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Selection of a new computer system for Executive Director, Inc.

Kay A. Whalen

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**SELECTION OF A NEW COMPUTER SYSTEM
FOR EXECUTIVE DIRECTOR, INC.**

by

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An Applied Management
Decision Report
submitted in partial fulfillment
of the requirements for the degree of
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ABSTRACT

Executive Director, Inc. (EDI), an association management firm, wants to replace its existing computer system. The new computer system should be able to accommodate all of the database and processing requirements of EDI's eight clients. The three areas of consideration when purchasing this new computer system include the software capabilities, the hardware configuration and vendor support.

Four complete computer solutions were considered. The first solution, which runs on an IBM/IBM clone local area network was developed by Smith, Abbott and Company. The second solution, produced by United Systems, Inc. requires an IBM AS/400 minicomputer hardware platform. The third solution, which uses a Digital Electronics Corp. minicomputer, was developed by The Software Group. The final option, produced by Computer Business Systems, runs on a Macintosh network.

The system by United Systems was chosen as the best solution for EDI at this time. Its software capabilities meet all of EDI client needs. Its hardware configuration is compatible with many other systems and is relatively easy to maintain. The vendor support from both United Systems and IBM should allow EDI staff to successfully manage this system's implementation and operation.

Introduction

Executive Director, Inc. (EDI) is a multiple association management firm. The company was founded in 1962 by Donald McNeil and John Kadon. Several years after its incorporation, Mr. McNeil purchased Mr. Kadon's share of the business and remains the company's president and sole stockholder.

The company's premise is that many trade and professional associations cannot afford to operate an office complete with office equipment and staff on their own. Therefore, a company such as EDI offers complete management services to its clients. EDI's staff performs all necessary functions for its clients including general administration, meeting planning, publication generation, database management, financial management and membership services. EDI currently has eight client associations varying in scope from local to international associations and in membership numbers from 18 to over 14,000.

The concept of EDI is simple. By banding together, associations can cut costs and increase staff experience and expertise. Costs are reduced by sharing equipment and common staffing positions.

Equipment costs are shared and assigned to clients per use. In this way, only one phone system and mail machine are necessary. Copy machines and computers can also be shared. EDI owns the equipment and charges clients for usage.

Staff is shared in much the same way. Each client

association does not need its own receptionist, mail room personnel, accounting department or computer personnel. By sharing these staff people, clients have access to the services provided at minimal cost. Other staff can also work for more than one client. For instance, meeting planners can plan meetings for more than one association and can also consult with other meeting planners on EDI's staff. Staff members who specialize in public relations, fund-raising, publishing or continuing educational programming can also work with several clients and easily consult with the staff performing these services for other clients.

Current Situation

EDI currently has eight client associations and is actively seeking new associations to serve. While several of these client associations are related organizations, other clients are not connected in any way. Each client association has its own philosophies and reasons for existence. Therefore, the services that EDI provides to each client differs. Because of this, a brief explanation of each major client's activities follows.

American Academy of Allergy and Immunology. EDI's largest client in terms of services provided is the American Academy of Allergy and Immunology (AAAI). The AAAI is a professional association consisting of over 4,000 practicing allergists. It is the largest national medical specialty of its kind. Education for both physicians and the public at large is the goal of this organization. Relatively small

continuing medical education courses are held throughout the year for its members, but the large annual meeting is held in the early spring of each year. This annual meeting offers over 400 continuing education seminars, workshops and courses to practicing allergists. The Academy also offers a learning resource center where physicians can obtain educational materials for themselves and their patients. Public education is accomplished through press releases, pamphlets and a physicians toll-free referral line.

National Christmas Tree Association. EDI's second largest client is the National Christmas Tree Association (NCTA). This group holds an annual marketing conference as well as a biennial convention. Information regarding the most effective methods to grow Christmas trees is provided to tree growers. Currently, NCTA is also in the midst of a large-scale marketing campaign. The association works in conjunction with other associations and communities to provide information to the public regarding the proper care and disposal of real Christmas trees.

International Association of Allergology and Clinical Immunology. The International Association of Allergology and Clinical Immunology (IAACI) is an international association of allergists. Members of national allergy societies worldwide are members of this association. Every three years, a Congress is sponsored by this organization to promote educational cooperation in the field of allergy worldwide. A monthly newsletter and triennial directory are currently being

published by this organization.

Exhibit Designers and Producers Association. Like its name implies, the Exhibit Designers and Producers Association (EDPA) is a group of exhibit manufacturers. Member companies address common concerns in their industry through newsletters and educational meetings. They also sponsor educational seminars to students at various universities.

