

ACS-1803

Introduction to Information Systems

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Functional Area Systems – Accounting Information Systems

Lecture Outline 4C

Functional Area Information Systems

Functional Area	Information System	Examples of Typical Systems
Accounting and Finance	Systems used for managing, controlling, and auditing the financial resources of the organization	<ul style="list-style-type: none"> ■ Inventory management ■ Accounts payable ■ Expense accounts ■ Cash management ■ Payroll processing
Human Resources	Systems used for managing, controlling, and auditing the human resources of the organization	<ul style="list-style-type: none"> ■ Recruiting and hiring ■ Education and training ■ Benefits management ■ Employee termination ■ Workforce planning
Marketing	Systems used for managing new product development, distribution, pricing, promotional effectiveness, and sales forecasting of the products and services offered by the organization	<ul style="list-style-type: none"> ■ Market research and analysis ■ New product development ■ Promotion and advertising ■ Pricing and sales analysis ■ Product location analysis
Production and Operations	Systems used for managing, controlling, and auditing the production and operations resources of the organization	<ul style="list-style-type: none"> ■ Inventory management ■ Cost and quality tracking ■ Materials and resource planning ■ Customer service tracking ■ Customer problem tracking ■ Job costing ■ Resource utilization

- Accounting Information Systems (AIS)
- Journalizing
 - Posting to Ledgers
 - Prepare Trial Balance
 - Prepare Financial Statements

