

1) Commitment of Vendor	Where will your sales rep be after the contract is signed? How many systems engineers does the company have available in your area?
2) Hardware Capacity	Does the hardware have adequate processing capability for your requirements within an acceptable time frame?
3) Quality of System Software	The software quality (operating systems & utilities) dramatically affects how hard the system is to program and use.
4) System Documentation	What documentation does the vendor provide and how is it updated? Can it be understood on a basic level? Is it designed so other experts understand how it works and can change them when necessary?
5) Service/Maintenance Support	When the system breaks, how long will it take to fix it? Who will do it? Are there provisions for backup during down time?
6) Expandability and Compatibility	What are the technical limits of the system and how close are those limits to your current configuration? Is there software compatibility among vendor's product lines?
7) Security	What security features does the system have to prevent unauthorized use or alteration?
8) Financial Stability of Vendors	What is the financial stability of the vendor.
9) Environmental Issues	Are there any?
10) Price	With computers you generally get what you pay for. Low price alone should not be a prime evaluation criteria.

Some businesses decide to purchase a turnkey system rather than the software and hardware separately. This is a viable alternative in some instances, however, it should be accompanied by a formal agreement or contract.

If this is the route you decide to go, examine turnkey agreements or contracts closely. Be aware that these documents, as a rule, are not put together to protect your interest, but that of the contractor. If you have any questions about the document, contact an attorney or small business specialist for assistance in interpretation.

An important part of a turnkey contract or agreement is "when you pay." Some will call for partial or total upfront payment, before installation. Others call for payment upon installation completion. A few allow for periodic payments on a draw schedule. The more money you can hold back until installation is completed, the more power you have to insure that the vendor satisfactorily completes all that has been promised and contracted for.

The contract should include detailed references to the following:

- 1) Description of equipment and software;
- 2) Installation responsibilities;
- 3) Provisions for additional equipment;
- 4) Performance guarantees;
- 5) Responsibility for training;
- 6) Software rights;
- 7) Provisions for default, bankruptcy, or contract termination;
- 8) Software documentation;
- 9) System documentation;
- 10) Responsibilities for freight charges, sales tax, etc.;
- 11) Acceptance testing;
- 12) Conversion responsibilities (from manual to computer);
- 13) Upgrading and trade-in rights;
- 14) Restart instructions.

Recognize the importance of the contract or agreement and how it forces all parties to plan and to agree on objectives. A good contract will help you prepare for system installation and will make the whole experience a more satisfactory business transaction.

Points to consider when selecting your system include:

- 1) The reputation of the manufacturer or vendor;
- 2) The reliability of the manufacturer or vendor;
- 3) The incidence of repair on the system equipment;
- 4) The length of time the manufacturer or vendor have been in business;
- 5) The kinds of services available (consulting, training, supply, repair, etc.);
- 6) The costs involved with the system;
- 7) The backup capabilities of the system.

Putting The Computer To Work

Successful computer applications for your business depend heavily on the implementation process. Problems are inevitable but proper planning can help avoid some of them and mitigate the effects of others.

After the software and hardware choices have been made, you need to prepare your business for the system. One important point to keep in mind, successful implementation of a computer system in a small business requires intense involvement of the owner from the initial decision to acquire a computer through system specification, selection and implementation. Also the success of the new computer system will be directly related to the cooperation of a number of your employees; therefore it is important to involve them as early as

After you have found one or more software packages that fit your identified needs, there are other general features you should check out before you make your final decision:

- 1) Does it come with effective documentation?
- 2) Is the operations manual written for a novice?
- 3) Is the information organized so you can understand it?
- 4) How easy is the software to use?
- 5) Is there a "help" facility?
- 6) How easy is it to change?
- 7) Can you change data that has already been processed?
- 8) Can you change program instructions or must the vendor?
- 9) If the vendor must change, what will it cost?
- 10) Will you need to change any business practices?
- 11) If so, are those changes you should make anyway?
- 12) Will it provide the information you need?
- 13) How well is the software documented?
- 14) Does it have security features like passwords?
- 15) Can you prevent unauthorized access?
- 16) Is it easy to increase the size of the files?
- 17) Will the software vendor support the software?
- 18) Does the vendor have a good track record?
- 19) Will the vendor make changes and how much will it cost?
- 20) How long has the vendor been in business?
- 21) What are the vendor's prospects for staying in business?

If you find a ready made software package that fits your system needs and price range, take it. You may still have to do a lot of work adapting your procedure, but generally you will be better off than if you design your own software system.

