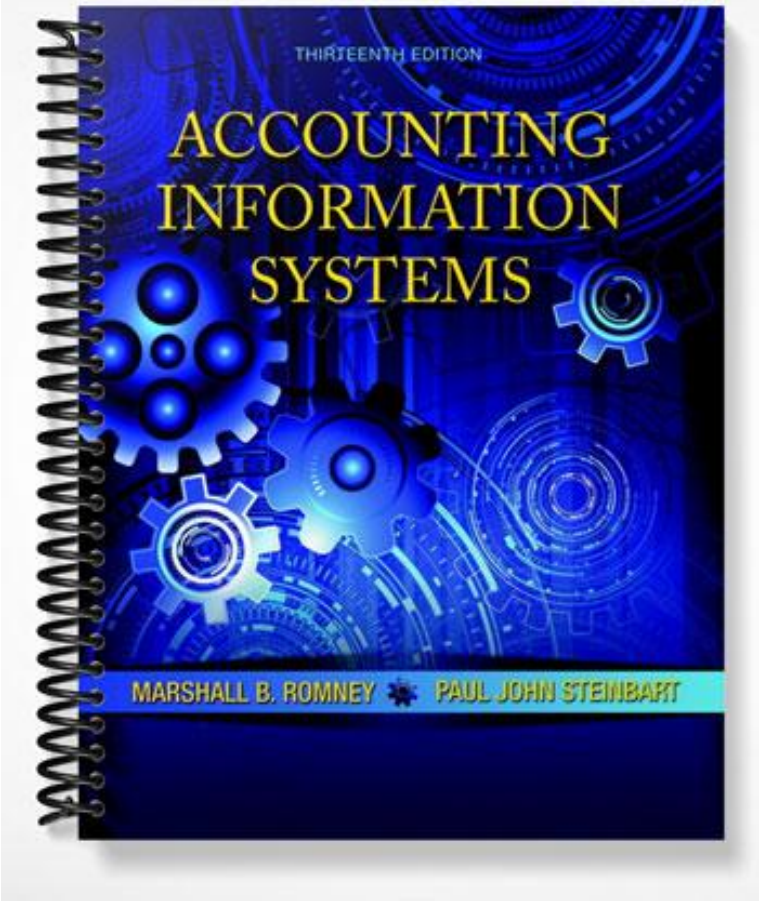
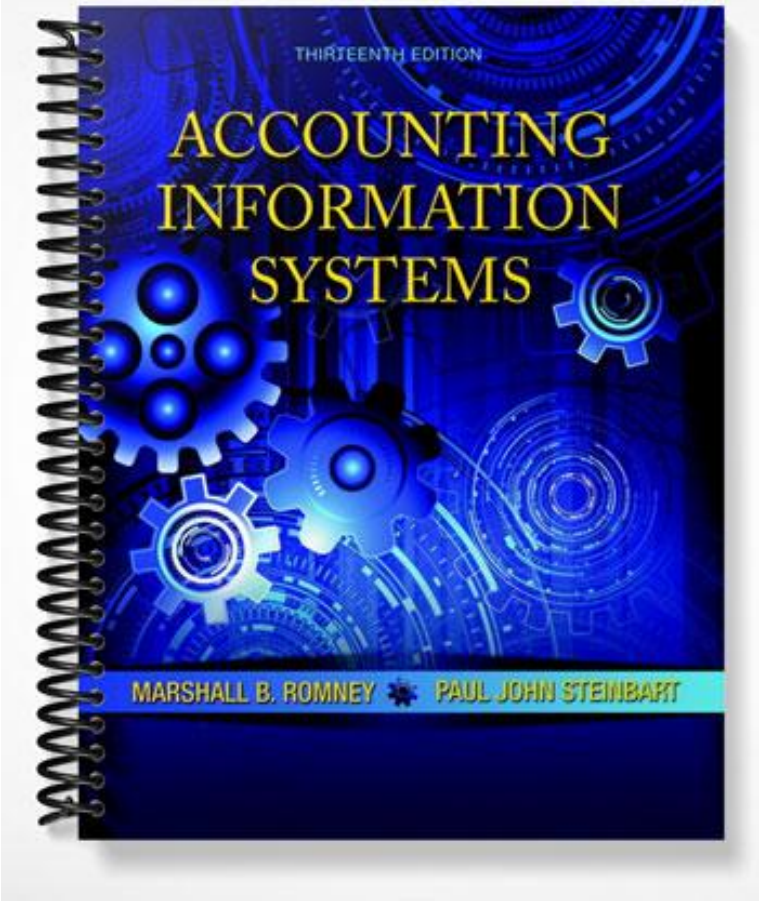
SOLUTIONS MANUAL



