Journals and Ledgers

TRANSACTION PROCESSING: DOCUMENTS AND PROCEDURES IN A MANUAL AIS

One basic function of the AIS is the efficient and effective processing of data about a company's transactions. Transaction processing in a manual AIS consists of three basic steps, performed in the following sequence:

1. Capture transaction data on source documents.
2. Record transaction data in journals, which present a chronological record of what occurred.
3. Post data from journals to ledgers, which sort data by account type.

We now examine the documents and procedures used to perform each step.

Step 1: Capture Transaction Data on Source Documents

Although data about business activities could be recorded on blank pieces of paper, in notepads, or even on blackboards, better control and accuracy is provided by using special forms called **source documents.** An example of a source document used in the expenditure cycle is the purchase order (see Figure 1), which is used to request merchandise from suppliers. Table A lists other common source documents used in each transaction cycle and describes their function.

Control over data collection is improved by prenumbering each source document (note the upper-right corner of the purchase order). Prenumbering simplifies verifying that all transactions have been recorded and that none of the documents have been misplaced. Accuracy is improved because source documents specify which information to collect, preprint standard information such as addresses, and provide directions for completing the form.

Accuracy and efficiency in recording transaction data can be further improved if source documents are properly designed. Table B presents a checklist of principles for forms design that applies to both paper documents and computer input screens (see Table B).

PURCHASE ORDER **No. 101**

S&S, Inc.
Phone: (314) 555-2238
Fax: (314) 555-9863

Ship To:
S&S, Inc.
2533 Farthington Dr.
St. Louis, MO 63104-2345

Bill To:
S&S, Inc.
P.O. Box 457
St. Louis, MO 63104-0457

Reference this number on all correspondence

To: Electronics Wholesalers
4533 Telegraph Rd.
St. Louis, MO 63129-2290

Date:	**Date Needed By:**	**Terms:**
11/23/03	12/05/2004	2/10, net 30

Item Number	**Description**	**Quantity**	**Unit Price**	**Extension**
1344	Maytag Dishwasher Model 907	10	399.95	3,999.50
2455	Maytag Freezer Model 211	5	799.95	3,999.75

Shipping Instructions

_____UPS
_____Federal Express
_____U.S. Postal Service
_x___Other: *Acme Freight*

Total $7,999.25

Distribution of Copies:

white — vendor
yellow — accounts payable
blue — receiving
green — purchasing

Ashton Flemming	Heather Finney
Approved by	**Purchasing Agent**

Figure 1 Sample purchase order for S&S (bold items are preprinted)

Table A Common Source Documents and Functions

Source Document	Function
Revenue Cycle	
Sales order	Record customer order.
Delivery ticket	Record delivery of merchandise to customer.
Credit memo	Support adjustments to customer accounts for sales returns and allowances, sales discounts, and write-off of uncollectable accounts.
Deposit slip	Record amounts of cash and checks deposited in company bank accounts.
Expenditure Cycle	
Purchase requisition	Request that purchasing department order specific goods.
Purchase order	Request merchandise from vendors.
Receiving report	Record receipt of merchandise from vendors.
Human Resources Cycle	
Time cards	Record time worked by employees.
W4 forms	Collect employee withholding data.
General Ledger & Reporting System	
Journal voucher	Record entry posted to general ledger.

Now refer back to Figure 1 to see how the principles listed in Table B are reflected in the sample purchase order. Notice that the top of the form clearly indicates that this document is a purchase order from S&S. The heading also specifies where the merchandise should be shipped and where the invoice should be sent. Also note that the purchase order is prenumbered to facilitate tracking its status and that the vendor is instructed to reference this purchase order number in all correspondence.

Notice how the main body of the purchase order uses lines and boxes to group logically related information together. This design facilitates completing the form correctly, and it helps the recipient correctly read it. Thus, adequate space is provided to record the date of the order, the date the merchandise is needed, and the terms desired. Below that, column headings indicate the important data that need to be entered. For example, each row in the purchase order has a space for the product number, description, quantity, and unit price of the ordered item, plus a column for an extension (quantity times price) of each line item. Toward the bottom of the purchase order is a box for the total amount of the order.