Functional Area Information Systems

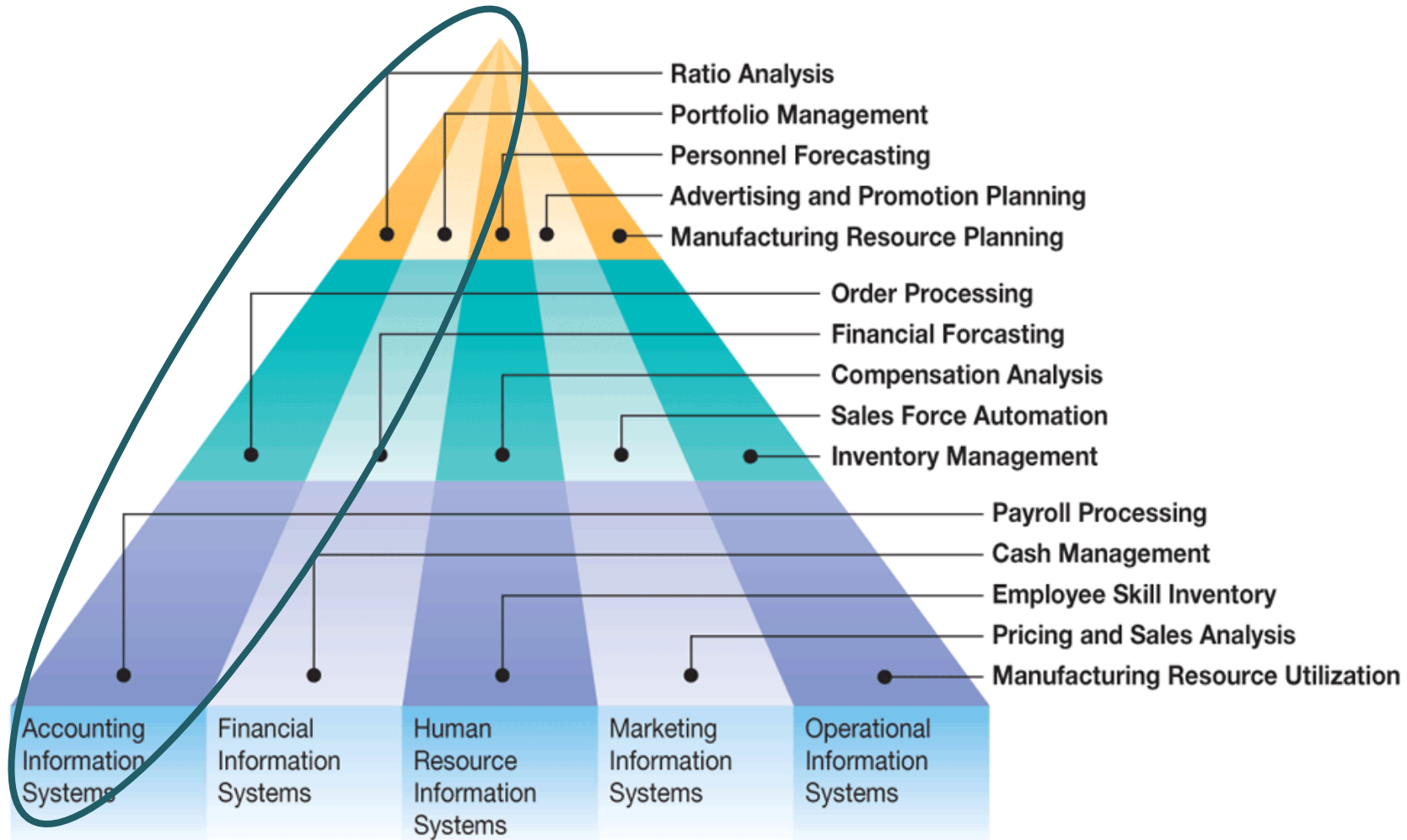


Figure 6.34 Functional area information systems.

Functional Area Information Systems: Accounting

- **Accounting Information System (AIS)** integrates, monitors/documents information from different aspects of business operations that have to do with:
 - accountability for the assets/liabilities of the enterprise
 - the determination of the results of operations that ultimately leads to the computation of comprehensive income,
 - the financial reporting aspects of business operations.
- Evidence of financial transactions must be, in the end, contained in one main accounting system that is capable of producing (at least) two (2) main financial statements that are required for a business: **(1)** the balance sheet and **(2)** the income statement.

Accounting Information System (AIS)

Helps management answer such questions as:

- How much and what kind of debt is outstanding?
- Were sales higher this period than last?
- What assets do we have?
- What were our cash inflows and outflows?
- Did we make a profit last period?

Types of Information

- Types of information needed for decisions:
 - Some is financial
 - Some is nonfinancial
 - Some comes from internal sources
 - Some comes from external sources

An effective AIS needs to be able to integrate information of different types and from different sources.

The Three Basic Functions Performed by an AIS

1. To Collect and store data about the organization's business activities and transactions efficiently and effectively.
2. To provide management with information useful for decision making.
3. To provide adequate internal controls

1. Collect and Store Data

- To collect and store data about the organization's business activities and transactions efficiently and effectively:
 - Capture transaction data on source documents
 - Record transaction data in journals, which present a chronological record of what occurred.
 - Post data from journals to ledgers, which sort data by account type

2. Provide Management Information

- To provide management with information useful for decision making:
 - In manual systems, this information is provided in the form of reports that fall into two main categories:
 - Financial statements
 - Managerial reports

3. Provide Adequate Internal Controls

- To provide adequate internal controls:
 - Ensure that the information produced by the system is reliable
 - Ensure that business activities are performed efficiently and in accordance with management's objectives.
 - Safeguard organizational assets.

Basic Accounting Terminology

- Event
- Transaction
- Account
- Control Account
- Ledger
- Subsidiary Ledger
- Journal
- Posting
- Trial Balance
- Adjusting Entries
- Financial Statements
- Closing Entries

Debits and Credits

- An **Account** shows the effect of transactions on a given asset, liability, equity, revenue, or expense account.
- **Double-entry** accounting system (two-sided effect).
- Recording done by debiting at least one account and crediting another.
- **DEBITS must equal CREDITS.**

Debits and Credits

Account



- An arrangement that shows the effect of transactions on an account.
- Debit = “Left”
- Credit = “Right”

An Account can be illustrated in a T-Account form.



Account Name	
Debit / Dr.	Credit / Cr.

Debits and Credits

- If Debit entries are **greater than** Credit entries, the account will have a debit balance.

Account Name		
Debit / Dr.	Credit / Cr.	
Transaction #1	\$10,000	Transaction #2
Transaction #3	8,000	
Balance	\$15,000	

Debits and Credits

- If Credit entries are **greater than** Debit entries, the account will have a credit balance.