Other Clients. EDI's smaller clients include the Wisconsin Society of Internal Medicine (WSIM), a statewide association of practicing internists; the Association of Manpower Franchise Owners (AMFO), a national association; Professional Systems Network, Inc. (PSNI), a small association of video service companies and Kindcare, a local organization serving adults with mental retardation. These four clients account for a total of less than 15% of EDI's revenues.

Although EDI's initial idea was to manage small associations that cannot afford to operate their own executive offices, EDI now generates 75% of its income from two major clients - AAAI and NCTA. Both of these clients were small associations when they began using EDI for services. Over the years, both AAAI and NCTA have grown to a size that would make it feasible for them to function outside of the EDI umbrella. However, both associations choose to remain with EDI. The staff and management service, as well as the cost savings, is an incentive for these clients to remain.

The Problem

One of the services that EDI provides to its clients is

access to and use of EDI's computer system. The current system is a Texas Instruments Business System 900. This system was installed in early 1986 and currently supports nine terminals. All client databases are stored on this computer system. Word processing, meeting registration and all report generation for each client is done on this system.

Unfortunately, in the ever-changing world of computers, this system has become outdated. Processing time is slow, programming changes can be difficult and the Texas Instruments system is compatible with very few other hardware configurations. This system is also expensive to maintain due to high maintenance agreement costs. It would be unwise to drop these maintenance agreements since the system has recently required expensive repairs that are covered under this agreement and may require similar repairs in the future.

The rather inflexible software that runs on the current system is another problem. This software was developed by Pinnacle Technology, Inc., a firm located in Oak Brook, IL. Although this firm still exists, it no longer sells association software. Therefore, they are not continuously improving their software. In fact, Pinnacle supports this software only grudgingly and has recently replaced its own Texas Instruments hardware with a PC network.

Some of the inadequacies of the Pinnacle software include a foreign address layout problem, the lack of efficient ways to group members together, and the time-consuming way in which meeting registrations must be entered. These problems,

combined with the incompatibility of the hardware with other computer systems has led management to believe that a new system is required.

Since associations have different computer needs than other companies, the software that associations require varies from software that other industries use. An EDI management team decided that a complete computer system that meets the needs of all EDI clients must be found. Once possible software solutions were identified, the decision of which software solution to purchase was determined by a combination of software and hardware decisions.

There are seven software needs areas that have been identified by EDI management and staff. The requirements of each area are as follows:

Membership Services. The starting point of each association database is its membership record database. Basic information such as name, address, telephone number, FAX number, status and class of each member are standard requirements for almost any association. In addition, EDI clients require special options in the basic membership package. For instance, several clients, IAACI in particular, require international address capabilities. Clients may need to request members by country and also require the flexibility of address format differences for different countries. For instance, postal codes in Europe often precede the city or can even appear both before and after the city. Another option EDI's clients require is the ability to assign multiple

addresses to the same member. Also, the AAI stores information such as hospital affiliations, degrees earned and other professional associations a member may belong to in its membership record.

The ability to generate dues billings and track dues receipts from the membership database is also a necessity. Depending on the client, dues amounts may vary by type of member, member class, volume of sales or territory covered.

Of course, reports, mailing labels and word processing documents must be able to be produced according to the sort criteria necessary. Most association software packages will generate basic reports, but EDI's clients require flexibility in report format and in the information generated by each report.

Meeting Planning. One of EDI's services is meeting planning. The meetings its staff is asked to organize range in size from two or three to over fourteen thousand. Because of this, the meeting planning capabilities of the computer system is very important. One meeting in particular, the AAI's annual meeting, dictates the meeting planning software requirements of EDI clients. This meeting consists of over four hundred seminars and workshops held over a six day period. Not only does the computer's database have to track the courses that each individual has registered to attend, but the software must be able to produce tickets for each event, produce a badge for each attendee, record the number of continuing education credits assigned to each course and

individual and be able to generate lists of each registrant assigned to a particular course. If a software package can accommodate everything needed for this AAAI meeting, it will be able to accommodate any meeting requirements that other current clients may need.

Fund Raising. Since six out of eight of EDI's clients are non-profit associations, fund-raising is an integral part of their organizations. These associations often solicit funds for more than one program at a time. Therefore, the system's software requirements include the ability to track more than one type of donation simultaneously.

One client, NCTA, solicits pledges for its major fund-raising campaign. Members are then allowed to make payments throughout the year towards this pledge. During the year, invoices must be generated reminding members of their outstanding balance on this pledge. Cross-checking with the previous year's pledges is also done to determine if members that pledged last year or the year before did not pledge for the current year. Letters are then sent to determine why they did not pledge again or to ask for a pledge in the current year. The donations requirement in the software is a necessary tool to keep funds flowing into both the NCTA and AAAI organizations.

