack of familiarity and understanding about the operation and uses of the machine.(2) Others fear that with the arrival of the computer at their places of work, they will soon be out of jobs. Employees with this fear believe they will be unable to learn quickly the skills that sound so terribly difficult when the system's people are talking in that foreign, technical language of their own. Although some jobs may be eliminated by computers, these persons must be made aware of the number of jobs computers will create or enhance also.
Many male cyberphobes fear they will look silly while at a computer keyboard. It has been reported that some refuse to type at a keyboard since typing has traditionally been a lower status, secretarial task and is considered to be "women's work."(3) Others fear the use of a computer because they lack mathematical abilities. They believe that because the name of the machine itself even refers to computations, one must be required to be adept at mathematics in order to successfully operate a computer. While mathematical abilities can be beneficial in using a computer, they are not essential; however, having a logical mind is a requirement.(4)

Many employees experience overload when trying to learn how to operate a terminal. All at once they are expected to follow new procedures, learn a new machine, type, keep their old work caught up, and view old problems in a new light. The load often becomes too much for some individuals and they quickly shy away from the new way of doing things and revert back to the old.

Other reasons that have been cited for computer anxiety include "a loss of responsibility, difficulty in following manuals, not being able to trust computer results, and a fear of breaking the computer."(5) Many feel computers depersonalize people since they possess many anthropomorphic qualities. Patricia Curley, marketing assistant at InSystems of Toronto (1983), describes a computer this way:

"It "thinks," "reads," "says," has a "brain," is "fed," and subsequently "spits out" information; some computers even "talk" to each other. One is often left feeling powerless and fearful when confronted with a piece of machinery that is perceived to be not only "humanoid," but also an intellectual superior."(6)
This feeling of powerlessness was studied in-depth by Coovert and Goldstein (1980) in a locus of control study within the framework of valence-instrumentality-expectancy theory. The study found there to be a correlation between locus of control and attitudes toward computers. Those individuals with internal locus of control scores generally viewed computers more favorably than those with higher external scores.(7) This could be because internal locus of control individuals generally believe they have control over events in their lives and view the computer as a tool to enhance their jobs rather than a threat which could possibly displace them.

Along with leaving some persons with a feeling of powerlessness, computers can also make an employee feel meaningless since he/she was once a valuable person of his/her organization and now has been reduced to a "machine attendant." Also a fear of "normlessness" is common which is a phobia that the computer will get all of the credit for successfully completed projects.(8) When people are faced with these types of feelings, it is not unusual for them to display negative attitudes toward the object that is frustrating them. According to Ewert(1984), common negative reactions to computer automation include avoidance behavior mentioned earlier, "aggressive behavior" (sabotaging hardware or software), and "protective behavior" (projecting all failure onto the computer).(9) A manager of an organization can search for signs of "technostress," the inability of an individual to adapt to the
introduction and operation of new technology, among his/her staff. (10) He/she should look for "user complaints, demoralization, lack of staff input, hostile attitudes toward the computers or computer staff," centralized patterns of computer use, and possibly sabotage. (11) Another problem sign is an increased amount of error in an employee's work due to the transfer of work-related stress to internal states of distress reducing an employee's ability to process information accurately.

Because the computer industry is generally dominated by young people, older persons tend to be cyberphobes more often than do younger persons. According to an article entitled "How to Conquer Fear of Computers," (1982), one consultant says people in their late thirties are the most susceptible age group. He supports his statement by saying that people who are younger than this age group generally have had some computer training in school and persons older than this group normally have children that have introduced them to the world of automation. Parents often find it somewhat threatening when their children are more knowledgeable about an area than they, and this forces the parents to hop in with both feet into the computer era in order that they may begin to comprehend their children's conversations regarding computers.

