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MAP 18

MANAGEMENT OF AN ACCOUNTING PRACTICE

Application of Data Processing Methods to the Management Requirements of Accounting Firms

STAFF BULLETIN
PUBLISHED BY
AMERICAN INSTITUTE
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ACCOUNTANTS 1963

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This bulletin is a publication of the staff of the American Institute of Certified Public Accountants and is not to be regarded as an official pronouncement of the Institute. It was prepared by Robert N. Sempier, CPA, manager, management of an accounting practice. The members of the committees on accounting and reporting for small business (1961-62) and management of an accounting practice assisted in an advisory capacity.

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Introduction

THE SEARCH FOR MORE efficient ways to record, classify, summarize, and report on business transactions has continued since Luca Paciolo explained the principles of double-entry bookkeeping in his mathematical treatise published in 1494. This search received new impetus during the twentieth century as a result of increasing volume and complexity of business activities as well as from increased competitive forces affecting business entities of all sizes. The development and evolution of write-it-once systems, edge-punched cards for data sorting, multiple total accounting machines, punched card tabulating equipment and computers in their basic and sophisticated forms represent milestones along the road of progress. In recent years, practitioners have grown aware of the benefits to be derived from the employment of data processing techniques in the area of financial reporting for small- and medium-sized business enterprises as well as to the informational and reporting requirements of accounting practices.

The benefits which can be derived from employing data processing techniques are the speed in processing data, especially in

performing routine operations of large volume, the relatively high degree of accuracy once information is injected into the system, and, probably one of the most important advantages, flexibility in processing and reprocessing data to produce numerous informative analyses of great value to management, which are not usually obtained under a manual system.

This bulletin outlines areas of utilization and alternative approaches for the introduction of data processing and presents, in a general way, procedures for obtaining basic information requirements as outlined in MAP Bulletins 14 and 15, which dealt with basic financial reporting, fee determination, costing and budgeting.

THE NATURE OF DATA PROCESSING

DATA PROCESSING MAY BE DEFINED as a series of planned and coordinated actions upon quantities of data designed with a view to minimizing the handling of such data and maximizing the usefulness of the information derived from such data. The procedures and devices used to achieve these results constitute a data processing system. Such a system may include various types of tabulating equipment or electronic computers.

Tabulating equipment makes use of punched cards which may be produced by mark-sensing, key punch machines or translated from punched paper tape to punched cards (or vice versa) automatically by using a piece of equipment known as a converter. In the light of the foregoing, many kinds of machines can be linked together through the common language of punched paper tape. With the ability of machines to communicate with each other, and punched cards having the ability to be machine sorted, collated, calculated, reproduced and summarized in many ways, flexibility in data processing can be achieved.

Electronic communication between the various elements of a machine system which embodies memory as well as processing components gives us the latest and most advanced stage in the evolution of data processing, the electronic computer. The computer and its associated equipment can perform all of the data

processing functions of standard office machines plus a few seemingly human functions.

Systems vary in size, complexity, speed, cost and application. But, regardless of the information to be processed or the equipment used, all data processing involves at least four basic considerations:

1. The source data or *input* entering the system.
2. The establishment of *audit trails* and *controls* over the input.
3. The orderly, planned *processing* within the system.
4. The end result or *output* from the system.

Input may consist of any type of data: commercial, scientific, statistical, etc.

Processing is carried out in a pre-established sequence of processing instructions that are followed automatically. The plan of processing is always of human origin.

The accounting firm may initially install only the input equipment which would produce media to be sent to a service bureau for final processing and tabulating. As more applications are put into effect, additional equipment can be installed to produce further flexibility and perhaps economy.

Areas of utilization

THE AVAILABILITY of data processing will facilitate the use of a more detailed chart of general ledger accounts similar to the uniform chart of accounts recommended in "Basic Financial Reporting for Accounting Firms" (MAP 14). The information contained in each journal or source document reflecting accounting activity in an office may be coded numerically as to source, nature (general ledger account) and amount. This material is then introduced into a suitable data processing program which automatically produces updated records and reports without the additional clerical time and effort normally associated with posting and balancing a general ledger and preparing financial reports. In addition to the

information contained in the uniform chart of accounts mentioned above, subsidiary accounts may be developed to provide supplementary information on partners (capital and certain expense accounts), on industries served (revenue accounts), and on controllable expense items (operating expenses, particularly in the area of supplies).

In addition to the “general ledger” and reporting operations, information may readily be processed to produce the following records:¹

1. Work in progress ledgers to include chargeable hours and standard fees by clients, indicating the individuals who performed the work and the type of service.
2. Periodic summaries of individual chargeable and nonchargeable time for partners, staff members, and clerical personnel.

Types of data processing available as an aid to accounting firms

BASICALLY, THERE are three alternative approaches to the use of data processing:

1. Neither owning or leasing any data processing equipment. Raw data, in summary form, is processed by an independent service bureau.
2. Installation of one or more types of machine language devices such as tape punch adding machines, mark-sensing or key punches, which provide information in a form to be processed by independent service organizations.
3. Installation of a complete system which may employ as few as three basic pieces of equipment.

¹ See also page 21.