Although some software and hardware from differing manufacturers can be adapted to work together, standardization is not prevalent. Therefore it is important that you find the right software and then select the hardware to handle it.

The most important step to judging a computer system is to visit a few companies using that particular system. But visit without the sales representatives for the system and try to find companies with configurations and applications as close to yours as possible. Use the following criteria on the following page to evaluate the system.

need to be) produced. You should also include any preprinted forms such as checks, invoices, billing statements, vouchers, etc. If they don't exist, develop a good idea of what you want; a hand-drawn version will help. For each report list the frequency with which it will need to be generated and the number of copies that will be required.

In addition to printed matter, make a list of information that you would like to see displayed on the computer. Again, design a hand-drawn version. List the circumstances under which you would like to see this information displayed.

For each application make a list of all materials that are used as input into your current manual system. These may include items such as time cards, work orders, receipts, etc. Describe the time period in which these items are created, who creates them and how they get into the system. Also, describe the maximum and average expected number of these items generated in the appropriate time period. As with the reports, include copies of the input items or drawn drafts.

List the maximum and average expected number of entries in an allocated time period for each file, such as 10 employees per year, etc. Normally a file, manual, etc is cleaned out after a specified period of time and inactive entries are removed. The maximum number should reflect the number expected in the file just before the cleaning out process is begun.

Identify how you retrieve a particular entry: Do you use account numbers or are they organized alphabetically by name? What other methods would you like to use to retrieve a particular entry: Zip code? Product purchased?

Note which of your requirements are a "must" for computerization and on which you will compromise. The more detailed you are, the better your chance of finding application software that will be compatible with your business. Also, the more detailed you are, the more time it will take to research and evaluate each alternative application software package.

possible with the steps to be taken. Explain to each affected employee how his or her position will change. To those that are not affected, explain why their jobs will remain unchanged.

Prepare the installation site. Check the hardware manual to be sure the location where you will keep your new computer meets the system's requirements for temperature, humidity, and electrical power. Prepare a prioritized list of applications to be converted from manual to computer systems. It is very important to plan on converting them one at a time, not all at once.

Prepare a list of your business procedures that will be changed so the computer system will fit into the regular work flow. Develop new manual procedures to interface with the computer system. Train, or have the vendors train, all people who will be using the system.

When the above steps are complete, the computer system can be installed. Each application on the conversion list should be entered and run parallel with the preexisting corresponding manual system for a number of processing periods. This means that two complete systems will be running, placing a great deal of pressure on your employees and yourself. However, until you have verified that the new system does its job, it will be worth the effort. Insist on progress reports from everyone involved in the change over of the system.

At the same time you are converting each application, you must begin dealing with the long term issues that will keep your computer operation successful:

System security. If you consider confidential some information that is critical to your business, you will want to implement a system of safeguards to keep unauthorized users from stealing, modifying, or destroying data. These safeguards can include simply locking up the equipment, or more advanced schemes that use user identification and password software.

Other safeguards include:

- 1) Control access to your computer, disks, and reports;
- 2) Label all disks to identify their contents;
- 3) Don't let computer operators use original transactions;
- 4) Rotate employees (to expose unauthorized practices);
- 5) Require dual signatures (for software modifications).

Data safety. Data, confidential or otherwise, can be destroyed by unexpected disasters (fire, water, power fluctuations, magnetic fields, etc.) or employee tampering and could result in high costs to recreate. The best and cheapest insurance against the high cost of lost data is to keep backup copies of all data and programs. The information on each diskette should be backed up regularly and as often as necessary to minimize the cost of recreating lost information. Copies should be kept in a safe place away from the business. Additionally:

- 1) Have and test a disaster recovery plan; and
- 2) Identify all data, programs, and documents that are needed for essential tasks during recovery from a disaster.

Employee cross-training. Just as with a manual system, it is important to have more than one employee know how to operate a system. Once your business relies upon the computer system, the absence (sickness, vacation, or termination) of a computer operator can be devastating unless another person is prepared to fill in.

Management controls. Although computer systems allow small businesses to process more data more accurately than ever before, there is a chance that the same system can cause greater problems if left unsupervised. All systems, manual or otherwise, must be continually monitored to insure the quality of the data that goes into and comes out of it.

If all of this seems like a lot of work, it is. The use of a computer, just like any other tool, requires learned skills in order to fulfill its purpose. If you believe that you and your business need a computer, plan to spend the time and the money it takes to make its installation and operation successful.