Some feel age has less to do with cyberphobia than does an employee's tenure with his/her company. A person who has been with a company 35 years and has been accustomed to manually doing a task for that amount of time is bound to react more negatively to a machine that automates the task than is a person
who has only been with the company two years. Other factors affecting computer fear are how much past experience a user has had with technology, his/her perceived control of new tasks, the organizational climate, and how well one is organized. Those employees who had an organized, systematic way of performing tasks before the arrival of the computer are probably going to be more likely to avoid the computer so as not to change their previous systems. Those who did not have an efficient system before the computer may welcome its arrival to improve their productivity. Surprisingly, educational levels were reported to have little to do with whether or not one fears computers but one's ability to type did have an effect. (12)

Thusfar, I have referred to cyberphobes as if they were all lower-level employees; however, high-level executives as well as middle-level managers often have the same problems in coping with technological advancements as their subordinates. Management Information Systems (MIS's) generally depend on management's ability to incorporate the processed data (information) the system outputs into decision-making processes. Yet, some recent studies have indicated that "no more than 10 percent of executives and professional managers actually use a computer themselves." In one of the studies conducted in 1984, 75 percent of the CEO's from businesses of all sizes reported having computers in their offices but only 20 percent used them more than one hour a day. (13) If management does not use the information available to it from the MIS because of computer cowardice, lack of time, etc., there is absolutely no way the MIS can live up to managerial
expectations. An MIS can only be as effective as management makes it.

The following actions have been suggested by Gardner (1985) for methods of dealing with cyberphobia: (1) Training and education, (2) user support, (3) ergonomic designing of the system and (4) psychological support for those individuals with computer anxiety. (14) Educating a user about what hardware components are, what software is and its various levels, how instructions and data are organized into files, who computer specialists are and how he/she is to interact with this person will definitely clear up much of the mystique surrounding the computer and more than likely reduce some of the user's fear of the unknown. One problem exists, however, when technical systems people try to train non-systems people. It's often like having a person learn English from a person who speaks Japanese. Most of the time the non-technical person feels less intelligent and more confused about the computer after training sessions than he/she did before. (15) Trainers must be certain they express ideas in laymen's "how-to" terms and not in computer buzz-words and anacronyms. Also an organization should try to accommodate group decision making and should guard against developing a computer elite group. (16) Providing users with good manuals, well-equipped computer centers and programming consultants all aid in the facilitation of learning and in the adaptation to the automated system. If the system is designed with mouse or voice input devices, these considerations also help to combat cyberphobia. Finally, psychological support in the forms of individual and group counseling as well as
timing the development of a new system just right can benefit those with computer anxiety or technostress.

By following the above-outlined course of action, today's cyberphobes can become candidates for tomorrow's cyberphiles. Those who choose not to rise to the challenge of adapting to a computer-saturated society, however, may find themselves lost and confused. As Alvin Toffler stated in Future Shock, "the illiterates of tomorrow will not be people who cannot read and write, but people who cannot learn, unlearn, and relearn."(17)

The Small Business Environment

In attempting to understand how employee cyberphobia and related computer attitudes affect smaller businesses, one must first examine the impact computer systems have had on these small to medium-sized firms which account for 90-percent of the business firms in the United States.(18) Although these businesses average assets of less than $5 million and employees of 50 or fewer, they generate "over 50-percent of the nation's gross national product"(19) thereby creating an attractive potential market for computer manufacturing companies. Rapid technological advances in the computer field coupled with improved production techniques have reduced costs enough to allow managers of smaller businesses to share in the automation of previously manual, time-consuming tasks that recently only major corporations could afford to computerize. The arrival of the micro-computer and pre-packaged application software has
also significantly contributed to the sky-rocketing computer sales figures in the small business segment of the market.

Managers are now using computer technology to reduce personnel costs, lower inventory levels, increase sales through better service, improve the management of cash and receivables, and to provide better overall management control. According to Garris (1983), a computer is best used when it enhances the decision-making skills of people and does the tedious part of their work more quickly. This enables the workers to engage in activities the computer is unable to do and tasks that they previously had no time for. Lowered computer costs now make it possible for small business managers to receive many of the same types of sophisticated information available to executives of large firms. These might include "cost and performance analyses by product, activity area, or individual; inventory control information which aids in reducing the investment in inventory; and analyses of cash flows to define cash needs and availability which provides the basis for the wise use of credit." Computer systems aid the small business manager in assessing the firm's financial position and in making financial and operational decisions which determine the success or failure of the enterprise.