SOLUTIONS MANUAL



CHAPTER 2

OVERVIEW OF TRANSACTION PROCESSING AND ENTERPRISE RESOURCE PLANNING SYSTEMS

SUGGESTED ANSWERS TO DISCUSSION QUESTIONS

2.1 Table 2-1 lists some of the documents used in the revenue, expenditure, and human resources cycle. What kinds of input or output documents or forms would you find in the production (also referred to as the conversion cycle)?

Students will not know the names of the documents but they should be able to identify the tasks about which information needs to be gathered. Here are some of those tasks

- Requests for items to be produced
- Documents to plan production
- Schedule of items to be produced
- List of items produced, including quantity and quality
- Form to allocate costs to products
- Form to collect time spent on production jobs
- Form requesting raw materials for production process
- Documents showing how much raw materials are on hand
- Documents showing how much raw materials went into production
- List of production processes
- List of items needed to produce each product
- Documents to control movement of goods from one location to another

2.2 With respect to the data processing cycle, explain the phrase "garbage in, garbage out." How can you prevent this from happening?

When garbage, defined as errors, and allowed into a system that error is processed and the resultant data stored. The stored data at some point will become output. Thus, the phrase garbage in, garbage out. Data errors are even more problematic in ERP systems because the error can affect many more applications than an error in a non-integrated database.

Companies go to great lengths to make sure that errors are not entered into a system. To prevent data input errors:

- Data captured on source documents and keyed into the system are edited by the computer to detect and correct errors and critical data is sometimes double keyed.
- Companies use turnaround documents to avoid the keying process.
- Companies use source data automation devices to capture data electronically to avoid the keying and some of the editing process.
- Well-designed documents and screens improve accuracy and completeness by providing instructions or prompts about what data to collect, grouping logically related pieces of information close together, using check off boxes or pull-down menus to present the available options, and using appropriate shading and borders to clearly separate data items.
- Data input screens are preformatted to list all the data the user needs to enter.
- Prenumbered source documents are used or the system automatically assigns a sequential number to each new transaction. This simplifies verifying that all transactions have been recorded and that none of the documents has been misplaced.
- The system is programmed to make sure company policies are followed, such as approving or verifying a transaction. For example, the system can be programmed to check a customer's credit limit and payment history, as well as inventory status, before confirming a sale to a customer.

2.3 What kinds of documents are most likely to be turnaround documents? Do an Internet search to find the answer and to find example turnaround documents.

Documents that are commonly used as turnaround documents include the following:

- Utility bills
- Meter cards for collecting readings from gas meters, photocopiers, water meters etc
- Subscription renewal notices
- Inventory stock cards
- Invoices
- Checks (banks encode account info on the bottom of checks)
- Annual emissions inventory forms (http://www.deq.state.ok.us/aqdnew/Emissions/TurnAroundDocs.htm)

Students will find many other turnaround documents.

Here are some URLs for turnaround document definitions and examples:
http://en.wikipedia.org/wiki/Turnaround_document
http://www.pcmag.com/encyclopedia_term/0,2542,t=turnaround+document&i=53248,00.asp
http://www.answers.com/topic/turnaround-document-1

Here are some turnaround document images (1 long URL):
http://images.google.com/images?q=turnaround+document&oe=utf-8&rls=org.mozilla:en-US:official&client=firefox-a&um=1&ie=UTF-8&ei=N7yBSpbAF4KiswO39JnwCA&sa=X&oi=image_result_group&ct=title&resnum=4

2.4 The data processing cycle in Figure 2-1 is an example of a basic process found throughout nature. Relate the basic input/process/store/output model to the functions of the human body.