	Account Name		
	Debit / Dr.	Credit / Cr.	
Transaction #1	\$10,000	\$3,000	Transaction #2
		8,000	Transaction #3
Balance		\$1,000	

Debits and Credits

Normal Balance
Debit

Normal Balance
Credit

Liabilities	
Debit / Dr.	Credit / Cr.
↓	↑
	Normal Balance

Assets	
Debit / Dr.	Credit / Cr.
↑	↓
Normal Balance	

Chapter 3-23

Equity	
Debit / Dr.	Credit / Cr.
↓	↑
	Normal Balance

Chapter 3-25

Expense	
Debit / Dr.	Credit / Cr.
↑	↓
Normal Balance	

Chapter 3-27

Revenue	
Debit / Dr.	Credit / Cr.
↓	↑
	Normal Balance

Chapter 3-26

Debits and Credits Summary

Balance Sheet

Income Statement

Asset = Liability + Equity = Revenue - Expense

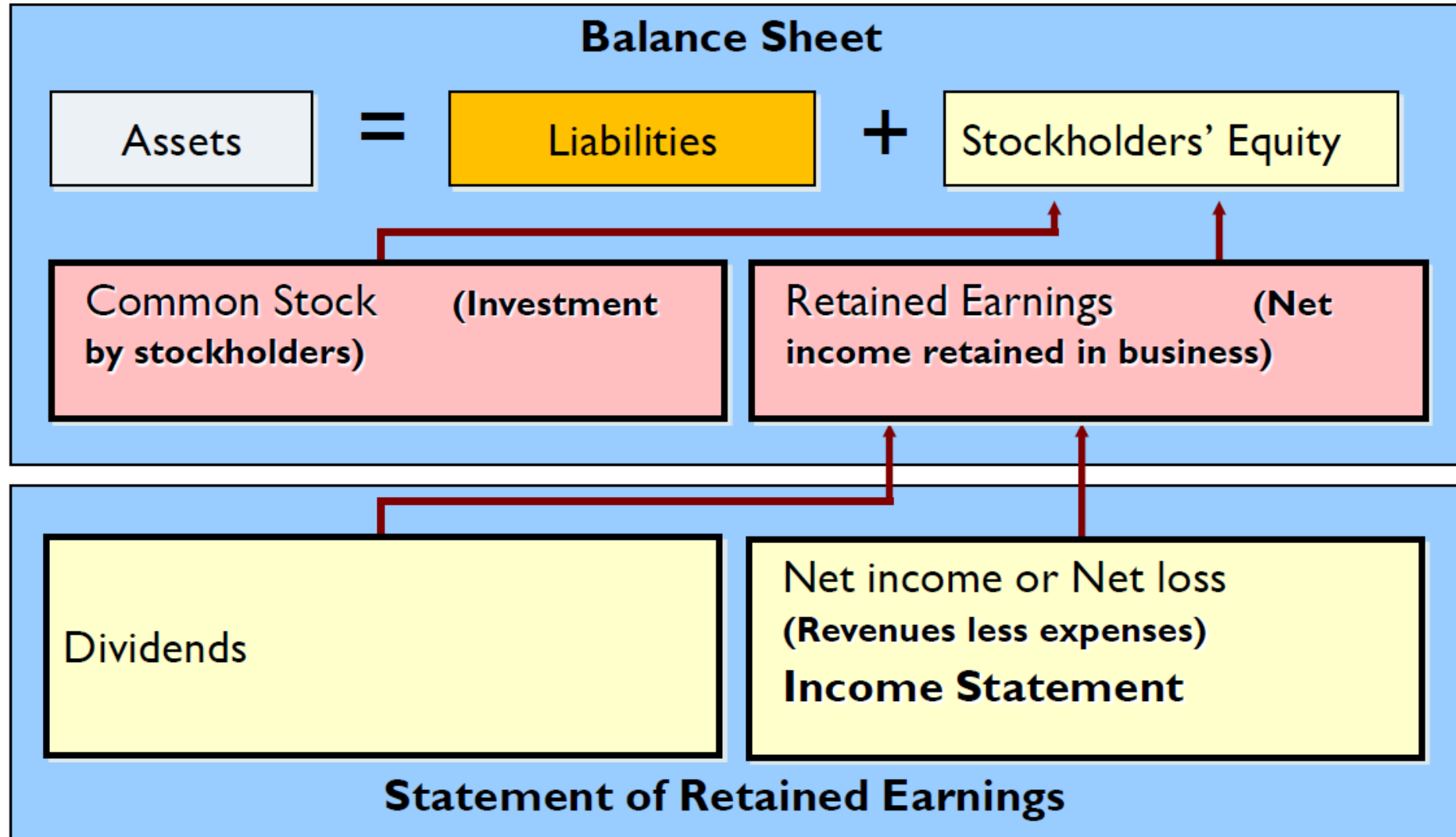
Debit



Credit

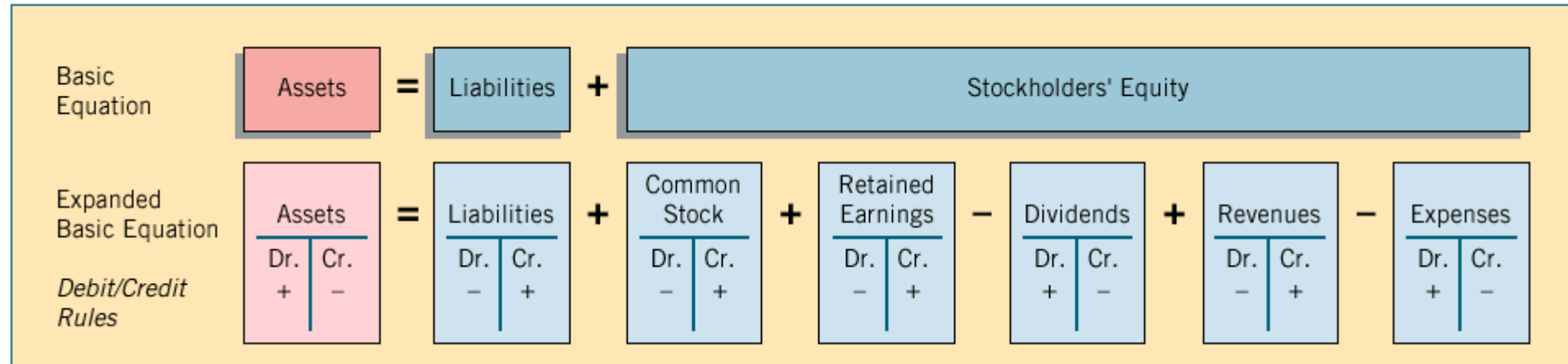


Corporate Ownership Structure



Basic Accounting Equation

- Relationship among the assets, liabilities and stockholders' equity of a business:



- The equation must be in balance after every transaction. For every **Debit** there must be a **Credit**.

Data Processing Cycle: Data Input

- Historically, most businesses used paper *source documents* to collect data and then transferred that data into a computer.
- Today, most data are recorded directly through data entry screens.

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 the amounts to be debited and credited.