Committees/Activities. Whenever there are associations, some members will be more active in the association than others. These more active members join committees, present seminars, volunteer for many jobs and help guide the

organization's future. Because of their heavy involvement, these members are often sent more correspondence than their fellow members. Therefore, the computer system must be able to identify these people. Speakers, committee members, officers and other groups must be accessible on the computer for quick extrapolation.

The AAAI also produces a committee roster twice a year. This roster lists over sixty committees, three councils and six interest sections. Each committee has a chairperson or co-chairpersons as well as general committee members. Computer software is needed that can produce lists of these committees and their members.

Directory. Three EDI clients, AAAI, EDPA and IAACI publish membership directories. These directories list membership rosters in alphabetical and geographical order. Each directory varies in the amount of information published, with member name and address always included. The AAAI also lists such data as spouse name, schools attended, other professional societies to which a member belongs, current hospital affiliation and training programs completed. EDPA also sorts its directory membership by member type in geographical order.

Information/Referral Line. The AAAI provides a toll-free number service to the public at large. By calling this number, people can request information on all types of allergies and are sent pamphlets regarding the allergies in question as well as a list of practicing member allergists in

their area. The computer system must keep these callers in a separate database and track the type of information requested such as where the caller heard of the referral line service and the date the caller requested the information. This information can be purged from the system after approximately six months when several reports have been generated to determine what type of information is most often requested and the area of the country that the calls originate from.

Alternative Solutions

Since the decision was made that EDI required a new computer system, a search for appropriate software was made. Although the problems encountered in the current system included both hardware and software deficiencies, the search for a replacement system focussed on the software. This was done because software is the vital component in a new computer system. All literature on this subject stresses that the software for a given application should be found first. An incorrect software decision could make a company's computer hardware little more than a conversation piece (Blumenthal, 1982).

There are two ways that EDI could acquire new association management software. One option would be to use customized software. This would involve hiring an individual or a software firm to develop a total software solution from the beginning. One of the major drawbacks of customized software is that the finished software product has not been tested in any real business situation. This is also the most expensive

way to acquire a new software package. An advantage of purchasing this customized software is that every feature and capability desired could be included in the software since the user, or buyer, can have the programmer or programming company put anything into the package as long as the buyer is willing to pay for the programming time.

The second way that EDI could acquire new software would be to purchase an existing association management software package. There are a number of such packages available. The advantages of purchasing such a package include experience in a business setting and cost savings. These packages can often also be modified to meet the needs of the user. Industry analysts suggest that packaged systems be purchased whenever possible in order to take advantage of the savings and experience offered. In fact, most associations purchase such software packages rather than having software developed specifically for them. Many vendors sell a basic system package with the intention of making modifications at an additional cost (Head, 1971). For these reasons, EDI should purchase an existing association management package if a suitable package can be found.

Hardware necessary to run the software must also be considered. If the hardware is becoming obsolete or is incompatible with other hardware configurations, the software/hardware configuration may not be the best solution. If the hardware must be used for other applications as well, the availability of other software applications should also be

considered. The initial expense of the hardware as well as the future expense of upgrading or expanding the hardware configuration in the future if necessary is also important.

Two methods were used to identify potential existing association management software packages. First, a list of vendors identified by the American Society of Association Executives (ASAE) was consulted. Next, major hardware manufacturers and associated businesses were asked to produce any association management software packages that ran on their hardware platform. All of the vendor software package information was then analyzed until four packages that best suited EDI's needs, as well as EDI's budget, were identified.

The four software packages identified are all basic packages that can be modified to suit EDI's needs if necessary. The costs of each of the four systems are approximately the same. Since each software package runs on a different hardware platform, the costs of the hardware were analyzed on the basis of the software developers' recommendations. However, the importance of a satisfactory and effective computer system cannot be emphasized enough. The system purchased must be able to accomplish the tasks required. Therefore, insignificant cost savings on hardware and software should not unduly influence the decision.

When analyzing the following packages, the software itself as well as the hardware configuration, vendor support and other related factors were considered.

Alternative One

The first software solution that EDI is considering was developed by Smith, Abbott and Company, Inc., a software firm based in Washington, D.C. This system, named the Association Management System (AMS), runs on several hardware platforms, but the platform that EDI is considering for this software configuration is a PC-based local area network (LAN). The AMS uses a central data base that allows for flexible input and output. This flexibility is achieved by having the user initially define all fields. The basic premise of this system remains the membership record data base. All other functions of the software are connected to this data base.

Because all of the functions of the AMS software connect to the membership record, examination of the membership record should be done first. AMS's membership management system includes member record maintenance, committee participation, the dues billing information and report and mailing label generation capabilities. The member record format design can be created in any way necessary. All fields and general reports are designed by the user, in this case, EDI.