There are a number of ways to relate the input/process/store/output model to the human body. Here are a few of them

- Brain. We read, see, hear, and feel things. We process that input in order to understand what it is and how it relates to us. We store that data in our brains and then process it again in order to solve problems, make decisions, etc., which represent output.
- Stomach. We take food in as input. It is processed to produce energy to fuel all bodily functions. If we eat more food than the body needs at any one time it is stored as fat. The output is walking, talking, thinking – all functions fueled by the energy produced. Human waste is also an output of that process.

Students will come up with other examples of how the input/process/store/output model applies to the human body

2.5 Some individuals argue that accountants should focus on producing financial statements and leave the design and production of managerial reports to information systems specialists. What are the advantages and disadvantages of following this advice? To what extent should accountants be involved in producing reports that include more than just financial measures of performance? Why?

There are no advantages to accountants focusing only on financial information. Both the accountant and the organization would suffer if this occurred. Moreover, it would be very costly to have two systems rather than one that captures and processes operational facts at the same time as it captures and reports financial facts.

The main disadvantage of this is that accountants would ignore much relevant information about the organization's activities. To the extent that such nonfinancial information (e.g., market share, customer satisfaction, measures of quality, etc.) is important to management, the value of the accounting function would decline. Moreover, accountants have been trained in how to design systems to maximize the reliability of the information produced. If relevant information is not produced by the AIS, there is danger that the information may be unreliable because the people responsible for its production have not been trained in, or adequately aware of, the potential threats to reliability and the best measures for dealing with those threats.

SUGGESTED ANSWERS TO THE PROBLEMS

2.1 The chart of accounts must be tailored to an organization's specific needs. Discuss how the chart of accounts for the following organizations would differ from the one presented for S&S in Table 2-4.

Some of the changes in the chart of accounts for each type of entity include the following:

a. University

- No equity or summary drawing accounts. Instead, have a fund balances section for each type of fund.
- Several types of funds, with a separate chart of accounts for each. The current fund is used for operating expenses, but not capital expenditures. Loan funds are used to account for scholarships and loans. Endowment funds are used to account for resources obtained from specific donors, generally with the objective that principal be preserved and that income be used for a specific purpose. Plant funds are used for major capital expenditures. Most fund categories would be further divided into restricted and unrestricted categories.
- Unlikely to have Notes Receivable, but may have Accounts Receivable for students who pay tuition in installment payments.
- Tuition and fees would be one source of revenue. Others include gifts, investment income, sales of services, and, for public universities, state appropriations.
- Student loans are an asset; student deposits are a liability.

b. Bank

- Loans to customers would be an asset, some current others noncurrent, depending upon the length of the loan.
- No inventory
- Customer accounts would be liabilities.
- Classification of revenue would be among loans, investments, service charges, etc.
- No cost of goods sold.

c. Government Unit

- No equity or summary drawing accounts. Instead, have fund balances.
- Balance sheet shows two major categories: (1) assets and (2) liabilities and fund equity.

- Separate chart of accounts for each fund (general fund, special revenue fund, capital projects fund, and debt service fund).
- Revenue and expenditure accounts would be grouped by purpose (e.g., police, highways, sanitation, education, etc.).
- Encumbrance accounts
- Revenues would include taxes, licenses and permits, fines, and charges for specific services.
- Taxes receivable as a separate category due to importance.
- No cost of goods sold.

d. Manufacturing Company
- Several types of inventory accounts (raw materials, work-in-process, and finished goods).
- Additional digits to code revenues and expenses by products and to code assets/liabilities by divisions.

e. Expansion of S&S
- Additional digits to code:
  - Revenues and expenses by products and by stores
  - Assets/liabilities by stores.