1. *Punched tape equipment.* Generally, the more spectacular units of data processing equipment are not available to businesses of small and medium size because the cost is prohibitive in relation to the potential benefits. However, the punched tape adding machine presents to accounting firms an economical way to translate basic accounting data into the mystic language which can be read and processed by high speed tabulating equipment and computers. Many accounting firms have already installed in their offices one or more adding machines which also produce punched paper tape in order to meet the accounting and reporting needs of small business clients. Having done this, it is but a small step to adapt the system to their own internal informational requirements. As a practical matter it is probably desirable to first use such equipment for internal purposes in order to gain experience as well as to eliminate any deficiencies in the system prior to using such equipment for client purposes.

Before actually making an investment in tape punching equipment, it should be noted that some service bureaus will permit trial applications by working from visible tapes produced on conventional adding machines. By using duplicating adding machine tape a copy can be retained by the firm. Of course, it is necessary to make arrangements in advance, and to follow implicitly the coding instructions issued by the service center.

Tape-punching adding machines are available from several manufacturers and range in price from approximately \$1,800 to \$2,500. They may also be obtained under rental contracts. A typical monthly rental charge is 3½ per cent of the purchase price. The ultimate selection of a machine should be based upon the following considerations:

- a. Speed and ease of input.
- b. Preference for ten key or full keyboard.
- c. Problems resulting from noise from the punching mechanism. Some models permit this part of the unit to be physically separated from the adding machine and located in a desk drawer or adjoining room.

- d. Availability of servicing.
- e. Portability. This is important if the firm is contemplating using the equipment for servicing clients, especially if the clients object to surrendering frequently used records long enough for punching to be completed in the accountant's office.

2. *Punched card equipment and computers.* The installation, however small, of a complete data processing system is a step to be taken with the greatest of care. Although there are accounting firms with electronic computers, these installations have been made for the primary purpose of servicing clients and not for internal evaluation purposes. Inasmuch as this bulletin is concerned primarily with practice management, discussion will be limited to punched card equipment which, from a cost standpoint, is far more within the realm of practicability. For example, in the experience of one medium-sized local firm, a small, self-contained installation of punched card data processing equipment cost upwards of \$700 a month; including equipment rental, operator salary and operating supplies and expenses. The equipment consisted of only three units:

- a. Key punch—with summary punch, printing, and other special features.
- b. Sorter—with a special card matching device used in merging decks of cards.
- c. Tabulator—to accumulate information and print reports.

The primary consideration involved in determining whether or not to undertake an installation will, of course, be economics. Secondary, but nonetheless pertinent factors, will include flexibility as compared with standard service bureau programs, convenience and speed of report preparation, and new areas of service to clients.

It is possible to use a special pencil on a punched card (mark-sensing) so that the markings can be read by a special machine which will punch the corresponding pattern of holes. Although it is difficult to avoid errors in marking under this method, it might

be useful for testing the system before equipment is selected.

Once the decision is made to convert to a punched card data processing system, generally a period of from six months to a year will elapse before the system is actually in operation. During this time it will be necessary to appoint a person or persons to analyze present procedures and formulate detail programs for conversion of such procedures to punched card data processing operations.

Peculiar to the conversion period is the preparation of the account, personnel, client, transaction and document codes and the master index or data files for the first time (i.e., a file of semi-permanent information). The procedures should provide for updating master files as a part of the processing routine, but the initial preparation of a master file is usually a special procedure that will not be repeated.

3. *Service bureaus.* Service bureaus are generally independent businesses which accept information in various forms from clients for processing through punched card equipment or computers. They are now located in almost every medium-sized city and in many smaller towns. The practitioner should have little difficulty in locating those which serve his area, since the service bureaus generally make themselves known by direct mail advertising, by personal contact with accountants and in other ways. Practitioners who have used, or who are currently using, service bureau facilities should prove to be a valuable source of information for the firm contemplating use of such facilities.

The service bureau may be expected to render some or all of the following services:

- a. Literature and instructions on operating procedures. At least one of the largest bureaus prepares an elaborate manual which is available to users and nonusers on a subscription basis. Generally, the smaller bureaus with more localized clientele have been slow to develop suitable instructions but are willing to work with accountants in explaining their procedures and solving mutual problems in preparation of printed or punched tapes and in system development.

- b. Sample statements and reports. Even the smallest service bureau should be able to provide some samples of their work and discuss the flexibility permitted by their equipment in meeting the needs of the accountant.
- c. Standard procedures for various types of financial statements and reports. Only the largest service bureaus have gone very far in this direction, so the accountant must decide whether the bureau which he is considering will probably be able to produce statements and reports of sufficient complexity to meet the needs of his own office and his clients.
- d. System service. Any service bureau, large or small, should be able to offer advice on procedure development as needed in setting up unusual applications. Some charges may be incurred for extensive systems service.
- e. The equipment used by some service bureaus permits use of a redundant or check digit as part of each account number minimizing the possibility of accidental use of an improper account number. Because information fed into any machine accounting system is likely to be used and reused many times and because the correction of errors is sometimes difficult and frequently costly, it is highly desirable to avoid the introduction of accidental errors into the records. This equipment, if available, will practically eliminate the possibility of transposing digits or using nonexistent account numbers. Incidentally, all data fed into the system is trial balanced by the punch tape adding machine at the time of punching so that balancing errors almost never occur.
- f. Billing rates. These vary widely and may be expected to include some or all of the following:
 - (1) The service bureau may have an initial wiring and job set-up charge for anyone using their facilities. This charge is not repeated and may range from \$5 to \$25.
 - (2) Fixed charge for each report period (varies according to amount of machine time, labor and overhead).