The bottom of the purchase order provides a space to check off the desired shipping option so that the purchasing agent need not write out the desired delivery method. Three carbon copies of the purchase order are prepared and the distribution list for each copy is clearly indicated at the bottom of the form. Finally, there is a space

Table B Principles of Good Forms Design

General Considerations
- Are preprinted data used to the maximum extent possible?
- Are the weight and grade of the paper appropriate for the planned use?
- Are bold type, double-thick lines, and shading used appropriately to highlight different parts of the form?
- Is the form a standard size?
- Is the size of the form consistent with requirements for filing, binding, or mailing?
- If the form is intended to be mailed to external parties, is the address positioned so that the form can be used in a window envelope?
- Are copies of the form printed in different colors to facilitate proper distribution?
- Are there clear instructions on how to fill out the form?

Introductory Section of Form
- Does the name of the form appear at the top, in bold type?
- Is the form prenumbered consecutively?
- If the form is to be distributed to external parties, is the company's name and address preprinted on the form?

Main Body of Form
- Is logically related information (e.g., customer name, address) grouped together?
- Is there sufficient room to record each data item?
- Is the ordering of data items consistent with the sequence in which those items are most likely to be acquired?
- Are standardized explanations preprinted so that codes or checkoffs can be used instead of requiring written user entries?

Conclusion Section of Form
- Is space provided to record the final disposition of the form?
- Is space provided for a signature or signatures to indicate final approval of the transaction?
- Is space provided to record the date of final disposition or approval?
- Is space provided for a dollar or other numeric total?
- Is the distribution of each copy of the form clearly indicated?

at the bottom of the purchase order for the signature of the person placing the order. There is also a space for a person to indicate that the order has been reviewed and approved.

Step 2: Record Transaction Data in Journals

After transaction data have been captured on source documents, the next step is to record the data in a journal. A journal entry is made for each transaction showing the accounts and amounts to be debited and credited. Most companies use both a general journal and a set of specialized journals. The **general journal** records infrequent or nonroutine transactions, such as loan payments and end-of-period adjusting and closing entries. **Specialized journals** simplify the process of recording large numbers of repetitive transactions. Organizations typically use specialized journals to record the

Table C Sample Sales Journal

Sales Journal					Page 5
Date	Invoice Number	Account Debited	Account Number	Post Ref.	Amount
Oct. 15	151	Brown Hospital Supply	120-035	✓	798.00
15	152	Greenshadows Hotel Suites	120-122	✓	1,267.00
15	153	Heathrow Apartments	120-057	✓	5,967.00
15	154	LMS Construction	120-173	✓	2,312.50
15	155	Gardenview Apartments	120-084	✓	3,290.00
15	156	KDR Builders	120-135	✓	1,876.50
		TOTAL			15,511.00
				120/502	

four most common types of transactions: credit sales, cash receipts, purchases on account, and cash disbursements. To see how these specialized journals can save time, examine Table C, which shows an example of a sales journal.

Notice that the sales journal has only one column to record the transaction amount. The reason is that the sales journal is used only for recording credit sales of inventory or services; consequently, every entry represents a debit to accounts receivable and a credit, for the same amount, to sales revenue. This also means that there is no need to write an explanation of each entry, as would be the case if credit sales were recorded in the general journal. Instead, all the information about the transaction is recorded in one line: the date, invoice number, name and account number of the customer, and the amount of the sale. When we consider the number of sales transactions likely to occur every day, the time saved by recording these transactions in a sales journal, rather than in the general journal, is considerable.

The remaining column in the sales journal, titled Post Ref., indicates completion of the next step in transaction processing: posting from the journals to the appropriate ledgers.

Step 3: Post Transactions to Ledgers

Ledgers are used to summarize the financial status, including the current balance, of individual accounts. In a manual system, ledgers are actually books; hence, the phrase "keeping the books" refers to the process of maintaining the ledgers.

Most companies have both a general ledger and a set of subsidiary ledgers. The **general ledger** contains summary-level data for every asset, liability, equity, revenue, and expense account of the organization. A **subsidiary ledger** records all the detailed data for any general ledger account that has many individual subaccounts. Subsidiary ledgers are commonly used for accounts receivable, inventory, fixed assets, and accounts payable.

The general ledger account corresponding to a subsidiary ledger, called a **control account,** contains the total amount for all individual accounts in the subsidiary ledger. Thus, the accounts payable control account in the general ledger represents the total amount owed to all vendors. The balances in the subsidiary accounts payable ledger indicate the amount owed to each specific vendor.