Component	Function
Operating System Software	Software that tells the hardware how to run.
Applications Programs	Software written to perform a particular function, such as word processing, accounts receivable, payroll, or inventory control "applications."
Compilers and Interpreters	Special software that translates programs into machine language that the CPU can execute.

Generally, there are three types of software:

1) **Compilers and interpreters.** Special software that translates programs written in people language into machine language that the CPU can execute;

2) **Operating system software.** The programs that control all of the separate component parts of the computer, such as the printer and disk drives, and how they work together. Systems software generally comes with the computer and must be present before the application software can work.

3) **Application Software.** Composed of programs that make the computer perform particular functions such as payroll, check writing, accounts receivable posting or inventory reporting. Application software programs, particularly the more specialized ones, are normally purchased separately from the computer hardware.

Because application software provides the features that will assist you and your business, it should always be evaluated and decided upon before you look at computer equipment. Before beginning your search for application software that is right for you, identify what the software will have to accomplish. Your time will be well spent if you research and write down your requirements.

To help you determine your overall computer requirements, prepare a list of all the functions in your business where speed and accuracy are needed in order to handle the volume of information. These are called applications. For each of these applications, make a list of all reports that are currently (or will

Component	Function
Central Processing Unit (CPU)	The CPU performs logic calculations, manages the flow of data within the computer, and executes the program instructions.
Memory	Usually measured in bytes. Roughly, one byte holds one character of data. There are two kinds of memory, ROM (read only memory) and RAM (random access memory).
ROM	A program stored in the memory. It cannot be changed by the user. OR an external program.
RAM	Located in the central processing unit (CPU), RAM is normally measured in "K's" or 1000's. It is used to store the information necessary for the CPU to do its job. Information stored in RAM lasts only as long as the power is on. Once the power is turned off, all RAM information is erased.
Storage	Disks are the most common form of storage. They may be diskette or CD. Disk. Information is recorded, retrieved, and erased through a disk drive which is controlled by the system and the application software.
Input Device(s) (Terminals)	Units used to enter the data into the system for processing.
Output Device(s) (Printers and Drives)	The main output of a computer system is usually printed material.
Warmware	The critical service and support you will require, particularly for the software.

You can hire a consultant to advise and guide you if you don't have the confidence or time to select the software and hardware yourself. If you prefer, some full service firms and manufacturers will assist you in developing your computer system. Make sure your advisors understand your specific needs. Have a contract specifying the exact nature and cost of such services.

With no prior knowledge of computers, you can buy a personal computer with applications for you business. With some guidance, self-study, and experience you can develop computer based management planning and control expertise. By taking advantage of the speed and complex capabilities of a computer, you can tap into potential of growth and profit in yourself and your business.

Your next decision is to determine which software package(s) are needed to accomplish what you need done within your computer system. Typical types of software packages include:

The Northwest Oklahoma SBDC, located in Alva at NWOSU - - with offices at the Enid NWOSU campus and Guyman, Oklahoma, which covers a large portion of Northwest Oklahoma.

OSBDC Regional Office
Northwestern Oklahoma State University
Alva, Oklahoma 73717
(580) 327-8608

Bill Gregory, Regional Director
Jeanne Cole, Business Development Specialist

OSBDC/SCORE Satellite Office
Northwestern Oklahoma State University
2929 E. Randolph,
Enid, Oklahoma 73701
(580) 213-3197

Melissa Cole, Business Development Specialist
Bob Wilcox, SCORE Chairman

Guyman Satellite
118 NW 4th
Guymon, Oklahoma 73942
(580) 338-4357

Mark Aubrey, Business Development Specialist

3) **Critical path analysis.** Programs divide large projects into smaller, more easily managed segments or steps, targeting goals and ultimate completion.

4) **Legal.** Programs track cases and tap information from databases;

5) **Payroll systems.** Programs keep all payroll records, calculate pay, benefits, and taxes, and prepare checks;

6) **File management.** Programs enable you to create and design forms, then store and retrieve the forms and the information obtained on them.

Business applications for PC's are available in packaged software programs that enable interaction with the computer to enter, manipulate, and process complex evaluations and computations of voluminous quantities of data.

In analyzing your application needs, consider:

- 1) Investment decisions (pay back period, depreciation, tax impact, etc.); and
- 2) The potential increase in your management capability.

To computerize your business you will have to choose the right programs, select the right equipment, and implement the various applications. This involves training personnel, keeping up security, maintaining equipment and supplies, as well as all of the regular day to day operations. If you follow a well laid out plan and make well informed choices, your computer system should provide the information and the amount of control intended.