With all of these benefits that are often realized with the implementation of computer systems in businesses, one would assume nearly all managers would jump at the chance to obtain a computer for their companies. However, many managers of small businesses are sticking to the manual system they have relied on for years rather than converting to an automated system. These
managers have recognized problems other businesses have encountered when switching to a computerized management information system and wish to avoid these disturbances in their own organizations. Often, however, problems that are cited to be computer-related within a business are problems that an organization already has before the arrival of computers but is simply unaware of.

To many managers and owners of small businesses, computer systems are viewed as a solution to the operating and control problems they face. Unfortunately, these hopes can lead to bitter disappointment when the computer system fails to fix all that the managers had expected it to. James Senn (1981) explains the situation this way in an article entitled, "Risks of Investment in Microcomputers for Small Business Management":

"Our intent is to emphasize that managers and owners should not view these systems as a panacea. If they do, disappointment will surely result. These systems are only a tool—not an answer. Like all tools, they have limitation. Furthermore, they do not replace good operating and management practices." (23)

In other words, if the company has managerial and operational problems to begin with, a computer system can help to organize the business but will not solve problems that are inherent within the company. According to Newpeck (1981), a firm must be well-structured, must know where its competitive strengths and weaknesses lie, and must have developed five- to ten-year forecasts before it is able to accurately assess its information needs in order to successfully implement a MIS. (24)
In a survey conducted by Steven Murphy of Boeing Computer Services and Harriet Stephenson of Seattle University (1985), it was determined that the following are the most important problems faced by small businesses in the acquisition and implementation of computer-based systems:

"(1) A lack of adequate user knowledge or training and a lack of operational support; (2) Inadequate system evaluation and selection; (3) Failure to identify and evaluate programs with existing operations prior to purchasing a computer system; (4) Computer retailers do not understand business needs, and therefore may not recommend a cost-effective solution. Furthermore, the retail emphasis is on selling equipment, so that retailers may misrepresent system capabilities; (5) System misconfiguration and misapplication of computer resources; and (6) Lack of knowledge of commercially available software suitable for business needs."(25)

Many managers in their hurry to jump on the computer bandwagon assume that manual systems are automatically inferior to computerized information systems. This fallacy often contributes to computerization of manual activities that are actually superior in their original, unautomated status as compared to after they have been computerized. John Garris (1983) advice to small business managers regarding this point by telling them that "a computer should only be used for things that it can do better than you."(25) He stresses that some applications of computer technology such as computerized appointment schedules are used by vendors to sell their systems because they are easy for non-technical persons to understand but are not necessarily better than the manual way of performing the task. For example, actually utilizing a computerized appointment schedule instead of an appointment book can be more
trouble than it is worth by the time a user powers up a system, inserts a diskette, boots up the operating system, loads the program, and finally types in the appropriate information. With the appointment book, the executive merely needed to flip the pages of the book and write in the appointment. Garris (1983) concludes by saying that a manager should only buy a computer if he really needs it, not simply because he feels he must do so or get left behind.

In order to avoid the hasty acquisition of computer systems and poor decisions regarding types of applications, several authors have developed guidelines for acquiring computer systems for small businesses. Gupta, et. al. (1985), say that a small business-person should only acquire a computer if it will save or make the business money. He states, "Unless the analysis shows that the purchase and use of a computer in small businesses adds to the bottom line of the firm, it should not be acquired."(26) Using this guideline, he continues, will help prevent an investment of a computer system in which the costs outweigh the benefits.

