

VOLUME

V

ENCYCLOPEDIA
of
ACCOUNTING
SYSTEMS

WILLIAMS

and

DORIS

Editors



**ENCYCLOPEDIA
of
ACCOUNTING SYSTEMS**



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Preface

This *Encyclopedia of Accounting Systems*, comprising five volumes, describes and illustrates accounting systems for diversified industries, businesses, and professions. Each system has been presented by a specialist in the particular field.

The selection of the industries was made with a view to meeting the greatest need of practicing accountants. The number of firms in the industry, the existence of peculiar accounting problems, and the opportunity to present varied types of cost systems and to explain unusual procedures for the reduction of clerical expenses were factors in the selection. Industries that are dominated by a few giant corporations or regulated by a public body which prescribes an accounting system were not selected. Nor were industries chosen in which there is a widespread use of a uniform system of accounts sponsored by, and available through, a trade association in the field.

To assure equal coverage and comprehensiveness in all sections, each author was asked to follow, as far as possible, the uniform outline prepared by the Editors. Thus, with changes to fit special situations, each section treats the following subjects in the order indicated:

1. Characteristics of the industry that affect the accounting system.
2. Functional organization of the business.
3. Principles and objectives of the accounting system.
4. Classification of accounts and books of account.
5. Peculiarities of procedures for: sales-receivables cycle; purchases-payables cycle; cash receipts and disbursements.
6. Cost system.
7. Time and payroll system.
8. Plant and equipment records—depreciation.
9. Reports to management.
10. Special time-saving devices.
11. Modification of the system for small businesses in the field.

In addition to achieving comprehensive coverage, the established arrangement permits the accountant quickly to pick up ideas from numerous industries that might be used in making improvements in existing systems, in solving troublesome problems, and in answering clients' questions.

Attention is given in each industry to the practices peculiar to the particular business. The problem areas, accounting-wise, are fully covered.

The text assumes that accountant-readers know the fundamentals of accounting methods, the manual and machine methods commonly used in an accounting office, and the ordinary procedures for handling cash, accounts receivable, accounts payable, payroll, and the like, and for maintaining internal check and control. If there is nothing worthy of mention under a particular topic in the uniform outline, the author has either omitted the topic or indicated that conventional methods and procedures are used.

Explanations of general accounting problems, which arise in all businesses and which are fully covered in accounting texts, have been deliberately avoided. Similarly, discussions of techniques for budgeting, developing standard costs and standard burden rates, and the like, which are explained at length in specialized accounting texts, have been omitted. An exception has been made in the case of the P/V technique of analysis for profit-planning. Because of its comparative newness as a management tool, the explanation of this technique, given in the accounting system for the carbonated beverages industry, is welcomed by the Editors.

The Editors considered it advisable not to prescribe any accounting terminology but to permit each author to use the terminology common to the industry or to follow his accustomed practice.

More than 500 diagrams and forms, specially designed for the particular industries, have been reproduced with great care to assure complete legibility. Standard forms and simple forms that may be purchased from form stationers have not been reproduced. Filled-in forms have been presented whenever the author felt that such specimens were needed to clarify the explanation.

The Editors are grateful to the trade associations, groups, and informed individuals whose recommendations resulted in bringing together the authors who have made this *Encyclopedia of Accounting Systems* an authoritative master reference of modern accounting practice. The Editors are deeply grateful to the authors for their whole-hearted co-operation and their generosity in making their knowledge and talents available to the industries covered and to the accounting profession.

On behalf of the authors, grateful appreciation is expressed to the numerous associations and business organizations that co-operated with the authors by making material available to them. Appropriate credit lines have been included in the particular sections, except where anonymity was desired.

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Printing

by

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Industry characteristics that affect the accounting system

Nature of the business. The printing industry consists of a large number of establishments employing skilled craftsmen. The industry is highly unionized, the average firm having contracts with five or six craft unions.