The dues billing portion of AMS uses a dues table to identify the dues amounts each member should pay. The dues statements are then formatted through a word processing document and sent to members when required. Contributions to various voluntary funds are also handled in this portion of the program.

Committee tracking and history is recorded in a separate

module. Data on committee members can be sorted by committee or by individual group. Committee rosters are generated from this area.

The events and conference management module of AMS also incorporates continuing education credits and hotel management. Although EDI does not currently require hotel management capabilities, the continuing education option is essential. Abstract management is an added feature of this module.

As noted earlier, the AMS package runs on two different hardware platforms. These platforms are a Digital minicomputer and an IBM PC-based local area network. Smith Abbott contends that the costs of both of these two systems, assuming fifteen work stations, would be approximately \$80,000 for both hardware and software. The costs per work station over this fifteen user number would increase at a larger cost margin per work station in the LAN system than in the Digital minicomputer system. However, EDI is interested in the LAN rather than the mini-computer because Smith Abbott is now concentrating on developing LAN software. Since EDI's current software developer, Pinnacle Technology, also made a transition from mini-computer to PCs and in the process ceased to support its mini-computer customers, EDI is wary of again purchasing the hardware of a hardware/software package that the software developer is no longer concentrating its efforts on. Therefore, if EDI would choose this AMS package, EDI would choose a LAN configuration.

As noted earlier, the AMS package runs on two different hardware platforms. These platforms are a Digital minicomputer and an IBM PC-based LAN. Smith Abbott estimated that the costs of these two systems, assuming fifteen work stations, is approximately \$80,000 each for both hardware and software. The costs per work station over this fifteen user number would increase at a larger cost margin per work station in the LAN system than in the Digital minicomputer system. However, EDI was interested in the LAN rather than the minicomputer because Smith Abbott is now concentrating on developing LAN software. Since EDI's current software developer, Pinnacle Technology, also made a transition from minicomputer to PC, EDI is wary of again purchasing the hardware of a hardware/software package that the software developer is no longer concentrating its efforts on. Therefore, if EDI would choose this AMS package, EDI would choose the LAN hardware configuration.

Table 1 on the following page summarizes how the AMS package rates in EDI's selection criteria:

Table 1
Smith Abbott
The Association Management System (AMS)
Summary of Factors Considered

Criteria	Attributes
Software	- requires little modification - flexible
Hardware	- PC LAN - compatible with IBM/IBM clone hardware
Vendor Support	- vital to installation - difficult to obtain information from vendor
Price	- approximately \$80,000 for 15 work stations

Alternative Two

Another software package that EDI is investigating is the "Software for Association Management" (SAM) by United Systems, Inc. of Middleton, WI. This software package runs on an IBM AS/400 hardware configuration. The software is designed with a relational data base so that all transactions or activities of an individual association member can be identified.

SAM's system consists of its basic system with additional modules. The basic system features membership/company affiliation tracking, multiple address capabilities, activity tracking, some user defined fields, unique member type/dues category and legislative tracking functions. As noted earlier, the relationship of individual members or prospective members to each transaction or activity is a necessity. This

software system would accommodate all clients basic needs. In addition, the legislative tracking feature could be used by NCTA for several purposes. This information would aid the NCTA committee that ensures all legislators receive a real tree at Christmas-time for their offices as well as aiding in locating the constituents of key Congressional leaders.

The report module of this basic system allows users to choose any criteria in the database in order to select records for reports. The data can then be output in a report or label format, merged with a word processing document or downloaded to a personal computer for migration into a specialized program such as a badge maker package.

The basic system's dues capability would also fulfill EDI's client requirements. Different types of members are allowed to be billed different amounts. Invoices and past dues notices can also be printed whenever necessary. Member names, addresses and account balances can also be output in a letter format.

The event management aspect of United System's SAM also meets all of EDI client needs. This module allows a given meeting to offer 999 individual sessions. In addition to generating tickets and attendance listings for each course a registrant has been assigned, SAM produces statistical reports for each event.

The optional modules of the SAM system that EDI would require include the subscription processing module, the continuing education module and the directory processing

module. All of these modules are integrated with the relational database design of SAM's basic modules. The membership screens display all subscription information such as amount paid, the quantity ordered and the length of the subscription. The continuing education module also interacts with the member's record to display and apply continuing education credits earned. The directory processing pulls information from each member record to create directories in the selected format.

Although this software package runs on the IBM system 36 and 38 platforms as well as on the AS/400 platform, EDI would want to purchase the newer AS/400 technology. The AS/400 C10 model has enough capacity for EDI. This module also allows for expansion to a C20 model for a minimal cost if EDI's data base or processing requirements expand in the near future.