Greenwood (1981) warns that because most small business managers are generalist type managers and already have "many hats to wear" in terms of responsibility for sales, accounting, personnel, operations, etc., the "data processing manager hat" should not be added without much deliberation and analysis on the part of the manager. He notes that "the function is too complex to approach with any indifference."(27) Hemmer (1983) explains that before a computer system is properly acquired, a manager must assess the work volume and current patterns of
information flow in order to clearly define information needs. He then must identify suitable software (pre-packaged or custom designed) and hardware in order to fulfill those needs. Implementing a system can be demanding, time-consuming, and frustrating since it often changes the manner in which people have been accustomed to working and employee resistance, as discussed in the first section of this paper, is often encountered. Just because the figures say that there will be cost-saving benefits from the installation of a computer system doesn't mean that employees will accept and use the system. A manager must be certain he considers his subordinates' reactions to the system since "human intervention and understanding are the key ingredients of an effective computer and information system in an organization."(28)

If a small business manager recognizes symptoms of cyberphobia in his/her staff, he/she may want to implement some of the suggested courses of action cited in section one of this paper or he/she might also elicit improved response to the system by making sure it is what is termed "user friendly." If a system is user friendly, the keyboard has keys that are in standard locations, that are easy to press and give "positive feedback." Glare on the monitor screen is minimized and characters are clearly and easily visible. The system gives understandable, concise prompts and error messages and enables users to attain help as to what to do next at any point of time. "Operations that are requested often should be easy to invoke (execute or complete by computer) and destructive operations
should be difficult" to trigger by accident. For example, before a file can be deleted from a disk, the system should prompt, "are you sure you want to delete this file?" (29)

As with all new technological advancements, some small businesses feel the risks involved in installing a computerized MIS within their organizations do not outweigh the benefits. Having more accurate and expanded information, better controlled personnel costs due to the same persons doing more work, and improved asset use, for example, are benefits which are not great enough to convince these managers that a computer system could be advantageous to their organizations. For some businesses that utilize and process minimal amounts of information in which a computer can simply not be cost-effective, managers may be well-justified in their opinions. However, it may be that those organizations in which a computer system is clearly cost-beneficial fail to acquire a system because of fear, lack of knowledge, etc. This is needless since they are turning down a tool that could give them a competitive advantage. The acquisition of a computer system may be risky for a small business, but everything that is worth attaining does involve some degree of risk.

Computer Attitude Survey

In attempting to analyze the small business environment in relation to computer attitudes, a survey was conducted at Ball State University (Harris and Kuratko, 1986). One hundred seventy-six (176) mid-Indiana small businesses were surveyed to
assess the degree to which respondents agreed or disagreed with computer attitude statements and how much computer-based knowledge and software application familiarity the respondents had. (See A.1 in appendix for copy of survey and A.2 for demographic data) Symptoms of cyberphobia seemed to appear most in the responses of those small businesses that had fewer than five employees, had been in business over 10 years and were sole proprietorships or partnerships rather than corporations.

For instance, 60-percent of the respondents agreeing or strongly agreeing with the statement "If I had to use a computer, it would probably be more trouble than it is worth," worked in businesses with less than five employees. The larger the businesses, the fewer persons there were who agreed with this statement. Eighty-six-percent of those who agreed with this statement in some form (strongly agreed, agreed, or slightly agreed) were from businesses that were sole-proprietorships or partnerships, and the firms that had been in business the longest agreed more often with this statement than respondents of firms that had been operating only a short time. It is interesting to note, however, that 81-percent of those agreeing or strongly agreeing did not own a computer; yet 86-percent of these persons reported computers to be an important part of business. Although these persons believe computers are a significant factor in business, discrepancy appears when it comes to the question of whether or not computers can help managers make better decisions. Of those persons who felt computers were not worth the trouble, only
28-percent believed computer systems could help them make better decisions.