- (3) Charge for each descriptive item requiring words to be printed on financial statements, including captions and account titles.
- (4) Charge for each balance carried forward in an account from the close of the previous period including balances of zero.
- (5) A charge varying from 1½ to 7 cents per transaction during the current period.
- (6) Miscellaneous charges for correcting errors, making changes in the chart of accounts, providing extra copies of ledgers and statements, filing cards for subsequent reruns and supplemental statements, etc.

It is important to consider all of the various elements included in the rate structure of the service bureau and to prepare cost estimates applicable to the type of work which is expected to be run. These cost estimates should be compared with the cost to manually produce this information as one test of ascertaining the feasibility of using a service bureau.

Of course, it is not essential that an accounting office use only one service bureau as it may develop that one bureau, because of experience, available equipment or other factors, is better qualified to run certain types of work rather than others. In making a final selection it is important for the accountant to have every confidence that the personnel of the service bureau will have the integrity to protect the confidential nature of his information. As a rule, numbers or initials are used as a means of identification. Nevertheless, it is quite possible, particularly in using a local service bureau, that identification could be made from the nature of the information supplied. However, there are great advantages in using a local bureau as they provide an opportunity of correcting errors promptly and conveniently and greatly increase the speed of the service.

Maintaining the records of the accounting firm

1. *General ledger and financial statements.* In accordance with the system developed by the firm, or the service bureau selected for processing data, source documents (invoices for services rendered to clients, disbursement checks, cash receipt or deposit tickets, purchase vouchers, etc.) or summarizations thereof (billing registers, cash receipts journals, payroll journals, etc.) must be coded and converted to machine language. Coding will generally include the following, numerically designated:

- a. Date or period involved.
- b. Type of transaction.
- c. Reference to source of data.
- d. General ledger account affected.
- e. Subsidiary ledger account affected, if any.

Although at first glance the coding may appear cumbersome, upon further consideration it will appear evident that everything contained therein represents a routine trail or thought process involved in any posting operation. It should be kept in mind that all of the thinking must be completed before the information is processed by machines.

When all of the accounting data with respect to a particular period of time is converted to machine language as outlined above, and merged with balance forward information as of the beginning of a period, routine data processing steps will automatically produce, without further clerical effort, of any significance, a current general ledger and standard financial statements.

2. *Unbilled receivables.* The only problem of any scope encountered in preparing interim financial statements for an accounting practice is the valuation to be placed on unbilled receivables. If records are maintained in hours only, a factor representing average revenue per hour derived from chargeable time may be applied to

Figure I—Client Ledger Sheet

DATE		DESCRIPTION	ACCOUNTING		TYPING	AMOUNT	TOTAL ACCOUNTING AND TYPING	EXPENSE	BALANCE							
MO.	DAY		HOURS	AMOUNT												
IND.	SUPER.		HOURS	AMOUNT												
CARTER INDUSTRIES, INC.																
07	31	2	216	75	1	995	75	2	005	75	16	32	2	022	07	
08	15	2	11	00		110	00									
08	15	2	62	00		496	00					3	75			
08	15	2	83	00		664	00									
08	15	2														
08	15	2	372	75	3	265	75					10	00			
08	15	2										30	07	3	320	82

unbilled hours. On the other hand, if records are available which show unbilled receivables at standard rates, a factor representing average percentage of standard realized may be applied. In either case, revenue may be accrued at the end of any interim period and reversed at the beginning of the subsequent period.

Pages 43 and 44 of MAP 15, "Fee Determination, Costing and Budgeting for Accounting Firms," contain a concise description of the procedures followed and the alternative methods of punched card data processing available for the preparation of time and expense accumulations. Generally, the presentation used in reporting this information will be one of the following:

- a. A detailed listing and tabulation by client of all time and expenses accumulated since the date of the latest final billing. This approach requires high speed processing and printing equipment.
- b. A listing by client of the balance forward as of the last time posting date, the detailed activity during the period, and the accumulated balances to date.

The latter approach is illustrated in the client ledger sheet (Figure I, page 18) and requires, in this example, the following basic information for record and report preparation:

- a. Master deck containing one or more cards for each client into which the following information has been punched:
 - (1) Name.
 - (2) Industry code and tax status (corporation, partnership, etc.).
 - (3) Person or persons in charge.
 - (4) Month in which fiscal year ends.
 - (5) Office (multiple office firms).
 - (6) Client identification number (contract number or alphanumeric code number for ease of reporting and reference).

- (7) Work code (type of service rendered; a separate accounting is prepared for each of such services).
- b. Balance forward deck containing items (2), (5), (6), and (7), above, plus accumulations of hours and amounts through the last posting date.
- c. Current activity deck containing for each transaction the following data:
 - (1) Closing date of period and office.
 - (2) Name and/or number of partner or employee, or description of expense.
 - (3) Standard hourly rate, if applicable.
 - (4) Client number and work code.
 - (5) Total hours and, if necessary, precomputed amounts at standard.
 - (6) Amounts in the case of recoverable expenses.

The procedures employed by the firm preparing reports as illustrated in Figure I comprise the following:

- a. Key punch activity deck from time and expense reports and other charge media, and verify coding.
- b. Prepare machine listing of these cards and total activity and prove to predetermined controls; chargeable hours and recoverable expenses are summarized by adding machine before the key punching operation is commenced.
- c. Sort chargeable hour cards by rates and quantities of time, merge with precomputed rate deck, and intersperse gang punch precomputed standard amounts. The installation is not sufficiently large to justify the rental of a calculating punch (over \$200 a month). The procedure employed is considerably faster and more accurate than manually extending standard rates.