Printers can be grouped by the process used in manufacturing and by product classification. The processes are: (1) letterpress, (2) lithography (offset), (3) gravure. It is not unusual for one firm to use two or more of the above processes. The average printer uses both the letterpress and lithographic processes. During the past 10 years the number of firms using the lithographic process has increased substantially.

The usual classifications by product manufactured are:

1. Commercial printing
2. Advertising printing
3. Periodical and catalog printing
4. Book printing
5. Business forms
6. Label printing
7. Greeting cards

Commercial printing includes advertising literature, periodicals, catalogs, labels, and business forms. Many firms specialize in one or more of the above products.

The printing industry is primarily a service industry and the majority of printers manufacture orders to customers' specifications. However, many standard items, such as accounting forms and accounting systems, business forms, standard labels, and advertising literature, are manufactured for inventory. Many of these items are subsequently imprinted for individual customers.

Principal accounting problems. Of the numerous accounting problems in the industry, the following are most common:

1. Determination and control of inventories, raw materials, work-in-process, semi-finished goods, and finished goods.
2. Analysis of sales and cost of sales by product, process, and salesmen, or other natural divisions of the business.
3. Control of manufacturing expenses.
4. Allocation and distribution of selling and administrative expenses by product classification, process, or other natural divisions of the business.
5. Determination of costs and selling prices of orders to be manufactured—estimating.
6. Determination of cost of orders manufactured.
7. Preparation of budgets, especially operating budgets and budgeted hour rates for costing and estimating.
8. Determination of production standards for estimating and control of manufacturing costs.
9. Control of production and scheduling of orders.

Since the majority of the accounting problems are concerned directly or indirectly with the cost system, emphasis will be placed on this phase of accounting.

Functional organization

Division into departments or activities. The three principal divisions of the business are manufacturing, selling, and administration. The manufacturing operations are subdivided as follows:

1. Letterpress
 - (a) Copy preparation
 - (b) Composition—hand and machine
 - (c) Pressroom
 - (d) Bindery
 - (e) Receiving and shipping
2. Lithography
 - (a) Copy preparation
 - (b) Camera
 - (c) Plate making
 - (d) Pressroom
 - (e) Bindery or finishing
 - (f) Receiving and shipping

In medium-sized and large establishments, a foreman is in charge of each of the departments performing the above operations, and a vice-president or superintendent is in charge of all manufacturing operations. For cost purposes, the operating departments are further subdivided into cost centers (see page 1561).

Purchasing, personnel, and production control departments are considered a part of the manufacturing division. A typical organization chart is shown in Figure 1.

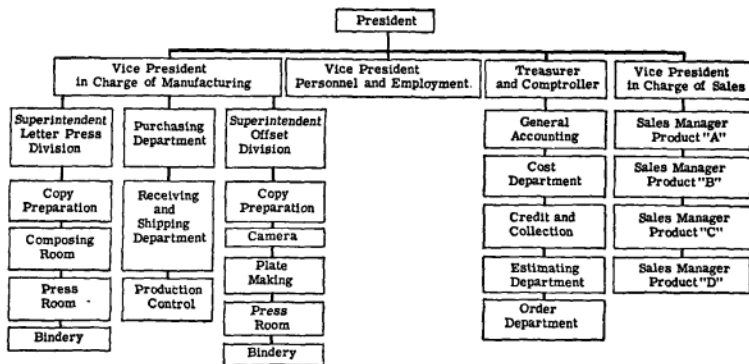


Fig. 1. Organization Chart.

Duties and responsibilities of the controller. The controller should be responsible for the order and estimating departments as well as for general accounting, cost, and credit and collections.

Since the majority of orders are manufactured to customers' specifications, the proper control over the order from the time it is received until it is manufactured, shipped, and billed is an important function of the accounting department. Maintaining a backlog of orders and an even flow of work through the plant is an important function of management. An insufficient backlog and improper scheduling of orders usually results in idle equipment and excessive overtime, thus creating excessive costs.