The research reveals a relationship between the age of a business and whether or not computers can aid in decision making. Eighty-eight-percent of the respondents who strongly disagreed with the statement "computers could help me make better decisions" were from firms that had been in business for 10 years or more. This correlation might exist because managers of these businesses have made decisions without the aid of a computer for many years and have done just fine. Another explanation for this correlation is respondents were unaware of how application software packages and decision support systems could help them. This may be the case for one-half of the respondents strongly disagreeing with the decision-making statement since 50-percent of these same persons did not own a computer and also strongly disagreed with the statement "I can think of many ways that I could use a computer." If persons are unknowledgeable about what a computer can do for a small business and have run their businesses without the aid of computers for years, it would be logical for them to believe computers could not help their own small business with decisions. Sixty-three-percent of these same persons reported feeling uncomfortable about using computers. Cyberphobia again seems to tie in with unfamiliarity and lack of knowledge regarding computers.

Although cyberphobia is one reason for respondents to strongly agree with the statement about being uncomfortable when using computers, it certainly is not the only explanation for
such a response. Twenty-five-percent of those who felt uncomfortable when using computers also strongly agreed with this statement—"If I had to use a computer, I would worry about losing valuable information." And of the persons who strongly agreed with this statement, 75-percent reported being uncomfortable when using a computer. It becomes obvious that these persons do not fear the computer itself as much as they fear losing valuable information and perhaps control of their businesses. Twenty-five out of the 28 persons who agreed or strongly agreed with the loss of valuable information statement were from businesses in which the owners of the firm extensively participated actively in managing the business. This would indicate these small business owners have fairly tight control over their firms' information and may be somewhat skeptical of trusting this information to a machine. Even though respondents worried greatly about losing information, 75-percent of these persons still believe a computer could present a better picture of the facts and figures of their firms.

Only a small percentage (29-percent) of those who strongly felt uncomfortable about using computers reported that it would bother them to obtain information from a computer screen, rather than in printed form. This fear did not seem to have a great impact on the small businesses surveyed since only 18-percent of all of the businesses agreed with this statement in any form compared to the 70-percent that disagreed in some form. However, the research pointed out that the smaller businesses (firms with fewer than five employees) and the older firms (over ten years old) reported more often that this would bother them.
Overall, the survey results indicated more positive attitudes on the part of small businesses than negative. Eighty-percent of the respondents believed computers were an important part of business while 73-percent said computers could help them make better decisions. Seventy-four-percent of the survey respondents disagreed in some form with the statement that said using a computer would be more trouble than it was worth while the numbers dropped to 64-percent for those who would feel comfortable using a computer. (See charts one and two in appendix) Thirty-percent said they felt overwhelmed and pressured by the computer industry to automate their businesses of which 74-percent of these businesses were from the retailing or service-related areas.

As a whole the survey demonstrates that a majority of the smaller firms are beginning to realize that computers can impact their businesses just as much as the larger corporations. Many of them are beginning to weigh the pros and cons of obtaining a computer for their business and are seriously considering software applications to help them make wiser and more economical business decisions. Only 39-percent of the respondents reported having a computer, but the thing to notice is that of the 107 businesses that did not have a computer, 73-percent were thinking about purchasing one at some time in the future or were undecided while only 27-percent planned not to buy one. This indicates that eyes are being opened to the advantages and benefits a computer can give a small business as opposed to negative considerations such as security problems and losses of information. It seems smaller business managers are
at least weighing the risks and problems versus the benefits that could come with the implementation of a computer system --benefits such as the quality of information they would receive and the timeliness with which they would get it. If managers are well-informed and correctly handle system implementation, a move to computers can further enhance and develop the efficiency of a well-run enterprise.

Conclusion

Evidence of computer fear as it exists in today's organizations has been examined along with methods of handling negative computer attitudes within companies. This paper has also looked at how computer technology has affected many small businesses and why these firms may or may not want to consider the acquisition of a computer system. Finally, results of a survey conducted by Harris and Kuratko (1985) of Ball State University were carefully analyzed to determine what the actual attitudes of 176 small business survey respondents were in the central-Indiana area. It appears that the majority of small businesses in this section of the country possess fairly positive attitudes with regards to computers and the benefits they can give a business. Those respondents who were more knowledgeable and informed about computer systems seemed to rate attitude statements more favorably and demonstrated fewer signs of cyberphobia than those individuals who knew little about computer capabilities. Overall, if small businesses plan to
implement computer systems within their organizations, they should be certain to provide proper training, manuals, and information to subordinates. In addition, they should remain open to suggestions, criticisms, and other comments dealing with the system. Communicating with one's employees has proven to remove many of the fears associated with a computer. If small business managers assure subordinates that the machine will not displace them and that change is not something to be feared, the implementation of a computer system can be maximized better within an organization.