- d. Merge master deck, balance forward deck and current activity and print the detailed report or reports as outlined above for each client, and summary punch a new balance forward deck.
- e. Prepare listings, by persons in charge, of accumulated unbilled receivables by client.

Each report produced in step d above is prepared in duplicate. The original is filed by client in the bookkeeping department in a permanent folder which contains the engagement and related memos, and the duplicate is for use by supervisors in controlling progress, noting problem areas, preparing billing memoranda (Figure II, page 22), and reporting to the managing partner. A copy of the summary report, prepared in step e, is placed in the hands of the managing partner at the conclusion of each posting operation for review and expediting billing.

The information contained in the unbilled receivables described above is such as to facilitate preparation of the following reports:

- a. Listings by supervisor, by months in which fiscal years of clients end, of clients to be serviced. This information is particularly helpful in work scheduling and manpower projections.
- b. Listings of clients by industry groups for promotion of specialized management, tax, or government reporting services.
- c. Listings of clients by tax status for contact and/or circularization in connection with new or impending tax legislation and regulations.

In addition, further analysis and summarization of this data can provide assistance in the analysis and evaluation of earnings by supervisor, industry group, and by types of services rendered.²

3. *Partner and employee performance.* Although any number of elaborate programs may be devised to report on the nature of total compensation hours, the simplest by far appears to be a "general

² See also page 11.

Figure II

Instructions for Billing or Correcting Work in Progress

To: Bookkeeping Dept. From: _____
 _____ Office: _____ Date: _____

Client Name: _____	# _____	(Basic ID)
Description (for additional space use reverse side):	Invoice Total	\$ _____
	Write Off:	Work Code
	_____	Standard*
	_____	_____
	_____	_____
	_____	_____
Total standard		_____

Instructions re work in progress folders:

- Retain in active file, work code (s): _____
- Transfer to inactive file, work code (s): _____
- Terminate file, work code (s): _____

* Also enter details below except where complete account is to be written off. Details of complete write-offs will be recorded below and proved by bookkeeping department.

Comments: _____

<input type="checkbox"/> Transfer; <input type="checkbox"/> Write off; <input type="checkbox"/> Adjust		Accounting		Typing		Expense
Name	Number	Hrs.	Amount	Hrs.	Amount	
From	Cr.					
To						
From	Cr.					
To						
From	Cr.					
To						
From	Cr.					
To						
From	Cr.					
To						
Totals (prove to standard above.)						

Approved: _____ Date: _____ IBM: _____

ledger” type of summarization in which each individual is represented by an account number, and hours rather than dollars are accumulated in a series of subsidiary accounts representing chargeable and various categories of nonchargeable time. Reports on the order of the illustration shown below are readily obtainable.

<u>Date</u>	<u>Description</u>	<u>Account</u> <u>G/L Sub</u>	<u>Total Hours</u>	
			<u>Current</u>	<u>Year to Date</u>
08 31 2	Tolworth M. V.	801 00		
08 31 2	Chargeable	801 01	126 50	285 50
08 31 2	Nonchargeable	801 02	00	00
08 31 2	Vac. Hol. Ill.	801 03	40 00	48 00
08 31 2	Time Off	801 04	4 00	4 00
08 31 2	Administration	801 05	00	00
08 31 2	Prof. Activities	801 06	2 00	3 00
08 31 2	Staff Training	801 07	8 00	8 00
08 31 2	Unassigned	801 08	3 50	11 50
08 31 2		801 99	184 00*	360 00*

If all of the details from individual time records are treated as debits to asset accounts, the “time ledger” may be made self-balancing with a series of credit accounts representing the total compensation hours of individuals by status within the firm as shown below:

<u>Date</u>	<u>Description</u>	<u>Account</u> <u>G/L Sub</u>	<u>Total Hours</u>	
			<u>Current</u>	<u>Year to Date</u>
08 31 2	Partners Total Hrs.	991	368 00CR	720 00CR
08 31 2	Supervisors Total Hrs.	992	736 00CR	1440 00CR
08 31 2	Staff	993	3680 00CR	7200 00CR
08 31 2	Clerical	994	552 00CR*	1080 00CR*

4. *Accounts receivable and payroll records.* Where the volume will justify the cost, equipment manufacturers and numerous service organizations have readily available complete, simplified, standard systems for processing the accounting records required for either or both of these items.

CASE STUDY A

IT IS THE OPINION of this small three-man partnership located in a large midwestern city that the most important elements in the financial statements of an accounting firm are the breakdown of costs into functional categories and recognition of a value for time devoted to the business.

In adopting the functional approach three primary categories have been selected—direct (“400” account numbers), administrative (“500” account numbers), and promotional (“600” account numbers).

The direct function includes all time charges and costs of services rendered to clients which can be specifically allocated to particular accounts, except for nominal amounts where the costs of record-keeping would outweigh the advantages of assigning them to the cost of services rendered category.

The administrative function embodies the time charges and other costs expended in the management aspects of the practice.

Promotion includes the time charges and costs related to the acquisition of new business and increasing services rendered to existing clients.