The hardware/software cost of United System's SAM is approximately \$90,000. This cost includes ten terminals, the ability to incorporate EDI's existing five PCs and the cost of the software with some modifications. Future expansion costs are expected to be relatively inexpensive because the IBM AS400 mini-computer hardware can be easily expanded.

The hardware/software cost of United System's SAM is approximately \$90,000. This cost includes ten terminals, the ability to incorporate EDI's existing five PCs and the cost of the modifications to the software. Future expansion costs, however, can expect to be relatively inexpensive. This is because the hardware of the IBM AS 400 minicomputer can be

easily expanded.

Table 2 lists how the SAM package meets EDI's selection criteria:

Table 2
United Systems, Inc.
Software for Association Management (SAM)
Summary of Factors Considered

Criteria	Attributes
Software	- requires little modification - flexible
Hardware	- IBM AS/400 Minicomputer - compatible with IBM/IBM clone hardware
Vendor Support	- available from vendor and IBM - information readily attainable
Price	- approximately \$90,000 for 15 work stations

Alternative Three

A third software package, also called the "Association Management System" (AMS), written by the Software Group of Denver, CO, runs on a Digital Equipment Corp. (DEC) hardware platform. The AMS system is designed with a single file for each type of data around a single database. Cross-referencing is then used to associate the proper codes with the names and organizations of the individual. On-line "Help" options are available every step of the way. This system is built around a names module rather than a membership record. The membership module, which allows for different types of membership classes, then sits on top of the names module. Every other module in the system including the inquiry,

committee appointments, continuing education, periodical subscriptions, seminars and conventions and index module interact with connected to the names module.

One feature included in this software package that the other software packages do not have is the financial management feature. This module, combined with an accounts receivable and accounts payable module allows for a fully-integrated accounting package to run on the DEC platform. This option would enable an association to have all of its membership and accounting information to be in one database. When dues are entered as having been paid by a particular member, this information is also sent to the accounting programs. The same thing happens when a contribution is entered or a subscription order is processed.

This system already includes most of the necessary functions that EDI's clients require. Its seminar and convention module has the capacity to print tickets for each event at a particular meeting, to produce badges for each registrant and to generate lists of attendees at each session. Continuing education credits, committee participation and contributions can also be tracked. With some modifications, a directory could be produced and callers to AAI's information line could be input.

The hardware/software cost of this system is approximately \$80,000. This estimate included ten Digital terminals plus the ability to utilize EDI's existing PCs in the hardware configuration. If EDI would choose to purchase

this software package on an IBM RS6000 mini-computer, the cost of the system would be slightly over \$100,000.

The hardware/software cost of this system is approximately \$80,000. This estimate included ten Digital terminals plus the ability to utilize EDI's existing PCs in the hardware configuration. If EDI would choose to purchase this software package and put it on an IBM RS 6000 minicomputer, the cost of this system would be slightly over \$100,000.

Table 3 lists the major considerations of The Software Group's AMS package:

Table 3
The Software Group
Association Management System (AMS)
Summary of Factors Considered

Criteria	Attributes
Software	- requires modification - includes financial software
Hardware	- Digital Equipment Corp. (DEC) mini computer - compatible with IBM/IBM clone PCs with specific emulation package
Vendor Support	- available from vendor
Price	- approximately \$80,000 for 15 work stations

Alternative Four

The final software package that EDI examined was the "Association and Convention Manager" (ACM) written by Computer Business Systems of Glen Ellyn, Illinois. This package runs

on an Apple Macintosh or Apple Macintosh network. This package is of particular interest because of the ease of use of the Macintosh. In addition, this package was designed particularly for medical associations. Since three of EDI's clients are medical associations, this package may offer some features that the other packages do not.

Once again, the individual membership record is the base around which the entire system revolves. A search can be made on any piece of information in the membership record. The membership record includes the international address capabilities that EDI clients require. Dues information for each member is also recorded in this membership record. Also, from this area, reports and labels can be generated. Various format options such as reduced or enlarged type are available. There is also the capability of recording up to four addresses for each member. This program also has the fields necessary to track the additional information that AAI maintains on its members including degrees, schools, hospitals, committees, national organizations, and additional disciplines. Even the continuing education credits field appears here although it can only be updated through the convention module.

The convention record also includes the features that EDI clients deem necessary. This program allows for more than one convention to be active at one time. It tracks each session of a given convention by room number, date and time. The program even inventories rooms so that a room cannot be assigned twice during the same time slot. It also allows for

a minimum as well as a maximum number of registrants for a given session. When entering the convention information, the user can determine if a ticket should be generated for this event and the number of continuing education credits assigned to each course. Once the convention is over, continuing education certificates can be printed.