The relationship between the general ledger control account and the individual account balances in the subsidiary ledger plays an important role in maintaining the accuracy of the data stored in the AIS. Specifically, the sum of all entries in the subsidiary ledger should equal the amount in the corresponding general ledger control account. For example, the inventory subsidiary ledger would contain dollar balances and quantities for each inventory item carried. The sum of all the dollar balances in the inventory subsidiary ledger should equal the total dollar balance in the inventory control account in the general ledger. Any discrepancy between the total of the subsidiary ledger and the balance in the corresponding general ledger control account indicates that an error in the recording and posting process has occurred.

The posting process

Figure 2 shows how the process of journalizing and posting sales transactions works. As shown in the top portion of the figure, each credit sale is first recorded in the sales journal. Each individual entry in the sales journal is then posted to the appropriate customer's account in the accounts receivable subsidiary ledger (note the arrow at the top of Figure 2 linking the $1,876.50 sale to KDR Builders in the sales journal to the debit for $1,876.50 in the accounts receivable subsidiary ledger at the bottom of the figure). The same process is followed for credit sales to all other customers. Periodically, the total of all entries recorded in the sales journal is then posted to the general ledger (note the debit of $15,511, representing total sales on October 15, linked by the arrow to the accounts receivable general ledger account in the middle of Figure 2 and to the corresponding credit to the general ledger sales account for the same amount).

The audit trail

Figure 2 also shows how the posting references and document numbers provide what is known as an **audit trail.** An audit trail provides a means to check the accuracy and validity of ledger postings. To illustrate this process, observe that the posting reference for the $15,511 credit to the sales account in the general ledger, SJ5, refers back to page 5 of the sales journal. By checking page 5 of the sales journal, it is possible to verify that $15,511 represents the total credit sales recorded on October 15. Similarly, the posting reference for the $1,876.50 debit to the KDR Builders account in the subsidiary accounts receivable ledger also refers to page 5 of the sales journal as the source of that entry. Furthermore, note that the sales journal lists the invoice numbers for each individual entry. Invoice numbers provide the means for locating and examining the appropriate source documents in order to verify that the transaction did occur and was recorded accurately.

The chart of accounts

Figure 2 also shows that each general ledger account has its own number. The **chart of accounts** is a list of all general ledger accounts used by an organization. The structure of the chart of accounts is one of the most important aspects of an AIS, because it

Sales Journal
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SALES JOURNAL Pg 5

Date	Invoice Number	Account Debited	Account Number	Post Ref.	Amount
Oct. 15	151	Brown Hospital Supply	120-035	✔	798.00
15	152	Greenshadows Hotel Suites	120-122	✔	1,267.00
15	153	Heathrow Apartments	120-057	✔	5,957.00
15	154	LMS Construction	120-173	✔	2,312.50
15	155	Gardenview Apartments	120-084	✔	3,290.00
15	156	KDR Builders	120-135	✔	1,876.50
		Total		120/502	15,511.00

GENERAL LEDGER

Account: Accounts Receivable **Account Number:** 120

Date	Description	Post Ref.	Debit	Credit	Balance
					67,285.00
Oct. 14	Sales	SJ4	12,432.00		79,717.00
14	Collections	CR6		22,162.00	57,555.00
15	Sales	SJ5	15,511.00		73,066.00

15,511.00
Total Sales Oct. 15

GENERAL LEDGER

Account: Credit Sales **Account Number:** 502

Date	Description	Post Ref.	Debit	Credit	Balance
					267,762.00
Oct. 14	Sales	SJ4		12,432.00	280,194.00
15	Sales	SJ5		15,511.00	295,705.00

ACCOUNTS RECEIVABLE SUBSIDIARY LEDGER

Name: KDR Builders
Account Number: 120-135

Address: 6867 Stornaway
Memphis, TN 38119-1234

Date	Description	Post Ref.	Debit	Credit	Balance
Sep. 12	Sale	SJ1	3,682.00		3,682.00
Oct. 1	Payment	CR4		3,682.00	0.00
Oct. 15	Sale	SJ5	1,876.50		1,876.50

1,876.50 —amount
of individual sale

Figure 2 Recording and posting a credit sale affects the preparation of financial statements and reports. Data stored in individual accounts can easily be summed for presentation in reports, but data stored in summary accounts cannot be easily broken down and reported in more detail. Consequently, it is important that the chart of accounts contain sufficient detail to meet the information needs of the organization.