Embodied in the chart of accounts of the firm are three expense classifications which represent charges not directly apportioned to

the three primary functions. However, these remaining expense classifications may be reallocated according to the following basis:

1. *Staff overhead* ("700" account numbers). Includes time of staff for vacations, holidays, payroll taxes, employee insurance programs, interviewing prospective staff members, and staff training time. On a reallocable basis staff overhead is distributed to the primary functions on the basis of time, where appropriate, and the remainder on the basis of value to the three primary functions.
2. *Office expenses* ("800" account numbers). Distinguished from administrative expenses in that they include only the cost of maintenance of the physical facilities, supplies, etc. No time charges are reflected in this expense classification. Reallocation to primary functions is made on the basis of value.
3. *Automobile expenses* ("900" account numbers). If deemed worthy of the effort, this expense may be apportioned to the primary functions based upon the estimated or recorded use of the automobile; otherwise it is allocated to the cost of services rendered function.

The use of the functional approach in the financial statements is illustrated in Exhibit A, "Summary Statement of Earnings and Comparison with Objective," page 26.

The firm feels that a dollar value for every hour of time devoted to the accounting practice should be recognized in the chart of accounts as it gives a truer picture of the results of operations than merely the recognition of salaries. Accordingly, unless this factor is taken into consideration, it is entirely possible for a firm to be misled into thinking it is earning a profit when in fact it is not. Exhibit B, "Statement of Partners Capital Accounts," page 28, illustrates the use of credits, time and otherwise on which the firm's chart of accounts (Exhibit C, page 30) is based.

The firm has employed the data processing services of a service bureau for its own internal record-keeping for several years. After thoroughly investigating the various methods available for main-

taining their firm's records on an automated basis, it was decided that for its particular operation it would be advantageous to utilize the facilities of a service bureau. Some of the principal reasons for employing a service bureau which were considered are as follows:

1. Cost savings could be achieved by having a service bureau produce a general ledger and the accompanying financial statements for the firm at an approximate cost of \$50 per

Exhibit A

Summary Statement of Earnings and Comparison with Objective Month of July 1962 and Seven Months to July 31, 1962

	Current Month		Objective	Year to Date	
	Amount	% of Gross Fees	% of Gross Fees	Amount	% of Gross Fees
Gross Charges	\$8,500	130	125	\$74,503	124
Reduction for Nonchargeable Time	1,950	30	25	14,193	24
Gross Fees	<u>6,550</u>	<u>100</u>	<u>100</u>	<u>60,310</u>	<u>100</u>
Provision for Uncollectible Charges	153	2	10	3,662	6
Net Fees	<u>6,397</u>	<u>98</u>	<u>90</u>	<u>56,648</u>	<u>94</u>
Cost of Services Rendered	3,392	52	53	31,433	52
Gross Profit	<u>3,005</u>	<u>46</u>	<u>37</u>	<u>25,215</u>	<u>42</u>
Indirect Expense:					
Administrative Expense	594	9	8	5,409	9
Promotional and Civic Expense	288	4	7	2,521	4
Staff and Professional Expense	429	7	6	3,208	5
Office Expense	556	9	9	5,022	9
Automobile Expense			2		
Total	<u>\$1,867</u>	<u>29</u>	<u>32</u>	<u>\$16,160</u>	<u>27</u>
Undistributed Profit	<u>\$1,138</u>	<u>17</u>	<u>5</u>	<u>\$ 9,055</u>	<u>15</u>

month, as compared to obtaining the same information under a manual system for \$100 per month.

2. It would not be necessary for the firm to purchase or lease any data processing equipment.
3. Reduction of time on the part of the managing partner in fulfilling the “accounting” function of his administrative responsibilities (it now takes approximately three to four hours to assemble the data for submission to the service bureau).
4. Data processing has the facility for handling large amounts of ledger detail efficiently, especially from the point of view of accumulating and collating such data. (Recognition of the functional approach and a value for time gave rise to an increased amount of volume).
5. The facility with which the firm could go from the cash to the accrual basis of accounting. It is entirely possible to maintain two ledgers, one on cash, and the other on a time accrual basis. This facilitates the preparation of records which will serve for tax purposes, as well as for management and analytic purposes.
6. The ease with which a service bureau can produce financial statements from the firm designed chart of accounts as well as the chart of accounts recommended in MAP 14, “Basic Financial Reporting for Accounting Firms.” Punching both firm and MAP 14-recommended account numbers on the punched card can be done easily and with little additional cost. This provides the firm with an opportunity of comparing their financial data with statistics published by the Institute, (e.g., MAP 14A, “Income and Expenses of Accounting Firms”) on various financial aspects of operating an accounting practice, as well as satisfying their own firm’s management requirements.
7. It is necessary for the firm to supply the service bureau only with the coding based on the firm’s chart of account number,

Exhibit B

Statement of Partners Capital Accounts Month of July 1963 and Seven Months to July 31, 1963

	<i>Current</i>	<i>Year to Date</i>
Time Credits	761.40—	8,207.00—
Interest Credits	46.82—	241.93—
Promotional Credits	227.28—	1,404.48—
Total Credits	1,035.50—*	9,853.41—*
Drawings	1,200.00	9,400.00
Beginning Capital and Additions		5,000.00—
Balance	164.50 *	5,453.41—*
Time Credits	766.80—	6,257.20—
Interest Credits	19.16—	105.31—
Promotional Credits	4.80—	27.80—
Total Credits	790.76—*	6,390.31—*
Drawings	800.00	6,100.00
Beginning Capital and Additions		2,000.00—
Balance	9.24 *	2,290.31—*
Time Credits	729.20—	6,250.80—
Interest Credits	24.87—	126.42—
Promotional Credits	14.20—	175.13—
Total Credits	768.27—*	6,552.35—*
Drawings	800.00	6,100.00
Beginning Capital and Additions		2,500.00—
Balance	31.73 *	2,952.35—*
Undistributed P and L	1,138.62—*	9,054.98—*
Total Capital	933.15—*	19,751.05—*

as cash and accrual differentiations and AICPA comparisons are all programed in advance.