Another feature of this package is the "quick report." This feature allows the user to create a format for any report that needs to be generated. Any field in the member or convention record can be selected to appear on the report. In fact, this package even allows for graphical reports. Various forms of bar graphs, pie charts, line graphs and pictures are available. The word processing merge requirements allows for word search capabilities. EDI client directory requirements and subscription processing can be done through the quick report capabilities.

Because the ACM system software requires a Macintosh hardware platform, it is the most expensive hardware/software package considered for two reasons. First, EDI does not currently own any Macintosh hardware. Therefore, EDI's five existing IBM PCs that can be used with the ACM system. Second, the Macintosh PCs are more expensive than IBM and IBM clone PCs, which means that the hardware costs alone of a fifteen work station system would be \$90,000. When the software costs are added to the hardware costs, the total cost of this solution would be over \$110,000.

How well the AMC system meets EDI client requirements is

presented in Table 4:

Table 4
Computer Business Systems
Association and Convention Manager
Summary of Factors Considered

Criteria	Attributes
Software	- requires more modification - includes graphing and special word processing options
Hardware	- Macintosh LAN - not compatible with most computer systems used by related organizations
Vendor Support	- available from vendor
Price	- approximately \$110,000 for 15 work stations

DECISION AND RECOMMENDATION

When deciding which computer system to purchase, three basic elements of a total solution were considered. They are software, hardware, vendor support and price.

Software Considerations

As mentioned previously, the effectiveness of the new computer system's software is the vital component in this purchase decision. While none of the four packages considered includes everything that EDI's computer users require, all of them can be modified by their software vendors for a fee. The possibility of EDI clients changing current procedures to adopt a new system was also considered.

Appendices A through F provide a checklist of EDI's software requirements compared to the existing capabilities of each software package. This comparison indicates that the

Smith Abbott package already has most of the capabilities that EDI requires. The United Systems package, although second to Smith Abbott, also has most of the capabilities that EDI requires. The Software Group package includes customized financial software that the other packages do not. This package would allow more integration to accounting. However, it falls behind both the Smith Abbott and United Systems packages when it comes to fulfilling the necessary requirements of a software package. Similarly, the Computer Business Systems package has many features that the other packages do not. They include graphic options, user-friendly mouse capabilities and a "wild card" search option in the report-writing function. But, once again, this package does not have as many of the necessary capabilities as the other packages.

Hardware Considerations

The hardware decision process comes only after it has been determined that all software packages fit the needs of EDI clients with some modifications. The next component that EDI must consider when purchasing a new system is the hardware. Each of the packages considered runs on a different hardware platform. The Smith Abbott software runs on an IBM/IBM clone PC local area network (LAN), United Systems' software runs on an IBM mini-computer, The Software Group's package runs on a Digital mini-computer and Computer Business Systems' software runs on a Macintosh-based PC LAN. In short, two of the software packages run on mini-computers and two of

the packages run on PC networks.

A short comparison of minicomputers and a PC-based LAN is in order. Since EDI will probably install fifteen to twenty work stations, the initial hardware costs between most LANS and minicomputers are approximately the same. However, some of the hidden costs for LANs are higher. For instance, most experts agree that a LAN will probably "go down" at least once a year. Therefore, back-up systems and disaster plans must be implemented. In addition, a LAN manager must be more technically oriented than a minicomputer manager and generally commands a substantially higher salary. The training involved for this manager to operate a LAN is also more intense and extensive than the training that would be involved for our current Texas Instruments minicomputer manager to become familiar with another minicomputer system. Since EDI intends to retain its current staff, a LAN purchase decision would be more costly.

Another consideration when making a hardware decision is the compatibility a new system would have with other systems. The non-compatibility that EDI's current Texas Instruments computer system has with other organizations' computer systems is a problem that cannot be duplicated with a new system. Smith Abbott's software runs on an IBM/IBM clone PC network. This hardware would be compatible with any IBM/IBM clone network or any minicomputer that had the capability to download to an IBM/IBM clone PC format. United Systems' software runs on an IBM minicomputer. This system is

compatible with other IBM minicomputers and also has the capability to communicate with IBM/IBM clone PCs. The Software Group's software runs on a Digital minicomputer. The Digital minicomputer can communicate with other Digital equipment, but it could not communicate with EDI's existing PCs when The Software Group staff wanted to demonstrate its software via modem to EDI. Computer Business Systems' software runs on a Macintosh hardware platform. This means that this hardware is currently easily compatible only with other Apple/Macintosh hardware configurations.

Vendor Support Considerations

EDI's third consideration in choosing a new computer system is vendor support. Most of EDI's staff is not formally trained in computer operation. There is one programmer on staff, but his emphasis is on programming rather than on hardware or operating system problems. Therefore, the availability of vendor support is necessary in any computer system purchased.