2.2 Design a chart of accounts for SDC. Explain how you structured the chart of accounts to meet the company's needs and operating characteristics. Keep total account code length to a minimum, while still satisfying all of Mace's desires.
(Adapted from the CMA Exam)

A six-digit code (represented by letters ABCDEF) is sufficient to meet SDC's needs:

A This digit identifies the 4 divisions plus the corporate office

B This digit represents major account types (asset, liability, equity, revenue, expense).

C This digit represents the major classification within account type:

- For balance sheet accounts, this represents specific sub-categories (current assets, plant and equipment, etc.), as only six categories are needed.
- For expense and revenue accounts, this digit represents the product group, as again there are only five products plus general costs.

D This digit represents specific accounts or cost centers:

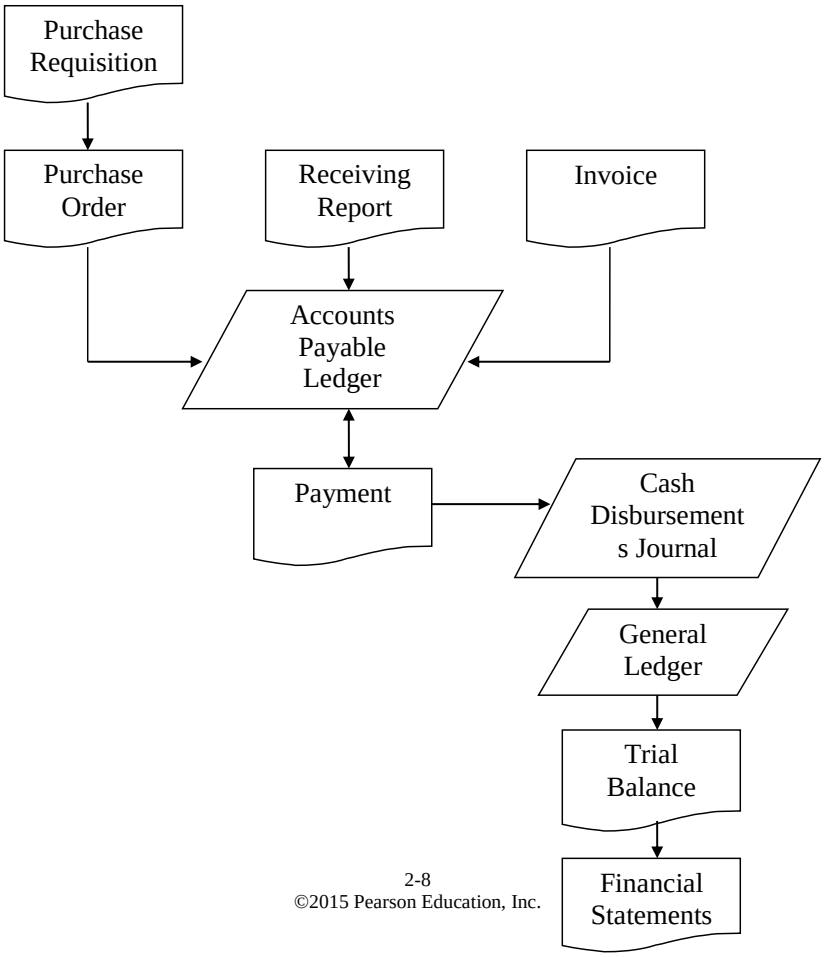
- For balance sheet accounts, this is the control account; one digit is adequate because the problem says no more than 10 categories.
- For expense accounts, this is the cost center; one digit is adequate because the problem indicates no more than 6 cost centers.