In view of the fact that the accounting firm neither owns nor leases any data processing equipment, it is necessary to submit information to the service bureau in the following forms:

1. *Time sheets.* Summarized monthly from which a journal entry is prepared and submitted to the service bureau. The detail information from the time sheets is posted manually to a "client's status report." The client status report contains information, by individual client, dealing with year to date charges, monthly charges, write-ups or write-downs, unbilled receivables, billings paid and billings unpaid.
2. *Cash receipts.* Summarized in journal entry form and submitted to the service bureau for further processing. The detail information from the cash receipts journal is posted manually to the "client's status report."
3. *Cash disbursements.* A copy of a voucher check (Exhibit D, page 35) containing sufficient space for indicating the account—including payroll details, to be affected as a result of the expenditure is sent to the service bureau for processing.
4. *Payroll data.* Earnings records are maintained mechanically by the service bureau from information contained on the stub of the voucher check (see Exhibit D).

The firm expects to continue and expand upon their data processing activities, and plans are being formulated for the preparation of the following additional data by the service bureau:

1. Client ledger.
2. Work in process.
3. Application of funds statement.
4. Comparison of budget and actual results.
5. Expense account information by partner and employee.

Exhibit C
Chart of Accounts
(as machine printed)

<u>Account Description</u>	<u>Col. 1*</u>	<u>Col. 2*</u>
Assets		
Cash—Bank	1	100
Bank Cash—A/P Contra	8	100
Petty Cash	9	109
Notes Receivable	10	111
Unpaid Billings	17	112
Unbilled Charges	18	113
Allow For Uncoll Chgs	19	120
Client Advances	20	114
Staff Advances	29	130
Partner Advances	30	130
Other Advances	39	130
Office Furniture	42	180
Allow—Depr—Furniture	43	190
Office Machines	44	180
Allow—Depr—Off Mach	45	190
Leasehold Improvements	46	170
Allow—Depr—Improvmts	47	190
Curr Yr Depr Allow	59	190
U S Government Bonds	60	150
Common Stocks	65	150
Other Investments	69	150
CSV—Life Insurance	70	150
Unexpired Insurance	80	140
Deposits	89	140
Salaries Clearing	90	130
Salaries Clrng—Accrual	91	130
Staff Fees Clearing	95	130

* Col. 1 Represents firm's own account numbers.

* Col. 2 Account number recommended in MAP 14 (with modifications).

<u>Account Description</u>	<u>Col. 1*</u>	<u>Col. 2*</u>
Liabilities	99	
Notes Payable	101	201
Borrowings—CSV Life Ins	109	201
Income Tax Withholdings	110	220
FICA Withholdings	111	220
Insurance Withholdings	112	220
Comm Fund Withholdings	113	220
Other Withholdings	119	220
Accounts Payable	120	202
Accrued Expenses	130	230
Staff O/T Liability	140	230
Accrued Vac & Holidays	149	230
Exchange Checks	150	202
Capital	200	
Beginning Capital	210	300
Accrual Capital	211	300
Capital Additions	212	300
Regular Drawings	213	350
Other Drawings	214	350
Time Credits	215	310
Interest Credits	216	310
Promotional Credits	217	310
AICPA Exclusions	298	310
Income	300	
Cash Fee Income	301	400
Cash Fee Reclassfctn	309	400
Time Charges	310	400
Staff Type Services	311	400
Chargeable Expense	312	400
Auditing Fees	313	401
Tax Fees	314	402

* Col. 1 Represents firm's own account numbers.

* Col. 2 Account number recommended in MAP 14 (with modifications).

<u>Account Description</u>	<u>Col. 1*</u>	<u>Col. 2*</u>
MAS Fees	315	403
Accounting Fees	316	404
Other Fees	317	404
Admin Time Value	319	400
Administration—Accts	320	400
Administration—General	321	400
Administration—Other	322	400
Promotion—Civic	330	400
Promotion—Professional	331	400
Promotion—Other	332	400
Staff—Holidays	340	400
Staff—Recruiting	341	400
Staff—Other	342	400
Prov For Uncollect Chgs	350	610
Other Income	360	700
Other Expense	380	999
Cost of Services Rendered	400	
Partners Time Charges	401	501
Staff Time Charges	410	502
Data Processing	420	504
Duplicating	422	504
Typing	426	504
Other Staff—Type	429	504
Consulting Expense	430	504
Donations	436	601
Firm Relations	444	603
Postage & Delivery	458	607
Professional Fees	460	606
Sundry	474	504
Telephone	482	615
Travel	486	400

* Col. 1 Represents firm's own account numbers.

* Col. 2 Account number recommended in MAP 14 (with modifications).