The cost data required by the estimating department are budgeted hour cost rates and production standards for all equipment in machine departments and for employees in the hand departments. Since the estimating department is largely responsible for the determination of selling prices, the importance of these cost data is obvious.

Principles of the system

Principles to be applied in general accounting. In the general accounting, as distinguished from the cost accounting, the same principles are applied as are followed in all manufacturing industries. All accrued and prepaid expenses must be properly recorded on the books each month. Inventories of raw material, work-in-process, and finished and semi-

finished goods must be accurately obtained each month. This task is usually accomplished by maintaining perpetual inventory records of raw material, finished goods, and semi-finished goods. The work-in-process inventory is a product of the cost system and will be discussed later. Supplies inventories, where practical, should be maintained by the use of perpetual inventory records.

Principles of the cost system. A job order cost system, comprising a mixture of actual costs and standard costs, is generally used in the industry. The cost of orders manufactured is obtained by using actual material costs, actual hours required in production, and budgeted or standard hour cost rates. In estimating, the estimator uses estimated material cost, computes time allowances for various operations based upon historical averages as compiled by the cost department, and applies the same budgeted hour cost rates that are used in costing. After the order is completed, the estimated cost is checked against the cost of the order as determined by the cost department.

In determining the actual factory hour cost rate for each cost center for any given period, fixed charges and all operating expenses, including direct labor, are distributed to each cost center and the total cost is divided by the chargeable hours for the cost center. The chargeable and non-chargeable operations are clearly defined for each cost center. All operations that properly are chargeable to the order at the time of manufacturing are considered chargeable operations; all other operations are considered non-chargeable operations.

Classification of accounts and books of account

Uniform classification of accounts. For many years the printing industry has recommended a uniform classification and arrangement of accounts, which should be followed whenever possible. "Ratios for Printing Management," a booklet published by the Printing Industry of America for many years, contains a wealth of financial and cost data, predicated upon the uniform classification of accounts.

The chart of accounts must be adjusted to the needs of each company. Obviously, a large company operating numerous sales offices and maintaining many separate departments will require a substantially different chart of accounts from that of a small company with relatively few employees. The chart of accounts presented here may be used as a guide in preparing a chart of accounts. The arrangement and grouping of accounts should be the same regardless of the size of the establishment.

Balance sheet accounts.

Debits from

Credits from

Current Assets:

10	Cash		
11	Commercial Account	Cash Received	Check Register
12	Payroll Account	Check Register	General Journal
13	Petty Cash Fund	Do	
20	Receivables		
21	Notes—Customers	General Journal	Cash Received
22	Accounts—Customers	Sales Journal or General Journal	Do
23	Allowance for Doubtful Accounts..	General Journal	General Journal
24	Officers and Employees	Check Register	General Journal or Cash Received

Inventories:

30	Raw Material		
31	Paper	Voucher Register	General Journal
32	Ink	Do	Do
33	Film	Do	Do
34	Plates	Do	Do
35	Outside Purchases	Do	Do
40	Work-in-Process		
41	Material	General Journal	Do
42	Labor and Overhead	Do	Do
50	Finished Goods		
51	Product A	Do	Do
52	Product B	Do	Do
60	Investments		
61	Marketable Securities	Voucher Register	Cash Receipts
70	Prepaid Expenses		
71	Prepaid Insurance	Do	General Journal
72	Prepaid Interest	Cash Received	Do
73	Supplies Inventory	Voucher Register	Do
74	Prepaid Rent	Do	Do

Fixed Assets:

81	Land	Do	Do
82	Buildings	Do	Do
83	Depreciation Allowance	General Journal	Do
84	Machinery and Equipment	Voucher Register	Do
85	Depreciation Allowance	General Journal	Do
86	Trucks and Autos	Voucher Register	Do
87	Depreciation Allowance	General Journal	Do
88	Office Furniture and Fixtures	Voucher Register	Do
89	Depreciation Allowance	General Journal	Do
90	Foundry Type	Voucher Register	Do
91	Depreciation Allowance	General Journal	Do
92	Metal	Voucher Register	Do
93	Depreciation Allowance	Do	Do