EF These two digits represent the subsidiary accounts and natural expense categories:

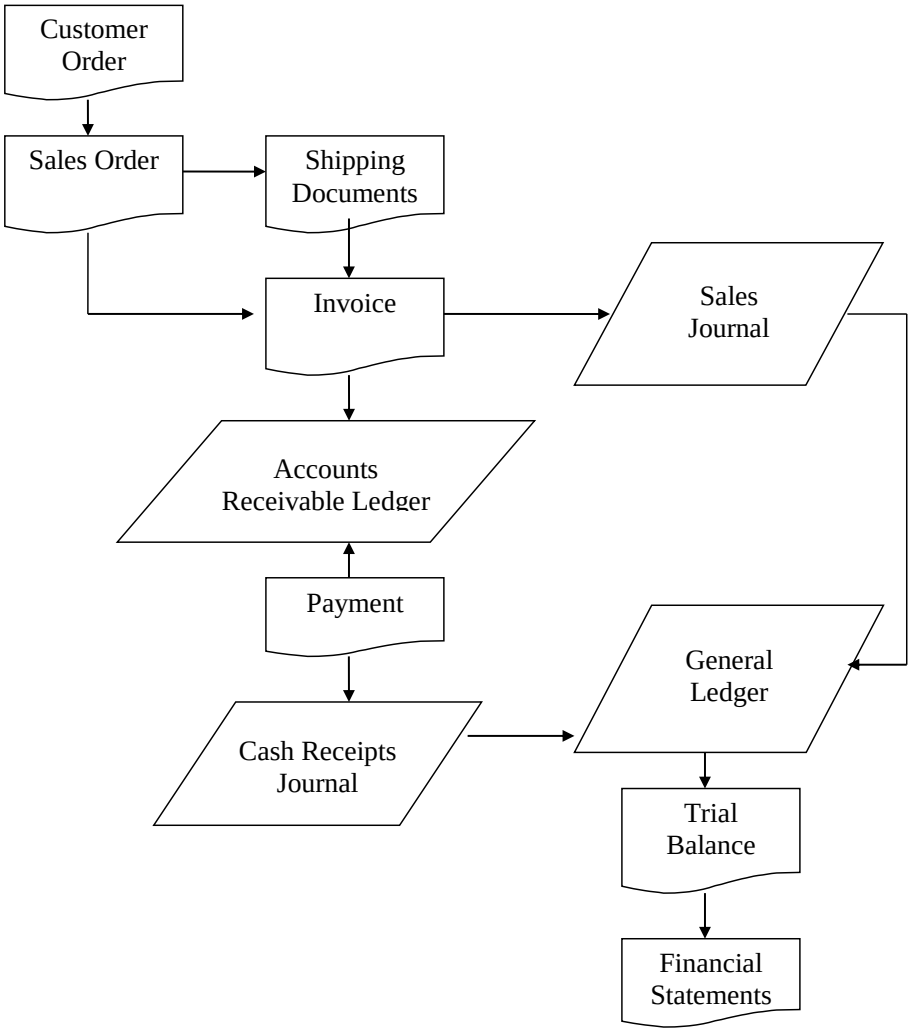
- For expense accounts, these represent the 56 natural expense categories and variances for each cost center.
- For the balance sheet, these two digits accommodate up to 100 subsidiary accounts.

2.3 An audit trail enables a person to trace a source document to its ultimate effect on the financial statements or work back from amounts in the financial statements to source documents. Describe in detail the audit trail for the following:

