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AUTOMATED FINANCIAL SYSTEMS

E.R.MYERS

HOW TO COMPUTERIZE A BUSINESS

GENERAL LEDGER
ACCOUNTS PAYABLE
ACCOUNTS RECEIVABLE
INVENTORY
PAYROLL
FIXED ASSETS
BUDGETING
MODELING
FINANCIAL REPORTING



Automated Financial Systems

How to Computerize a Business

E. R. Myers

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Automated Financial Systems

To Jim

Preface

The idea for this book came while the author was evaluating systems for several clients. Each client had specific needs, but the features to be considered were similar. One client had 10 digits in the chart of accounts, another had 6. Both needed to look at the general ledger chart of accounts format and consolidation techniques.

Coming from a systems background, I began to look for a pattern, a general structure for an automated financial system. The "features" section of Chapters 3 through 10 emerged first from this systematic effort. The literature searched was very general and did not establish selection criteria in sufficient detail to be used in a hands-on, how-to fashion. Most of the information contained herein came from vendor materials, case studies, and an occasional reference book. My experience in system design and computer programming, as well as in installing vendor-supplied systems, came together to produce this book.

The material is directed to those who are automating financial systems for the first time. The book will also serve the people with existing computer systems which have evolved over the years in response to specific needs, rather than as the result of a well-conceived plan. Systems which have evolved in a "fire fighting" mode frequently fail to perform as an integrated information system and hence fail to serve the needs of the overall business.

The book covers most areas which should be considered when

automating financial functions in the small to medium-sized company. The description of consolidation and reporting will help the small to medium organization which must relay its information into a larger corporate framework. It is hoped that the organization of the material and the discipline of its presentation will help the reader to appreciate the different possibilities offered by automation and to determine from there which capabilities are pertinent.

The process of automating financial systems requires participation from individuals at many levels and with different perspectives and responsibilities within the organization. Top management must have the information to run the business on a day-to-day basis and to plan for the future. The financial staff must have the tools to provide the information in a timely, accurate fashion. The production and clerical staff must have an efficient means of accomplishing their tasks and recording the data which is the raw material for management reporting. The data processing staff must provide the technical means to accommodate the requirements of the three groups described above.

A successful implementation of systems involves participation of individuals whose jobs are directly involved with those systems. The implementation of an automated general ledger need not involve the employees responsible for the production of a product. On the other hand, the installation of a production planning system should include participation from the production area. Although this book is directed to the users of financial systems, it is hoped that it will be useful to any individuals involved in automating a financial function.

Chapters 3 through 10 cover each application area separately. The application descriptions include potential benefits of the system, features to be considered, and reports which are appropriate to that particular application. Also included are information flow diagrams. The diagrams found in the General Ledger, Chapter 3, and Consolidation and Reporting, Chapter 11, provide an overview of the interrelationships of the applications. General topics which span all application areas are covered in Chapter 1, Phases of System Implementation; Chapter 2, Technical Decisions about Computers; and Chapter 12, Implementation Considerations.

Emily R. Myers

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And finally my clients and friends

ABOUT THE AUTHOR

E. R. Myers began her computer career over a decade ago when minicomputers were making computers affordable to more people. Ms. Myers has followed the trends and innovations of the industry as a programmer analyst, division manager in a computer service organization, and independent consultant. She is a member of both the National Association of Accountants and the Association for Computing Machinery. A designer of automated financial systems for a variety of industries, the author brings real-life answers to questions of automation in business. Ms. Myers founded Decision Design Research, a company which automates the computer selection process.

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Chapter 1

Phases of System Implementation

THIS CHAPTER DISCUSSES: Definition of Requirements•Producing a request for proposal (RFP)•Contents of an RFP•Vendor response•Definition of Alternatives•Custom-made versus purchased systems•Evaluation and Selection•Comparison of features•Cost comparison•System Installation and Testing•Installation plans•User participation•System in Production•Termination of test phase•Controls in place

The process of system implementation can be broken down into five phases:

1. Definition of requirements
2. Consideration of alternatives—creation of a system or purchase of one
3. Evaluation and selection
4. System installation and testing
5. System in production

This chapter is an overview of system implementation. The primary purpose of this book is to help the potential financial system user with phase 1, the definition of requirements.

The term *supporting system* refers to a financial function which

supplies entries to the general ledger. Within each supporting system there may be one or more subsystems which usually interface through the supporting system rather than feeding directly into the general ledger. Figure 1-1 illustrates the relationships of supporting systems and subsystems. The interface, or interaction, is one of the key issues in automating the processing of financial data.