	Debits from	Credits from
<i>Current Liabilities:</i>		
100 Payables		
101 Notes—Banks	Check Register	Cash Receipts
102 Notes—Equipment—Due Within One Year	Do	Voucher Register or General Journal
103 Notes—Others	Do	Do
104 Accounts—Vendors	Do	Voucher Register
105 Accounts—Officers	Do	Cash Receipts or General Journal
110 Accruals and Withholding		
111 Federal Income Taxes	Do	General Journal
112 Withholding Taxes	Do	Do
113 Unemployment Taxes	Do	Do
114 Federal Insurance Contributions Act Taxes	Do	Do
115 Other Taxes	Do	Cash Receipts Voucher Register or General Journal
116 Wages	Do	General Journal
117 Commissions	Do	Do
120 Deferred		
121 Notes Payable—Equipment—Due After One Year	Do	Voucher Register or General Journal
122 Mortgage Payable	Do	Do
123 Bonds	Do	Cash Receipts or General Journal
130 Reserves		
131 For Purchase of Real Estate	General Journal	General Journal
132 For Purchase of Equipment	Do	Do
133 For Sinking Fund	Do	Do
134 For Depreciation of Assets Fully Depreciated	Do	Do
<i>Net Worth (if a corporation):</i>		
140 Capital Stock		
141 Preferred Authorized	Do	Do
142 Preferred Unissued	Do	Do
143 Common Authorized	Do	Do
144 Common Unissued	Do	Do
150 Surplus		
151 Earned	Do	Do
152 Capital	Do	Do
153 Profit and Loss	Do	Do
<i>Net Worth (if a partnership):</i>		
141 Capital Account—Partner "A"	Do	Do
142 Drawing Account—Partner "A"	Do	Do
143 Capital Account—Partner "B"	Do	Do
144 Drawing Account—Partner "B" ..	Do	Do
145 Profit and Loss	Do	Do

Operating accounts (when cost system is interlocked with general books).

	Debits from	Credits from
200 Sales Accounts		
201 Sales—Product A		Sales Journal or General Journal
202 Sales Returns and Allowances— Product A	Sales Journal or General Journal	
203 Sales—Product B		Do
204 Sales Returns and Allowances— Product B	Do	
205 Sales—Product C		Do
206 Sales Returns and Allowances— Product C	Do	
300 Cost of Goods Sold		
301 Product A	General Journal	
302 Product B	Do	
303 Product C	Do	
Variance Accounts:		
304 Cost of Finished Goods	Do	General Journal
305 Inventory Adjustment	Do	Do
306 Manufacturing Expenses	Do	Do
Manufacturing Expenses:		
400 Control Account		
Detail		
401 Wages—Direct	Do	
402 Wages—Indirect Operating	Do	
403 Wages—Supervision	Do	
404 Wages—Miscellaneous Workers ..	Do	
405 Wages—Vacation and Holiday ...	Do	
406 Wages—Premium for Overtime ...	Do	
407 Wages—Idle Time		
408 Light	Voucher Register	
409 Power	Do	
410 Spoilage	General Journal	
411 Supplies	General Journal or Voucher Register	
412 Repairs	Voucher Register or General Journal	
413 Payroll Taxes	General Journal	
414 Gas and Water	Voucher Register	
415 Building Expense	General Journal	
416 Insurance	Do	
417 Property Tax	Do	
418 Depreciation	Do	
500 Applied Accounts		
501 Manufacturing Expenses Applied to Product		Do
502 Variance—Manufacturing Expenses —Contra Account	Do	Do