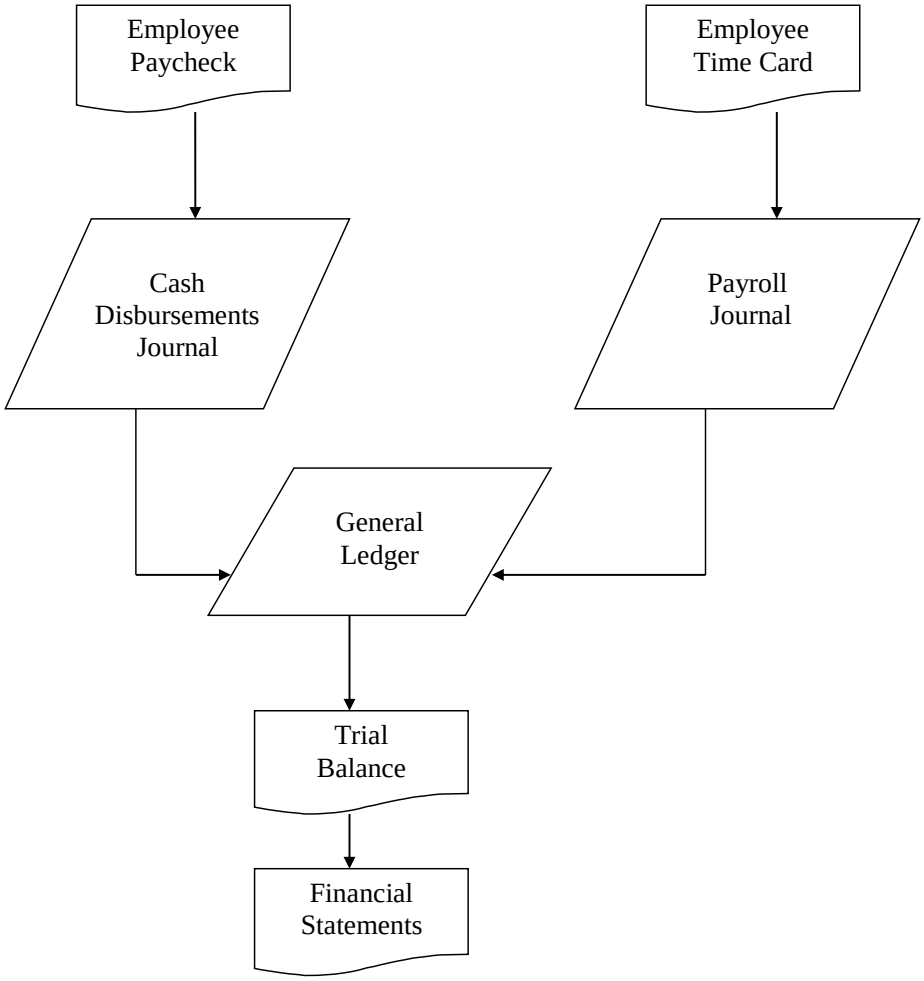
a. The audit trail for inventory purchases includes linking purchase requisitions, purchase orders, and receiving reports to vendor invoices for payment. All these documents would be linked to the check or EFT transaction used to pay for an invoice and recorded in the Cash Disbursements Journal. In addition, these documents would all be linked to the journal entry made to record that purchase. There would be a general ledger account number at the bottom of each column in the journal. The journal reference would appear in the General Ledger, Inventory Ledger, and Accounts Payable ledger.



b. The audit trail for the sale of inventory links the customer order, sales order, and shipping document to the sales invoice. These documents are linked to the journal entry recording the sale of that merchandise. The invoice would also be linked to the cash received from the customer and to the journal entry to record that receipt.



c. The audit trail for employee payroll links records of employee activity (time cards, time sheets, etc.) to paychecks and to the journal entry to record payment of payroll. In a manufacturing company, there would also be links to the job-time tickets used to allocate labor costs to specific products or processes.



2.4 Your nursery sells various types and sizes of trees, bedding plants, vegetable plants, and shrubs. It also sells fertilizer and potting soil. Design a coding scheme for your nursery.

Grading depends upon the instructor's judgment about the quality of the coding scheme. The coding scheme should be either a group or block coding. In addition, the student's solutions should provide sufficient detail in order to determine whether the solution represents a group or block coding scheme.

2.5 Match the following terms with their definitions

~~1216:4:.~~a. 10
~~1432:4:.~~b. 23
~~1648:4:.~~c. 7
~~1864:4:.~~d. 16
~~1080:4:.~~e. 1
~~13296:4:.~~f. 13
~~10512:4:.~~g. 26
~~17728:4:.~~h. 21
~~14944:4:.~~i. 2
~~12160:4:.~~j. 25
~~19376:4:.~~k. 19
~~16592:4:.~~l. 22
~~13808:4:.~~m. 4
~~11024:4:.~~n. 8
~~18240:4:.~~o. 17
~~15456:4:.~~p. 3
~~12672:4:.~~q. 11
~~19888:4:.~~r. 9
~~17104:4:.~~s. 6
~~14320:4:.~~t. 24
~~11536:4:.~~u. 5
~~18752:4:.~~v. 12
~~15968:4:.~~w. 14
~~13184:4:.~~x. 18
~~10400:4:.~~y. 20
~~17616:4:.~~z. 15

Formatted: Bullets and Numbering

2.6 For each of the following scenarios identify which data processing method (batch or online, real-time) would be the most appropriate.