<u>Account Description</u>	<u>Col. 1*</u>	<u>Col. 2*</u>
Administrative Expense	500	
Partners Time Charges	501	501
Staff Time Charges	510	503
Data Processing	520	504
Duplicating	522	504
Typing	526	504
Other Staff—Type	529	504
Consulting	530	504
Donations	536	601
Dues & Licenses	540	609
Insurance	548	604
Interest & Bank Charges	552	606
Int on Invested Capital	554	310
Professional Fees	560	606
Sundry	574	606
Taxes	578	613
Travel	586	616
Promotional & Civic Expense	600	
Partners Time Charges	601	501
Staff Time Charges	610	502
Dues & Licenses	640	603
Firm Relations	644	603
Promotional Charges	662	310
Referral Fees	671	504
Sundry	674	603
Travel	686	603
Staff & Professional Expense	700	
Partners Time Charges	701	501
Vacation & Holiday Accrued	709	310
Staff Time Charges	710	502
Staff Time Chgs—Accrued	719	502

* Col. 1 Represents firm's own account numbers.

* Col. 2 Account number recommended in MAP 14 (with modifications).

<u>Account Description</u>	<u>Col. 1*</u>	<u>Col. 2*</u>
Dues & Licenses	740	609
Firm Relations	744	617
Insurance	748	617
Recruiting	770	606
Sundry	774	606
Taxes	778	614
Training	784	608
Travel	786	609
Office Expense	800	
Depreciation Provision	832	602
Equipment Rental	842	602
Insurance	848	604
Maintenance & Repairs	856	602
Postage & Delivery	858	607
Publications	868	611
Rent & Electricity	872	605
Sundry	874	606
Supplies	876	612
Telephone	882	615
Automobile Expense	900	
Maint & Operation	956	616
Parking	986	616
Tabulating Clearing Acct	999	

* Col. 1 Represents firm's own account numbers.

* Col. 2 Account number recommended in MAP 14 (with modifications).

Exhibit D

Lower Portion of Voucher Check

DETCH AND RETAIN THIS STATEMENT
THE ATTACHED CHECK IS IN PAYMENT OF ITEMS DESCRIBED BELOW.
IF NOT CORRECT PLEASE NOTIFY US PROMPTLY. NO RECEIPT DESIRED.

Annual dues for year ending 8/31/63

EMPLOYEE CODE NO.	ACCOUNT NUMBER	GROSS EARNINGS (1)	FEDERAL TAXES WITHHELD		OTHER TAXES WITHHELD		OTHER DEDUCTIONS		
			F.I.T.W. (2)	F.I.C.A. (3)	STATE (5)	(6)	INSURANCE (7)	COM. FUND (8)	(9)
PERIOD ENDING	090								

A	Client advances	020		Data processing	420		P	Dues & licenses	640
S	Staff advances	029		Duplicating	422		R	Firm relations	644
S	Advances	030		Typing	426		O	Sundry	674
E	Advances	031		Other staff-type	429		M	Travel	686
T	Advances	032		Consulting expense	430			Dues & licenses	740
S	Other advances	039		Donations	436		S	Firm relations	744
	Unexpired insurance	080		Firm relations	444		T	Recruiting	770
	Staff fees clearing	095		Postage & delivery	458		A	Sundry	774
L	Income tax w/holdings	110		Professional fees	460		F	Taxes	778
I	FICA withholdings	111		Sundry	474		F	Training	784
A	Ins. withholdings	112		Telephone	482			Travel	786
B	C-fund withholdings	113		Travel	486			Equipment rental	842
	Other withholdings	119		Data processing	520		O	Maint. & repairs	856
C	Exchange checks	150		Duplicating	522		F	Postage & delivery	858
A	Reg. drawings	213		Typing	526		F	Publications	868
P	Other drawings	214		Other staff-type	529		I	Rent & electricity	872
I	Reg. drawings	223		Consulting	530		C	Sundry	874
T	Other drawings	224		Donations	536		E	Supplies	876
A	Reg. drawings	233		Dues & licenses	540			Telephone	882
L	Other drawings	234		Professional fees	560		A	Dues & licenses	940
				Sundry	574		U	Maint. & operation	956
				Taxes	578		O	Parking	986
				Travel	586				

CASE STUDY B

THE FOLLOWING REPRESENTS AN invoicing system which illustrates the ease with which a client may be billed as a result of using electronic data processing.

This medium-sized firm is located in a large western city and consists of five partners and sixteen professional and other staff.

Punched cards are prepared by the firm, at its office from information obtained from a monthly time report. The reverse side of the monthly time report contains information on out-of-pocket expenses incurred. The punched cards are then sent to a service bureau for further processing.

The information obtained from the service bureau is as follows:

1. A tabulation, by individual client, which shows all of the time and expenses charged during a month (Exhibit A, page 38).
2. A tabulation indicating the total chargeable hours for all personnel during the month broken down by class of service performed (Exhibit B, page 42).
3. A tabulation, by individual staffmen, indicating the month's

productive hours broken down by class of service performed (Exhibit C, page 42).

Upon receipt of these tabulations they are distributed within the firm as follows:

1. Partners receive all tabulations.
2. Supervisors receive a copy of the tabulation on productive hours for the month by staffmen.

The responsibility for billing a client rests with the partner in charge of such client. In view of this fact, the work-in-process by client is coded by partner control number so that the partner will receive only the work-in-process tabulations of those clients for which he is responsible. The work-in-process tabulations, therefore, become the basis for billing a client.

If a client is to be billed exactly as shown on the work-in-process tabulation, the partner will indicate on the bottom of the tabulation the date of billing, the nature of the work performed, out-of-pocket expenses and, of course, the total amount to be billed (Exhibit A-1, page 39). From this information, the actual invoice is prepared.