*Debits from**Credits from**Administration Expenses:*600 *Control Account*

700 Administrative Expense—Standard General Journal

800 Administrative Expense—Standard
 —Contra General Journal*Detail*

613	Payroll Taxes	Do
615	Building Expense	Do
616	Insurance	Do
617	Taxes—General	Do
618	Depreciation	Do
631	Salaries—Executive	Do
632	Salaries—Office	Do
634	Dues and Subscriptions	Voucher Register
635	General Office Expense	Do
636	Telephone and Telegraph Expense.	Do
637	Miscellaneous Expense	Do

*Selling Expenses:*900 *Control Account*

1000 Selling Expense—Standard General Journal

1100 Selling Expense—Standard—
 Contra Do*Detail*

913	Payroll Taxes	Do
915	Building Expense	Do
916	Insurance	Do
917	Taxes	Do
918	Depreciation	Do
931	Salaries—Executives	Do
932	Salaries—Office	Do
933	Salaries and Commissions— Salesmen	Do
934	Dues and Subscriptions	Voucher Register
935	General Office Expense	Do
936	Telephone and Telegraph Expense.	Do
937	Miscellaneous Expense	Do
938	Advertising	Do
939	Sales Promotion	Do
1200	<i>Other Income</i>	
1201	Discounts Earned	Check Register
1202	Interest Earned	Cash Receipts
1203	Dividends Received	Do
1204	Miscellaneous Income	Do
1205	Profit on Sale of Capital Assets....	General Journal
1300	<i>Other Deductions</i>	
1301	Discounts Allowed	Check Register
1302	Interest Paid	Voucher Register
1303	Loss on Sale of Capital Assets....	General Journal
1304	Allowance for Doubtful Accounts..	Do

Primary expense accounts. A number of primary expense accounts, required for the distribution of indirect cost centers in the factory ledger, do not appear in the operating statement. They are:

- 81 Building Expense—Prorated
- 82 Machine Shop Expense—Allocated
- 83 General Factory Expense—Prorated
- 84 General Litho Press—Prorated
- 85 General Letterpress—Prorated
- 91 Building Expense—Contra
- 92 Machine Shop Expense—Contra
- 93 General Factory Expense—Contra
- 94 General Litho Press—Contra
- 95 General Letterpress—Contra

Departments and cost centers—the manufacturing expense ledger. The manufacturing expense ledger is the heart of the cost system. The primary manufacturing expenses set forth in the chart of accounts are further analyzed by departments, which in turn are analyzed by cost centers. Cost centers are of two kinds, indirect centers and direct operating centers. The indirect centers accumulate manufacturing expenses which are subsequently prorated to direct operating centers. The following chart shows customary indirect cost centers and the departments and direct cost centers in a combination letterpress and lithographic plant.

COST CENTERS

<i>Indirect Centers:</i>		28	Proofing
00		30	<i>Composition Department</i>
01	Building Expense	31	Hand Composition
02	Machine Shop	32	Machine Composition
03	General Factory	33	Monotype Keyboard
04	General Lithographic Press	34	Monotype Caster
05	General Letterpress	40	<i>Litho Press Department</i>
<i>Department and Direct Cost Centers:</i>		41	Size 42" x 58"—four-color
10	<i>Copy Preparation</i>	42	35" x 45"—two-color
11	Engraving and Hand Lettering	43	50" x 69"—one-color
12	Typing and Paste-up, and so on	44	35" x 45"—one-color
13	Art Work	45	21" x 28"—one-color
15	<i>Camera Department</i>	46	17" x 22"—one-color
16	Color Process	50	<i>Letterpress Department</i>
17	Halftone	51	Size 32" x 45"—two-color
18	Line	52	27" x 41"—two-color
20	<i>Plate-Making Department</i>	53	38" x 50"—one-color
21	Stripping—Color	54	22" x 28"—one-color
22	Stripping—Black and White	55	17" x 22"—one-color
23	Opaquing—Color	56	13" x 20"—one-color
24	Opaquing—Black and White	60	<i>Bindery Department</i>
25	Dot Etching	61	Folders
26	Photo-composing	62	Stitchers
27	Vacuum Frame	63	Cutters