Some students will respond that all can and ought to be done with online-real time processing. While all can certainly be done that way, batch processing does have its advantages (cheaper, more efficient, etc.). In making the decision between batch and online-real time processing, designers must consider the need for current and accurate data. Batch processing is often used for data that does not need frequent updating and naturally occurs or is processed at fixed times. For example, while employee check in and checkout times may be gathered in real time, payroll is usually only processed at a fixed interval such as weekly, biweekly, or monthly.

a. online-real time
b. online-real time
c. batch
d. online-real time
e. batch
f. batch
g. batch
h. on-line real time

2.7 After viewing the Web sites, and based on your reading of the chapter, write a 2 page paper that describes how an ERP can connect and integrate the revenue, expenditure, human resources/payroll, and financing cycles of a business.

Student solutions will vary depending on the demonstrations they observe. However, the demonstrations should give the students a more concrete and visual understanding of what an ERP system is and does. Student solutions should at least discuss how an ERP could integrate all of the various cycle activities of a business into one integrated system.

~~1432:0:.17728:0:~~**2.8 Which of the following actions update a master file and which would be stored as a record in a transaction file?**

~~1216:4:.~~a. _____Update customer address change – Master file
~~1432:4:.~~b. _____Update unit pricing information – Master file
~~1648:4:.~~c. _____Record daily sales – Transaction file
~~1864:4:.~~d. _____Record payroll checks – Transaction file
~~1080:4:.~~e. _____Change employee pay rates Master file
~~13296:4:.~~f. _____Record production run variances – Transaction file
~~10512:4:.~~g. _____Record Sales Commissions – Transaction file
~~17728:4:.~~h. _____Change employee office location – Master file
~~14944:4:.~~i. _____Update accounts payable balance – Master file
~~12160:4:.~~j. _____Change customer credit limit – Master file
~~19376:4:.~~k. _____Change vendor payment discount terms – Master file
~~16592:4:.~~l. _____Record purchases – Transaction file

Formatted: Bullets and Numbering

2.9 You were hired to assist Ashton Fleming in designing an accounting system for S&S. Ashton has developed a list of the journals, ledgers, reports, and documents that he thinks S&S needs (see Table 2-4). He asks you to complete the following tasks:

~~1216:4:.~~a. Specify what data you think should be collected on each of the following four documents: sales invoice, purchase order, receiving report, employee time card

~~1432:4:.~~b. Design a report to manage inventory.

~~1648:4:.~~c. Design a report to assist in managing credit sales and cash collections.

~~1864:4:.~~d. Visit a local office supply store and identify what types of journals, ledgers, and blank forms for various documents (sales invoices, purchase orders, etc.) are available. Describe how easily they could be adapted to meet S&S's needs.

Formatted: Bullets and Numbering

No single answer exists with this case. Indeed, solutions will vary depending upon student ingenuity and creativity. Student answers can be compared to examples of these documents found in chapters 10 and 11.

a. A sample invoice is presented in the Revenue Cycle chapter. A sample purchase order is presented in the Expenditure Cycle chapter. A sample receiving report also appears in the Expenditure Cycle chapter. Although student designs will vary, each document should contain the following data items:

Sales Invoice

Customer name and address	Product code or number
Customer account number	Product description
Customer order number	Quantity ordered
Salesperson code	Quantity shipped
Shipping Address	Unit price
Shipper and date shipped	Extended price
Terms of sale	Taxes, if applicable
Total Amount due	

Purchase Order

Ship to address	Item numbers ordered
Bill to address	Payment terms
Purchasing agent number	Shipping instructions
Quantity of parts ordered	Supplier name or number
Prices of parts ordered	Date of purchase
Taxes, if any	Total amount of purchase