It is possible for a client to be billed at something more or less than the standard billing rate. If such a situation does occur, the partner indicates this fact by bracketing the amount in the standard billing rate column which is affected, as well as bracketing the total of the standard billing rate column. The corrected figures are placed to the right of the figures at standard. The firm uses the same procedure for "write-ups" as it does for "write-downs" (Exhibit A-2, page 40).

Some time charges may not be billed to a client in the same month as such charges were incurred. If such a situation does occur, the partner brackets the class of work, hours, standard cost and the standard billing amount for those time charges which are to be billed in a subsequent period (Exhibit A-3, page 41). The unbilled work-in-process is carried forward to the next month's client work-in-process tabulation.

Exhibit A

Work in Process by Client

March 31, 1963

<u>Name of Client</u>	<u>General Class of Work</u>	<u>Client No.</u>	<u>Partner No.</u>
A. M. Co.	402	12345	101

<u>Accountant No.</u>	<u>Class of Work</u>	<u>Hours</u>	<u>Standard Cost</u>	<u>Standard Billing</u>
235	404	4.00	\$16.00	\$32.00
353	402	4.00	50.00	100.00
286	402	3.00	9.00	18.00
101	402	9.00	162.00	225.00
353	404	16.50	297.00	412.50
353	612			3.35
		<u>36.50</u>	<u>\$534.00</u>	<u>\$790.85</u>

Approved _____

Date Approved _____

Exhibit A-1

Work in Process by Client

March 31, 1963

<u>Name of Client</u>	<u>General Class of Work</u>	<u>Client No.</u>	<u>Partner No.</u>
A. M. Co.	402	12345	101

<u>Accountant No.</u>	<u>Class of Work</u>	<u>Hours</u>	<u>Standard Cost</u>	<u>Standard Billing</u>
235	404	4.00	\$16.00	\$32.00
353	402	4.00	50.00	100.00
286	402	3.00	9.00	18.00
101	402	9.00	162.00	225.00
353	404	16.50	297.00	412.50
353	612			3.35
		<u>36.50</u>	<u>\$534.00</u>	<u>\$790.85</u>

April 1, 1963

In preparation of financial statements without audit at January 31, 1963, and Federal and State of New York income tax returns.

\$790.85

<u>Class</u>	<u>Hours</u>	Expense \$3.35
402	16	
404	20.50	
	<u>36.50</u>	

Approved _____

Date Approved _____

Exhibit A-2

Work in Process by Client

March 31, 1963

	<i>General</i>		
<u>Name of Client</u>	<u>Class of Work</u>	<u>Client No.</u>	<u>Partner No.</u>
A. M. Co.	402	12345	101

<i>Account-</i>					
<u>ant</u>	<u>Class</u>		<u>Standard</u>	<u>Standard</u>	
<u>No.</u>	<u>of Work</u>	<u>Hours</u>	<u>Cost</u>	<u>Billing</u>	
235	404	4.00	\$16.00	\$32.00	
353	402	4.00	50.00	100.00	
286	402	3.00	9.00	18.00	
101	402	9.00	162.00	225.00	
353	404	16.50	297.00	[412.50]	375.00
353	612			3.35	
		<u>36.50</u>	<u>\$534.00</u>	<u>[\$790.85]</u>	<u>753.35</u>

April 1, 1963

In preparation of financial statements without audit at January 31, 1963, and Federal and State of New York income tax returns.

\$753.35

<u>Class</u>	<u>Hours</u>	Expense \$3.35
402	16	
404	20.50	
	<u>36.50</u>	

Approved _____

Date Approved _____

Exhibit A-3

Work in Process by Client

March 31, 1963

<u>Name of Client</u>	<u>General Class of Work</u>	<u>Client No.</u>	<u>Partner No.</u>
A. M. Co.	402	12345	101

<u>Accountant No.</u>	<u>Class of Work</u>	<u>Hours</u>	<u>Standard Cost</u>	<u>Standard Billing</u>
235	[404]	[4.00]	[\$ 16.00]	[\$ 32.00]
353	402	4.00	50.00	100.00
286	402	3.00	9.00	18.00
101	402	9.00	162.00	225.00
353	[404]	[16.50]	[297.00]	[412.50]
353	612			3.35
		<u>[36.50]</u>	<u>[\$534.00]</u>	<u>[\$790.85]</u>
		16.00	221.00	346.35

April 1, 1963

In preparation of Federal and State of New York income tax returns.

\$346.35

<u>Class</u>	<u>Hours</u>	<u>Expense</u>
402	16.00	\$3.35

Approved _____

Date Approved _____

Exhibit B
Work in Process by Class of Work

March 31, 1963

<u>Class of Work</u>	<u>Chargeable Hours</u>	<u>Per Cent</u>
401	2368.00	54.90
402	1635.00	37.90
403	60.00	1.39
404	250.50	5.81
	<u>4313.50</u>	<u>100.00%</u>

Exhibit C
Productive Hours for the Month by Accountant

March 31, 1963

<u>Accountant No.</u>	<u>Class of Work</u>	<u>Chargeable Hours</u>
235	401	119.00
235	403	20.00
235	404	18.00
		<u>157.00</u>
286	401	79.50
286	402	3.00
286	404	67.50
		<u>150.00</u>
353	401	52.00
353	402	76.00
353	404	34.00
		<u>162.00</u>