Your first, and most important decision, will be the hardware that makes up your computer. These computer components generally consist of the following:

Managers use computers to solve various business problems. Some of the most common applications are keeping transaction records such as a customer data base, cash receipts, receivable ledgers, etc. and for preparing statements and reports like balance sheets, profit and loss statements, cash flows, etc.

Below are some areas where computerization might help:

Accounts Receivable. Even if properly organized and maintained, a large volume of active accounts receivable customers can cause your staff to spend endless hours posting sales, receipts, and especially preparing statements. Unfortunately, as the volume of information to be handled goes up, the number of errors often increases.

Advertising. Using only manual systems, it is costly and complicated to have special sales programs directed toward targeted markets. Manually prepared mass mailings are time both consuming and expensive.

Inventory. A large number of items or a very high volume turnover can cause major errors in keeping track of inventory. Errors in inventory control can result in lost sales as well as in the maintenance of unnecessarily high quantities of slow moving products.

Payroll. Calculating and writing checks are tedious operations in payroll administration. It can be extremely difficult to effectively implement any kind of employee incentive plan using manual procedures.

Planning. Manual systems or procedures make planning for the future time consuming and difficult. "What if" situations such as if sales increase, to what extent will expenses increase - - are not easy to simulate with a manual system.

The general areas of computer business applications are:

1) **Financial models.** Programs prepare and analyze financial statements;

2) **Word processing.** Programs compile statistics, plot trends, do market analysis, modeling, graphs, and forms.

What Can Computerization Do For My Business?

To answer this question, you must first have a clear understanding of the long and short term goals for your company; the advantages and disadvantages to computerization; and specifically what you want the system to accomplish for you. Compare the best manual system you can develop using your present resources with the computer system you hope to have. It may be possible to improve your existing manual system to do the job instead.

Generally a business that is reasonably well organized and staffed may benefit from computerization if it has a large volume of detailed or repetitious information that needs to be handled with speed and precision. A computer system can:

- 1) Organize and store many similarly structured pieces of information (e.g., addresses with names, streets, and phone numbers);
- 2) Retrieve a single piece of information from many stored ones (e.g., John Doe's address);
- 3) Perform complicated mathematical computations quickly and accurately (e.g., loan terms);
- 4) Print information quickly and accurately (e.g., sales reports); and
- 5) Perform the same activity almost indefinitely and precisely the same way each time (e.g., print a hundred copies of the same form letter).

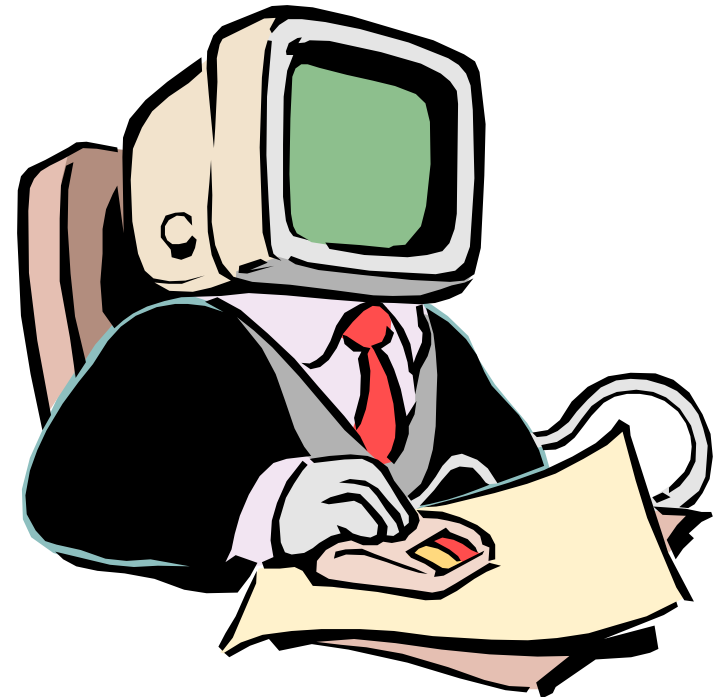


BUSINESS BASICS:

Computerizing Your Business

a product of the
Oklahoma Small Business Development Center
Northwestern Oklahoma State University
in coordination with the
Service Corps Of Retired Executives
and in a partnership program with the
U. S. Small Business Administration

This material is based upon work supported by the U.S. Small Business Administration (SBA) under Cooperative Agreement # 7-7770-0038-20. Any opinions, findings, and conclusions or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the views of the U.S. Small Business Administration.



Copyright, 04/2005

developed by
OSBDC at NWOSU