Receiving Report

Vendor name	Vendor number
Vendor address	Date received
Shipper	Receiving clerk number
Quantity received	Part number received

Description/quality remarks	Purchase order number
Inspected by	

Employee Time Card

Employee name	Total regular hours
Employee number	Time in/ Time out
Pay period	Total overtime hours
Department number	Approved by
Employee signature	

b. The report to manage inventory should contain the following information:

- Preferred vendor
- Product number
- Description
- Reorder point
- Quantity on Hand
- Quantity Available
- Vendor performance history
- Quantity on order
- Lead time

~~1648:4:.~~c. The report to manage credit sales and cash collections should include:

Formatted: Bullets and Numbering

- Credit sales per period
- Cash collections per period
- Aging of accounts receivable
- Customers by geographic region
- Uncollectible accounts per period

~~1864:4:.~~d. The answers to this will vary depending upon the types of documents carried in the office supplies stores visited by the students.

Formatted: Bullets and Numbering

A fruitful topic for class discussion, or a possible additional case assignment, is to compare the design of paper documents to the data entry screen layouts used in various popular accounting packages.

SUGGESTED ANSWERS TO THE CASE

2.1 Bar Harbor Blueberry Farm

Data from Case

Date	Supplier Invoice	Supplier Name	Supplier Address	Amount
March 7	AJ34	Bud's Soil Prep	PO Box 34	$2,067.85
March 11	14568	Osto Farmers Supply	45 Main	$ 67.50
March 14	893V	Whalers Fertilizer	Route 34	$5,000.00
March 21	14699	Osto Farmers Supply	45 Main	$3,450.37
March 21	10102	IFM Wholesale	587 Longview	$4,005.00
March 24	10145	IFM Wholesale	587 Longview	$ 267.88

Purchases Journal

Page 1

Date	Supplier	Supplier Invoice	Account Number	Post Ref	Amount
March 7	Bud's Soil Prep	AJ34	23	√	$2,067.85
March 11	Osto Farmers Supply	14568	24	√	$ 67.50
March 14	Whalers Fertilizer	893V	36	√	$5,000.00
March 21	Osto Farmers Supply	14699	24	√	$3,450.37
March 21	IFM Wholesale	10102	38	√	$4,005.00
March 24	IFM Wholesale	10145	38	√	$ 267.88
March 31	TOTAL				14,858.60

General Ledger

Accounts Payable **Account Number: 300**

Date	Description	Post Ref	Debit	Credit	Balance
March 1	Balance Forward				$18,735.55
March 31		√		14,858.60	33,594.15

Purchases **Account Number: 605**

Date	Description	Post Ref	Debit	Credit	Balance
March 1	Balance Forward				$54,688.49
March 31		√	14,858.60		69,547.09

Account Payable Subsidiary Ledger

Account No: 23	**Bud's Soil Prep**	**PO Box 34**		**Terms: 2/10, Net 30**
Date	Description	Debit	Credit	Balance
March 1	Balance Forward			0.00
March 7	Supplier invoice AJ34		2,067.85	2,067.85

Account No: 24	**Osto Farmers Supply**	**45 Main**		**Terms: 2/10, Net 30**
Date	Description	Debit	Credit	Balance
March 1	Balance Forward			0.00
Mar 11	Supplier invoice 14568		67.50	67.50
Mar 21	Supplier invoice 14699		3,450.37	3,517,87

Account No: 36	**Whalers Fertilizer**	**Route 34**		**Terms: 2/10, Net 30**
Date	Description	Debit	Credit	Balance
March 1	Balance Forward			0.00
March 14	Supplier invoice 893V		5,000.00	5,000.00

Account No: 38	**IFM Wholesale**	**587 Longview**		**Terms: 2/10, Net 30**
Date	Description	Debit	Credit	Balance
March 1	Balance Forward			0.00
Mar 21	Supplier invoice 10102		4,005.00	4,005.00
Mar 24	Supplier invoice 10145		267.88	4,272.88