To illustrate, consider the consequences if a company were to use only one general ledger account for all sales transactions. It would be easy to produce reports showing the total amount of sales for a given time period, but it would be very difficult to prepare reports separating cash and credit sales. Indeed, the only way to produce these latter reports would be to trace the audit trail back to the journals and source documents to identify the nature of each sales transaction. Clearly, this approach would not be very practical. If, however, separate general ledger accounts are used for cash and credit sales, then reports showing both types of sales could be easily produced. Total sales could also be easily reported by summing each type of sale.

Table D shows the chart of accounts for a small retail store organized as a partnership. Let us examine its structure. Each account number is three digits long, with each digit serving a specific purpose. The first digit represents the major account categories as they appear on the partnership's financial statements: current assets, noncurrent assets, liabilities, equity accounts, revenues, expenses, and summary accounts. Notice that each major category is assigned a separate block of numbers, which corresponds to the sequence in which it appears in the financial statements. Thus all current assets are numbered in the 100s, noncurrent assets are numbered in the 200s, and so on.

The second digit in each account code represents the primary financial subaccounts within each category. Again, the accounts are assigned numbers to match the order of their appearance in financial statements (in order of decreasing liquidity). Thus, account 120 represents accounts receivable and account 150 represents inventory.

Finally, the third digit identifies the specific account to which the transaction data will be posted. For example, account 501 represents cash sales of appliances, account 502 represents credit sales of appliances, and account 503 represents service revenues (revenues from service calls). Similarly, accounts 101 through 103 represent the various cash accounts used by the partnership.

It is important to realize that the chart of accounts will differ, depending on the nature and purpose of the organization it represents. For example, the sample chart of accounts reflects the fact that the company is a partnership. Corporations would not have separate capital and drawing accounts but, instead, accounts for common stock and retained earnings. Likewise, since the partnership is a retail organization, it has only one type of general ledger inventory account. A manufacturing company, in contrast, would have separate general ledger accounts for raw materials, work in process, and finished goods inventories.

A chart of accounts should also provide room for growth. Notice that there are a number of gaps in the chart of accounts to allow for later insertion of additional accounts. For example, the partnership does not currently have enough excess cash to invest in marketable securities. Later, when it can do so, a new general ledger account for marketable securities can be created and assigned the number 110.

Table D Sample Chart of Accounts for a Small Partnership

Account Code	Account Name
100–199	Current Assets
101	Checking Account
102	Savings Account
103	Petty Cash
120	Accounts Receivable
125	Allowance for Doubtful Accounts
130	Notes Receivable
150	Inventory
160	Supplies
170	Prepaid Rent
180	Prepaid Insurance
200–299	Noncurrent Assets
200	Land
210	Buildings
215	Accumulated Depreciation—Buildings
230	Equipment
235	Accumulated Depreciation—Equipment
240	Furniture and Fixtures
245	Accumulated Depreciation—Furniture & Fixtures
250	Other Assets
300–399	Liabilities
300	Accounts Payable
310	Wages Payable
321	Employee Income Tax Payable
322	FICA Tax Payable
323	Federal Unemployment Tax Payable
324	State Unemployment Tax Payable
330	Accrued Interest Payable
360	Other Liabilities
400–499	Equity Accounts
400	Parry, Capital
410	Gonzalez, Capital
500–599	Revenues
501	Cash Sales
502	Credit Sales
503	Service Revenues
510	Sales Returns & Allowances
511	Sales Discounts
520	Interest Revenue
530	Miscellaneous Revenue
600–799	Expenses
600	Cost of Goods Sold
611	Wages Expense
612	Commissions Expense

(Continued)

Table D (Continued)

613	Payroll Tax Expense
620	Rent Expense
630	Insurance Expense
640	Supplies Expense
650	Bad Debt Expense
701	Depreciation Expense—Buildings
702	Depreciation Expense—Equipment
703	Depreciation Expense—Furniture & Fixtures
710	Income Tax Expense
900–999	Summary Accounts
901	Drawing, Parry
902	Drawing, Gonzalez
910	Income Summary

Accounts in the subsidiary ledgers often have longer account codes than those used in the general ledger. For example, notice in Figure 2 that each individual account receivable has a six-digit code. The first three digits are 120, the code for accounts receivable in the general ledger. The additional three digits provide a means for identifying up to 999 individual customers. The accounts payable and inventory subsidiary ledgers would be organized in a similar manner.

This concludes our description of the documents and procedures for a manual AIS. Although the methods used to accomplish these steps differ, the same logic is followed in computer-based AIS.

KEY TERMS

- source documents
- general journal
- specialized journals
- general ledger
- subsidiary ledger
- control account
- audit trail
- chart of accounts