Smith Abbott's informational literature stresses the importance of choosing the correct software vendor. This literature suggests that a company:

- look for vendors with a strategic direction that will meet ... requirements both today and tomorrow;
- look for vendors with an established association customer base;
- look for vendors with a stable financial track

record. (p. 3).

Unfortunately, Smith Abbott does not consider timely contact with its potential customers as a necessary trait for a software vendor to have. One and a half months after a written request for specific pricing information was submitted, the salesman from Smith Abbott contacted EDI. EDI staff had already been given a demonstration of the product and was extremely interested in the package. Unfortunately, the Smith Abbott sales force was difficult to contact. Both telephone and written requests were left unanswered. This experience leads this potential customer to wonder whether or not Smith Abbott's service and support areas are any more responsive to customer needs. Since this package runs on a network environment, service would be a very important component of this new computer package.

United Systems' package has software support service provided by the software vendor and hardware support service provided by IBM. United Systems is located in Middleton, WI. Also, they currently have a number of customers that they service in the Milwaukee area. The IBM hardware needed to operate this software package has an internal modem that automatically contacts IBM's service department when a problem occurs. The service department either corrects the problems via modem from their office or makes a service call within twenty-four hours.

The Software Group's hardware support service would be through Digital Equipment Corp. The software support would be

via modem with The Software Group's staff in Denver, CO. Both the sales and support staff at The Software Group answered any questions about their system in a timely fashion.

Since the Computer Business Systems' software runs on a Macintosh PC LAN, the wisest choice for hardware support would be North Shore Computers, located in Glendale, WI. This company responded quickly to any hardware configuration question and, in fact, located the software package written by Computer Business Systems. Software support, of course, would be through Computer Business Systems via modem. Both organizations have a good history of providing information and support.

Recommendation

Although all four computer solutions considered would be able to fulfill EDI's computer needs, only one can be selected. This complete computer system package was decided upon by process of elimination.

The "Association and Convention Manager" system by Computer Business Systems was eliminated first for two reasons. First, this software package would have to be modified the most to meet EDI client's needs. Second, the software runs on a Macintosh hardware platform. Although this hardware configuration is more user-friendly, most of the organizations that EDI transfers information to and receives information from have IBM/IBM clone hardware. Since a major consideration in this purchase decision is hardware compatibility with other systems, this was seen as a major

drawback to the Computer Business Systems solution.

The second computer solution eliminated was The Software Group's "Association Management System." Once again, more software modifications would have to be made to this system than to the Smith Abbott or United Systems' packages. Also, although this software runs on a minicomputer and therefore requires less technical expertise by EDI staff, it is not compatible with other organizations' computer hardware systems. This was demonstrated when the service staff at The Software Group could not demonstrate their software via modem to EDI staff unless EDI invested in a hardware emulation package. This would require that any organization that wished to communicate with EDI's computer would have to purchase the same emulation package.

The third computer solution eliminated was Smith Abbott's "Association Management Software." Although this system's software without modifications was the closest to EDI client's needs, the hardware and vendor support considerations made it necessary to choose another solution. As noted previously, this software package runs on an IBM/IBM clone LAN. Since this hardware configuration requires a great deal of technical expertise to properly operate, EDI would have to offer intense training to its existing staff, hire new staff with more expertise or rely heavily on vendor support. Training its current staff or hiring new staff are both feasible solutions. However, LAN experts frequently change jobs and this could cause difficulties due to the training necessary to

familiarize EDI staff to each EDI client's particular needs. Also, considering the difficulty encountered when contacting staff at Smith Abbott, it does not appear that EDI could rely heavily on the vendor for technical support. In fact, implementation of the system would probably be a lengthy process.

Therefore, it is recommended that EDI purchase United Systems' "Software for Association Management." With a few modifications, the software fulfills all of the requirements of EDI clients. The hardware is compatible with most IBM minicomputers and IBM/IBM clone PCs. Finally, the vendor support from both United Systems and IBM will allow EDI to implement this new system with its current staff. Current users of this system have been contacted and are satisfied with its performance as well.

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APPENDIX A
MEMBERSHIP SERVICES REQUIREMENTS

MEMBERSHIP SERVICES REQUIREMENTS

	Smith Abbott	United Systems	Software Group	Computer Bus Sys
Requirements:				
Name	yes	yes	yes	yes
Address (incl. int'l)	yes	yes	yes	yes
Phone # (incl. int'l)	yes	yes	yes	yes
FAX # (incl. int'l)	yes	yes	yes	yes
Status	yes	yes	yes	yes
Member Class	yes	yes	yes	yes
Multiple Address Capabilities	?	yes	yes	?
Hospital Affiliations	yes	?	?	yes
Degrees Earned	yes	?	?	yes
Other Prof Assn Affiliations	yes	?	?	yes
Dues Billing by Member Type	yes	yes	?	yes
Flexible Sorting for Reports Including:				
Alpha	yes	yes	yes	yes
Zip Code	yes	yes	yes	yes
Country Order	yes	yes	yes	yes
Voting Code	yes	?	?	?

