

A PRACTICAL APPROACH TO SELECTING COMPUTER SOFTWARE

by

Daniel J. Jones and James E. McHugh

The selection of computer software can be, and often is, a long and arduous task for businesses. This process can be made much easier by using a phased step by step approach such as the one outlined in this article. Two commonly made mistakes during the selection process are (1) assuming that the problem is a "computer problem" and (2) believing the best solution will become magically apparent after discussions with several vendors of computer software. Our success in helping clients select software that is most appropriate for their organization is based upon not narrowly defining a computer problem. We define, and then solve, business problems. The focus should be primarily on the "management information" needs of the organization.

With this philosophy fundamental to our consulting practice, we have developed and redefined a practical approach to selecting software. The methodology includes the following four steps:

1. review of current operations and procedures,
2. development of new system requirements,
3. preparation of a request for proposal, and
4. vendor selection.

This phased approach to the selection process establishes a clear set of milestones for each step. Upon completion of each milestone, management is able to evaluate progress and accomplishments, and determine whether the work completed through that point remains consistent with project and corporate goals and objectives.

Although the steps specifically address software selection, one should note that the process is similar for selecting both hardware and software, or a turnkey system.

Step 1. Review of Current Operations and Procedures
(Where are you?)

The purpose of reviewing the present procedures is to develop an understanding of the existing systems, focusing on their strengths and weaknesses. During this phase, review present operating procedures, information produced, problems, and costs. Gathering sufficient information about the present operations provides a sound basis for planning and developing the new system. The means of gathering this information may include interviews, document and report gathering, and questionnaires.

Giving consideration to future steps in the selection process, identify project alternatives and any potential constraints which may impact on the decision making process.

Step 2. Development of New System Requirements
(Where do you want to go?)

Once a clear understanding has been obtained regarding

current operations, the next logical phase is the identification of detailed information requirements by functional area. This stage is the "what," not the "how," and therefore does not represent a detailed system design.

The deliverable product which summarizes work performed in Step 1 and 2 is what is known as a "Functional Analysis Report." This report should describe the following for each functional area:

- a. key features of current systems,
- b. major inputs (data files),
- c. major outputs (reports),
- d. functional evaluation of management area, and
- e. summary of major differences between current and proposed systems.

Prepare a draft of the Functional Analysis Report for distribution to the appropriate managers for review. Discussions with the management team solidifies understanding of current procedures and future requirements.

Step 3. Preparation of a Request for Proposal

Concurrently with the first two steps, begin work on preliminary research, vendor contracts, and package evaluation to assess the quality of products currently available in the marketplace which seem to fit your requirements. Readily available sources of information on software vendors include Auerbach Publishers, Data Research Corporation, ICP Directories, Data Sources, and trade surveys. Look for vendors who have developed applications which address the specific requirements of your industry.

Based on the information developed in Step 2 above, prepare a Request for Proposal and send it to identified software vendors. This Request for Proposal should describe in detail what features management requires in its system. The proposal should also specify a format in order to facilitate the comparison and evaluation of proposals.

Several pages from a representative Request for Proposal are included in this article as exhibits. Exhibit 1 is a representative table of contents. Exhibit 2 presents relevant system volumes so vendors can properly size the system in their proposals. Exhibit 3 illustrates a sample page from the Systems Features Checklist section. Note that the requirements are presented in non-technical terms. Such an approach encourages management involvement and facilitates understanding of the requirements by all parties involved. The three ratings columns (required, desired, and optional) indicate the importance of that feature to the organization. The first response column asks whether the proposed software contains that feature. For any "no" answer, the vendor is asked to provide a reference to where the proposal explains what it would cost to change the "no" to a "yes."

Without a Request for Proposal, each vendor must interview company management and staff, repeating questions already asked. If the Request for Proposal is thorough, prospective vendors'

questions to management can be greatly minimized if not completely eliminated.

Step 4 Vendor Selection

After receiving proposals from vendors, formally evaluate them in order to determine which ones merit further consideration. There are several approaches to this evaluation. At one extreme is a ranking based on criteria weightings and numerical scores. Our approach is to identify evaluation criteria, but we have found that a more qualitative approach is more useful during the initial elimination process. One should avoid spending too much time evaluating written proposals and get to the product demonstrations.

For those software products that merit further consideration, arrange for further product demonstrations, preferably at one or more of their client locations. Based on the proposal evaluations and demonstrations, select two to four finalists. Finally, check references with other customers of the finalists and make a selection.

During negotiations with vendors, one should remember that prices and the amount of vendor assistance during installation are generally negotiable. It may even be advisable to engage an attorney who is familiar with computer contracts. The final contract should include the vendor's proposal and Systems Features Checklist (Exhibit 2).

The phased step by step approach to selecting computer software outlined in this article will make the selection process easier and ensure that the software package chosen is the most appropriate one.

EXHIBIT 1

Typical Medical Association Request for Proposal Date

Table of Contents

I.	Introduction	1
II.	Description of Organization	3
III.	Current Systems Features	5
	A. Membership Management	
	B. Meetings and Conventions	
	C. General Ledger and Financial Reporting	
	D. Accounts Receivable / Cash Receipts	
	E. Accounts Payable / Cash Disbursements	
	F. Payroll	
	G. Word Processing	

IV.	Proposed Systems Features Checklist	10
	A. Membership Management	
	B. Meetings and Conventions	
	C. General Ledger and Financial Reporting	
	D. Accounts Receivable / Cash Receipts	
	E. Accounts Payable / Cash Disbursements	
	F. Payroll	
	G. Word Processing (not covered elsewhere)	
	H. General Systems Features	
V.	Hardware Requirements	26
VI.	Bidder Responsibilities	27
VII.	Proposal Format	28
	Appendix I: Index to Financial Statements	30
	Appendix II: Relevant Systems Volumes	38

EXHIBIT II

Typical Medical Association
Request For Proposal
Relevant Data Record Volumes

Master Files

# General Ledger Accounts	7,500
# Vendors	200
# Employees	30
# Members	6,000
# Exhibitors	200
# Residents	1,200
# Program Directors	150

Annual Transaction Volumes

# General Ledger Journal entry line items	5,000
# Invoices Received	4,000
# Checks Written (A/P)	2,000
# Checks Written (Payroll)	400
# Initial Dues Notices	5,000
# Second and Third Dues Notices	4,500
# Presentation Abstracts	5,500
# Meetings & Conventions Transactions	5,000

EXHIBIT III
 Typical Medical Association
 Systems Features Checklist

	Rating		Response	
	Req.	Des.	Opt.	Y/N Ref.
C. GENERAL LEDGER AND FINANCIAL REPORTING				
1. General ledger software is available through your firm for the proposed system. If not do not complete this section.		X		
2. Automated inter faces exist with the following subsystems: accounts receivable accounts payable payroll.		X X X		
3. Financial statements can be monthly or annually.	X			
4. Consolidated income statements and balance sheets may be readily produced.	X			
5. Income statements and balance sheets may be printed by fund.	X			
6. Income statements and balance sheets may be printed by activity or project.		X		
7. Income statements can compare: actual YTD to budget YTD actual MTD to budget MTD actual YTD to prior YTD actual MTD to prior MTD		X X X X		
8. Statement of changes in financial position is provided.		X		
9. Each revenue and expense master record contains 12 monthly budget fields.	X			
10. Each revenue and expense master record contains 12 monthly budget prior year fields.			X	
11. Revisions may be made to budget accounts during the year.		X		