DEFINITION OF REQUIREMENTS

It is imperative that requirements be meticulously defined. It is unlikely that a system will address a problem which has not been adequately defined. Definition of requirements can be done entirely by the users involved; however, it is usually helpful if some input from the data processing staff is interjected while the users formulate their requirements. The technical aspects of defining the computer requirements should be done by the data processing (DP) staff if available. If data processing staff are not available, the requirements can be defined totally from a user perspective. However, if technical

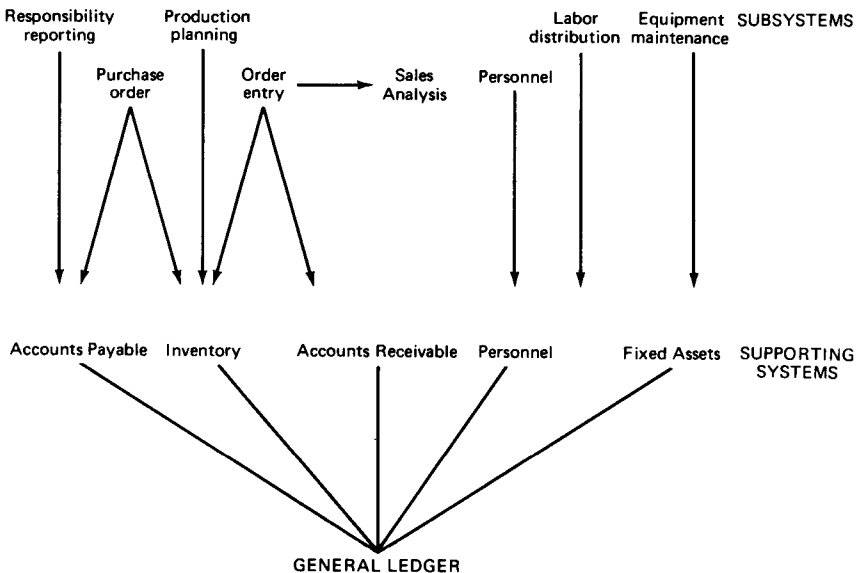


Figure 1-1 Interrelationships of supporting systems, their subsystems, and the general ledger.

evaluation is not performed initially, some technical expertise should be brought in during vendor evaluation.

Buying a computer system can be approached in the same way as buying a house. The buyer knows what is desirable in terms of cost, size, and features. It is often advisable to have an evaluation of the foundation and structure from a more technical point of view. An experienced data processing professional can usually spot major strengths and weaknesses to help the buyer make a knowledgeable decision.

For very large or specialized requirements, a consulting firm can be used to generate the definition of requirements. The output of such a study, whether done internally or externally, is called a *request for proposal (RFP)*. The RFP can then be submitted to vendors likely to have a response to the specified requirements. The RFP can also be responded to by the organization's own data processing staff. The response from within the organization will be referred to as *internal response* in contrast to an outside vendor response. The issue of internal development versus vendor purchase will be addressed later in this chapter.

In some cases computer systems are replacing already existing systems. It is important in these cases that the RFP include a description of all existing desirable functions in addition to those new features and capabilities which are required in the system being specified. It is easy to be overly impressed with a new feature. The accounts payable supervisor who is aware of discounts lost because the discounts were not automatically calculated and taken may focus on the discount issue as critical. The new system may in fact address the discount issue effectively, but it may lack powerful features to regulate the cash flow which existed in the system being replaced.

Following is an outline for a request for proposal:

1. Overview
 - a. Description of the business and its products
 - b. Objectives of the system
2. Description of the existing operation
 - a. Paper and information flow
 - b. Manual and computer systems
 - c. Physical layout
 - d. Projected changes in a through c

3. Required functions
 - a. Functional overview
 - b. Feature requirements
 - c. Reports
4. Operating requirements
 - a. Transaction volume
 - b. System users
 - c. Location(s)
 - d. Physical constraints
5. Description of vendor response
 - a. Response time frame
 - b. Contractual requirements
 - c. Format of response
 - d. Vendor financial references
 - e. References from vendors' other customers

A complete RFP will describe all the required functions in the context of the entire operation of the business. The document should stand alone. The creator of the RFP should not assume the reader knows anything about the operation of the business.

Overview

The overview should include a description of the business. This section of the RFP should minimally include the name of the company and its location, products, and sales figures if available. Any other aspects that pertain to the objectives of the system should be included here. For example, the fact that sales are expected to increase by 30 percent per year for the next 5 years should be mentioned.

The objectives of the system include all levels of management. The top management objective might be to have systems support to allow for the projected growth. The manager's objective might be to reduce the age of the outstanding receivables by 5 days as well as to accommodate the increased sales. The supervisor's objective might be to streamline operations to reduce employees' overtime. These objectives together form the complete picture of what the system should accomplish.