It is hoped that this paper, which has critically analyzed computer attitudes within the small business environment, demonstrates the need for further research into attitudinal issues of computer use. For it is through this type of research, which helps managers to deal more effectively with computer resistance and fears, that today's small businesses can prosper and grow to contribute to a healthier overall economy.


(4) Ibid., p. 81.


(6) Curley, p. 80.


(9) Ibid., p. 34.


(11) Ewert, p. 34.


(13) Gardner, p. 29.

(14) Ibid., p. 32.


(16) Ewert, p. 35.


(24) Newpeck, p. 17.


(26) Garris, p. 19.

(27) Jatinder N. D. Gupta, Thomas Harris, and Donald F. Kuratko, "Effective Computer Selection for a Small Business," Department of Management Science, Ball State University, Muncie, IN, 1985, p. 3.


(29) Gupta, p. 6.

(30) Ibid., p. 8.
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Gupta, Jatinder N. D., Harris, Thomas, and Kuratko, Donald F. "Effective Computer Selection for a Small Business," Department of Management Science, Ball State University, Muncie, IN, pp. 1-16.


Computer Use Survey

General Information

Please select the response which best describes your firm.

1. What is the basic nature of your business?
   a. manufacturing  d. service related
   b. retailing  e. construction
   c. wholesaling  f. other (specify) ________

2. How many employees does your firm currently use?
   a. less than 5  d. 26 to 50
   b. 5 to 10  e. 51 to 100
   c. 11 to 25  f. more than 100

3a. Is your firm in business primarily for:
   a. profit making activities?
   b. non-profit making activities?

   b. (Optional) In 1985, what were your approximate gross sales or revenues?
   a. less than $75,000  d. $300,000 to $500,000
   b. $75,000 to $150,000  e. $500,000 to $1,000,000
   c. $150,000 to $300,000  f. over $1,000,000

4. Is your business:
   a. sole proprietorship?
   b. partnership?
   c. family-owned corporation?
   d. privately-owned corporation?
   e. publically-owned corporation?

5. Are the owners of your firm actively involved in the management of the business?
   a. extensively  c. limited amount
   b. somewhat  d. not at all

6. How long has your firm been in business?
   a. less than 2 years  d. 10 to 20 years
   b. 3 to 5 years  e. 21 to 40 years
   c. 6 to 10 years  f. over 40 years

7. Rate the level of competition for your firm?
   a. many similar firms  c. many diverse firms
   b. few similar firms  d. few diverse firms
   e. non-competitive

8. What is the scope of your business activities?
   a. mainly local
   b. mainly regional
   c. mainly national
Computer Attitude Survey

Please indicate how you feel about the following statements: Use the following scale to rate your response:

1. strongly agree
2. agree
3. slightly disagree
4. no opinion
5. slightly disagree
6. disagree
7. strongly disagree

1. A computer available would make me more productive in my daily routine.
2. Having a computer available would improve communications in my business.
3. Using computers takes away from the human side of business.
4. If I use a computer, I could get a better picture of the facts and figures of my firm.
5. If I had to use a computer, it would probably be more trouble than it was worth.
6. I can think of many ways that I could use a computer.
7. I feel very uncomfortable about using computers.
8. I believe that buying a computer is an unwise business decision.
9. Computers are an important part of business.
10. I sometimes feel overwhelmed and pressured by the computer industry to automate my business.
11. I look forward to a time when computers are more widely used.
12. If I had to use a computer, I would worry about losing valuable information.
13. I would enjoy using computers.
14. Computers could help me make better decisions.
15. It would bother me to obtain information from a computer screen, rather than in printed form.