MEMBERSHIP SERVICES REQUIREMENTS (continued)

	Smith Abbott	United Systems	Software Group	Computer Bus Sys
Requirements:				
Output Format:				
1-up Labels	yes	yes	yes	yes
4-up Labels	yes	yes	yes	yes
One-line Lists Address/Phone	yes	yes	yes	yes
Listings	yes	yes	yes	yes

APPENDIX B
MEETING PLANNING REQUIREMENTS

MEETING PLANNING REQUIREMENTS

	Smith Abbott	United Systems	Software Group	Computer Bus Sys
Requirements:				
Multiple Mtgs Allowed	yes	yes	yes	yes
Allows 500 Events/Mtg	yes	yes	?	yes
Generates Tickets	yes	yes	yes	yes
Produces Badges	no	yes	yes	yes
Education Credits Tracked	yes	yes	yes	yes
Registrant Lists	yes	yes	yes	yes
Sort Criteria Includes:				
Alpha	yes	yes	yes	yes
Zip Code	yes	yes	yes	yes
Country Order	yes	yes	yes	yes
Voting Code	yes	yes	yes	?
Report Format Includes:				
1-up Labels	yes	yes	yes	yes
4-up Labels	yes	yes	yes	yes
One-line Lists Address/Phone Listings	yes	yes	yes	yes

APPENDIX C
FUND RAISING REQUIREMENTS

FUND RAISING REQUIREMENTS

	Smith Abbott	United Systems	Software Group	Computer Bus Sys
Requirements:				
Simultaneous Activities	yes	yes	yes	yes
Records Pledges	yes	yes	no	no
Generates Invoices	yes	yes	?	no
Tracks Pledge/ Pmt Histories	yes	yes	yes	yes
Sort Criteria Includes:				
Ascending/ Descending Pmts	yes	yes	no	no
Ascending/ Descending Pldgs	yes	yes	no	no
Alpha	yes	yes	yes	yes
Zip Code	yes	yes	yes	yes
Country Order	yes	yes	yes	yes
Voting Code	yes	yes	yes	?
Report Output Format:				
1-up Labels	yes	yes	yes	yes
4-up Labels	yes	yes	yes	yes
One-line Lists Address/Phone Listing	yes	yes	yes	yes

APPENDIX D
COMMITTEE/ACTIVITY REQUIREMENTS

COMMITTEE/ACTIVITY REQUIREMENTS

	Smith Abbott	United Systems	Software Group	Computer Bus Sys
Requirements:				
Interacts with Membership File	yes	yes	yes	yes
Group Deletes	yes	yes	?	no
Generates Comm Roster	yes	yes	?	?
Process Reports by Committee	?	yes	yes	?
Process Reports by Member	?	yes	yes	?
Sort Criteria Includes:				
Alpha	yes	yes	yes	yes
Zip Code	yes	yes	yes	yes
Country Order	yes	yes	yes	yes
Voting Code	yes	?	?	?
Report Output Format:				
1-up Labels	yes	yes	yes	yes
4-up Labels	yes	yes	yes	yes
One-line Lists	yes	yes	yes	yes
Address/Phone Listing	yes	yes	yes	yes

APPENDIX E
DIRECTORY REQUIREMENTS

DIRECTORY REQUIREMENTS

Requirements:	Smith Abbott	United Systems	Software Group	Computer Bus Sys
Lists Anything in Membership Record	?	yes	yes	yes
Sorts in Alpha Order	yes	yes	?	yes
Sorts in Geographical Order	yes	yes	?	yes
Sorts by Member Type	yes	yes	yes	yes
Output Format Includes:				
Word Processing Document	yes	?	yes	?
Tape/Disk	?	?	?	?

APPENDIX F

INFORMATION/REFERRAL LINE REQUIREMENTS

INFORMATION/REFERRAL LINE REQUIREMENTS

	Smith Abbott	United Systems	Software Group	Computer Bus Sys
Requirements:				
Separate Database	yes	yes	yes	yes
Datebase Includes:				
Name	yes	yes	yes	yes
Address	yes	yes	yes	yes
Info Requested	yes	yes	yes	?
Source	yes	yes	?	?
Date of Call	yes	yes	yes	yes
Sort on Any of Above Options	yes	yes	yes	yes
Output Format Includes:				
1-up Labels	yes	yes	yes	yes
4-up Labels	yes	yes	yes	yes
One-line List Address/Phone Listing	yes	yes	yes	yes