Description of Existing Systems

Paper and information flow should be included in the description of the existing operation. Existing manual and computerized systems

should be described. Procedural documentation and manuals should be referenced. The physical layout should be described or diagramed. Projected changes should be included in this section. If a new warehouse will be added, it should be described with the projected date of completion. If an existing computer system will be phased out, or if the new system should interface with an existing system, this should be stated here.

Required Functions

The required functions can be general or detailed as described in the two accounts payable examples to follow. The general format is less time-consuming for both the user and the responding vendor; the detailed format, more so. The general format leaves out many minute aspects of operation; therefore, its use is only successful when the users will adapt to the system functions, assuming the system complies to the users' needs on the broader issues. The general format will not work if it is used merely because the project was not clearly thought out.

The amount of detail that should be used depends partly on the personality of the user. Buying a computer can be compared to buying a car in this aspect. Given the overall objective of transportation, there are literally thousands of solutions. A car can be bought from the dealer lot, as a system would be "off the shelf." A car can be specified as to the finish and accessories and be ordered specially built from the factory just as a system can be custom-made. In either case, presumably the objective of transportation is met, but the buyer approach will reflect the need for the actual use of the car in the particular operating environment.

The amount of detail also depends on the relevance of the application to the business. An order entry system which impacts many departments as well as customers in a highly competitive business may require extensive requirements specification, whereas a fixed assets system for that same organization might be quite routine. Conversely, asset management may be the major focus in controlling costs, while order processing is handled by distributors and wholesalers and is not as sensitive as in the preceding example. Occasionally the general format is used during the preliminary selection of a vendor, thus narrowing the field, then the detailed requirements are generated to make the final selection.

If a general format is used, it is important to distill the requirements to include only the critical features. If a format of detailed

requirements is used, it is helpful to indicate the relative importance of the functions specified. The following are examples of the general and detailed approach.

Example: General Requirements Description. These are a few of the functions which might be covered in a general format:

- Multicompany accounts payable
- Multibank automated check writing
- Expense distribution to a 10-digit chart of accounts
- Automated posting to an existing general ledger

With the general approach, the user might say, "This is what I need. I require *all* these functions. Other aspects are optional."

Example: Detailed Requirements Description. The following might be considered in a detailed approach:

Multibank check writing	Required
Checks printed in ascending dollar value	Required
Format of checks with 2-inch stub	Optional
Stub on top of check	Optional
Printing of one check per vendor	Required
Stub overflow printed on separate remittance	Required

If the detailed approach is used, the user should indicate the relative value of each feature. The importance of feature valuation is that it allows for the fact that no system will have every feature desired; it permits a quantifying of each vendor's strengths and weaknesses. The indication of importance can be done in either of two formats. The feature can (1) be noted as optional or required or (2) be graded, for example, on a scale of 1 to 10 with 1 as most important and 10 as least important.

Operating Requirements

Current and projected transaction volumes are a key element in the specification of operating requirements. The system users should be described with respect to the desired amount of participation in running the system and to their level of training. The distinction *between* users and data processing professionals, as well as descriptions *within* these two categories, is pertinent in this section. Clerk, accountant, manager, vice president of finance are distinctions of

importance with respect to system utilization. The locations to be serviced by the system should be described. The placement of 10 desks in a single work area versus in 10 different rooms in the same building versus in 10 offices across the city, country, or world makes a profound difference in servicing the needs of those 10 stations. Here again, projected changes, consolidation or expansion, should be included. The availability of space and the characteristics of that space should be described. A warehouse may have fluctuating temperatures, a laboratory may be messy, a factory may be dirty.

Format of Vendor Response

Requirements for the vendor response should be laid out clearly. The time frame, to the extent known, should be stated. For example: "The response from vendors is expected by September 1, 1984. The responses will be evaluated by the end of the third quarter, 1984. The purchase decision will be made by the end of the fourth quarter. Installation is planned for the first quarter, 1985."

Contractual requirements, if any, should be specified in the RFP. If purchase or lease is preferred, this should be stated. Installation requirements with respect to vendor responsibility, terms of acceptance, payment schedule, and penalties should be included in this section. It is reasonable to propose a down payment on installation and balance due upon demonstration of successful performance. "Successful performance" as defined here might be the entry of one period's journal vouchers, or the production of a trial balance and financial statements.

If there is a specified format, its structure should be given. For large, custom applications, the user can be quite specific. The more off the shelf, or standard, the application, the more standard the vendors' response. Many vendors will just supply the standard user documentation and customer contract. This is best for the vendor. The best case for the user, and the reason for the RFP generation, is for the contract to refer to the RFP as deliverable. The contract thus becomes more oriented to the user.

References should be requested regarding the vendors' financial standing including sales and credit references. The financial stability of the company is important to ensure that the vendor has the resources to deliver the promised goods and the stability to provide postinstallation support. References from vendor customers with