1 2 3 4 5 6 7
Computer-Based Information

1. How would you rate your knowledge of computers and computer-based information systems?
   none 1 2 3 4 5 6 7 very high

2. Would you like to know more about computers?
   a. definitely  b. possibly  c. not at all

3a. Do you feel you could afford an automated or computer-based information system for your firm?
   a. yes  b. unsure  c. no

   b. How much do you think such a system would cost for the computer equipment (hardware) ?
   c. How much do you think such a system would cost for the computer programs (software) ?

4. Are you familiar with management information systems?
   a. yes  b. no

5. Are you familiar with decision support systems?
   a. yes  b. no

6. Which of the following areas of information would prove useful to your firm? (check all that apply)
   a. federal regulations  f. customer information
   b. state/local regulations  g. competition information
   c. accounting records  h. personnel records
   d. production records  i. financial information
   e. sales records  j. other (specify)

7. Please rank your top five informational needs from the above list.
   a. most important ______
   b. second important ______
   c. third important ______
   d. fourth important ______
   e. fifth important ______

8. Do you currently own a computer?
   a. yes (please respond below)
   b. no (please respond on reverse side)

   If you answered "yes":
   Is it a:
   a. microcomputer (personal/"pc")
   b. minicomputer (small business model)
   c. mainframe computer
   Please list the type of machine _________
If you answered "no":
Are you planning on buying one?
  a. no
  b. yes, within a year
  c. yes, at a later time
  d. undecided

Are you using an external computer service?
  a. yes  b. no

**Knowledge of Applications**

Please rate the following items using the following scale:
1. no knowledge  4. working knowledge
2. little knowledge  5. extensive knowledge
3. fair knowledge

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Please rate the following items using the following scales:
1 never  2 probably not  3 not sure  4 possibly  5 definitely

If you have (or had) a computer, do (would) you use:
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Please answer the following **only** if you currently use a computer.

Do you make decisions which are directly based on computer generated output?
  a. yes  b. no

If yes: How often: (circle one) daily weekly monthly rarely

What software do you use? (please list below)

**Thank you for taking your valuable time to complete this form!**
Demographic Data

176 surveys were distributed to the central Indiana area.

Nature of businesses:
Manufacturing businesses -- 7%
Retailing businesses -- 40%
Wholesaling businesses -- 4%
Service-related businesses -- 36%
Construction businesses -- 3%
Other -- 10%

Size of businesses:
41% of the businesses employed fewer than 5 people
26% of the businesses employed 5-10 people
19% of the businesses employed 11-25 people
7% of the businesses employed 26-50 people
3% of the businesses employed 51-100 people
4% of the businesses employed more than 100 people

98% of the businesses surveyed were in business primarily for profit making activities.

133 of the 176 businesses answered the question regarding gross sales or revenues. Of these:
24% of the businesses had sales of less than $75,000
15% of the businesses had sales of $75,000-150,000
15% of the businesses had sales of $150,000-300,000
14% of the businesses had sales of $300,000-500,000
12% of the businesses had sales of $500,000-1,000,000
20% of the businesses had sales of over $1,000,000

Types of businesses:
35% were sole-proprietorships
8% were partnerships
23% were family-owned corporations
30% were privately-owned corporations
4% were publicly-owned corporations

86% of the owners of the firms were extensively involved in the management of the business.
Age of businesses:
14% had been in business less than 2 years
15% had been in business 3-5 years
13% had been in business 6-10 years
27% had been in business 10-20 years
18% had been in business 21-40 years
13% had been in business over 40 years

Competition level for businesses:
55% rated competition as many similar firms
34% rated competition as few similar firms
5% rated competition as many diverse firms
2% rated competition as few diverse firms
4% rated competition as non-competitive

Scope of business activity:
68% -- mainly local activity
24% -- regional activity
8% -- national activity
Statement -- I feel very uncomfortable about using computers.
Chart 2

Statement -- If I had to use a computer, it would probably be more trouble than it was worth.