- The general journal records infrequent or non-routine transactions.
- Specialized journals simplify the process of recording large numbers of repetitive transactions.

The AIS Processing Cycle

- The AIS processing cycle consists of four major steps:
 1. Journalizing
 2. Post Transaction to Ledgers
 3. Preparing a Trial Balance
 4. Preparing Financial Statements

1. Journalizing

General Journal – a chronological record of transactions.

Journal Entries are recorded in the journal.

General Journal				
Date	Account Title	Ref.	Debit	Credit
Jan. 3	Cash	100	100,000	
	Common stock	300		100,000
10	Building	130	150,000	
	Note payable	220		150,000

2. Posting

Posting – the process of transferring amounts from the journal to the General Ledger accounts.

General Journal				GJI
Date	Account Title	Ref.	Debit	Credit
Jan. 3	Cash	100	100,000	
	Common stock			100,000

General Ledger					
Cash			Acct. No. 100		
Date	Explanation	Ref.	Debit	Credit	Balance
Jan. 3	Sale of stock	GJI	100,000		100,000

2. Post Transactions to Ledgers

- Ledger – example

GENERAL LEDGER

ACCOUNT: Accounts Receivable

Account Number: 120

Date	Description	Post Ref	Debit	Credit	Balance
01/01/05					42,069.00
01/03/05	Sales	S03	1,300.00		43,369.00
01/13/05	Cash collections	CR09		4,600.00	38,769.00
01/23/05	Sales	S04	5,600.00		44,369.00

2. Post Transaction to Ledgers

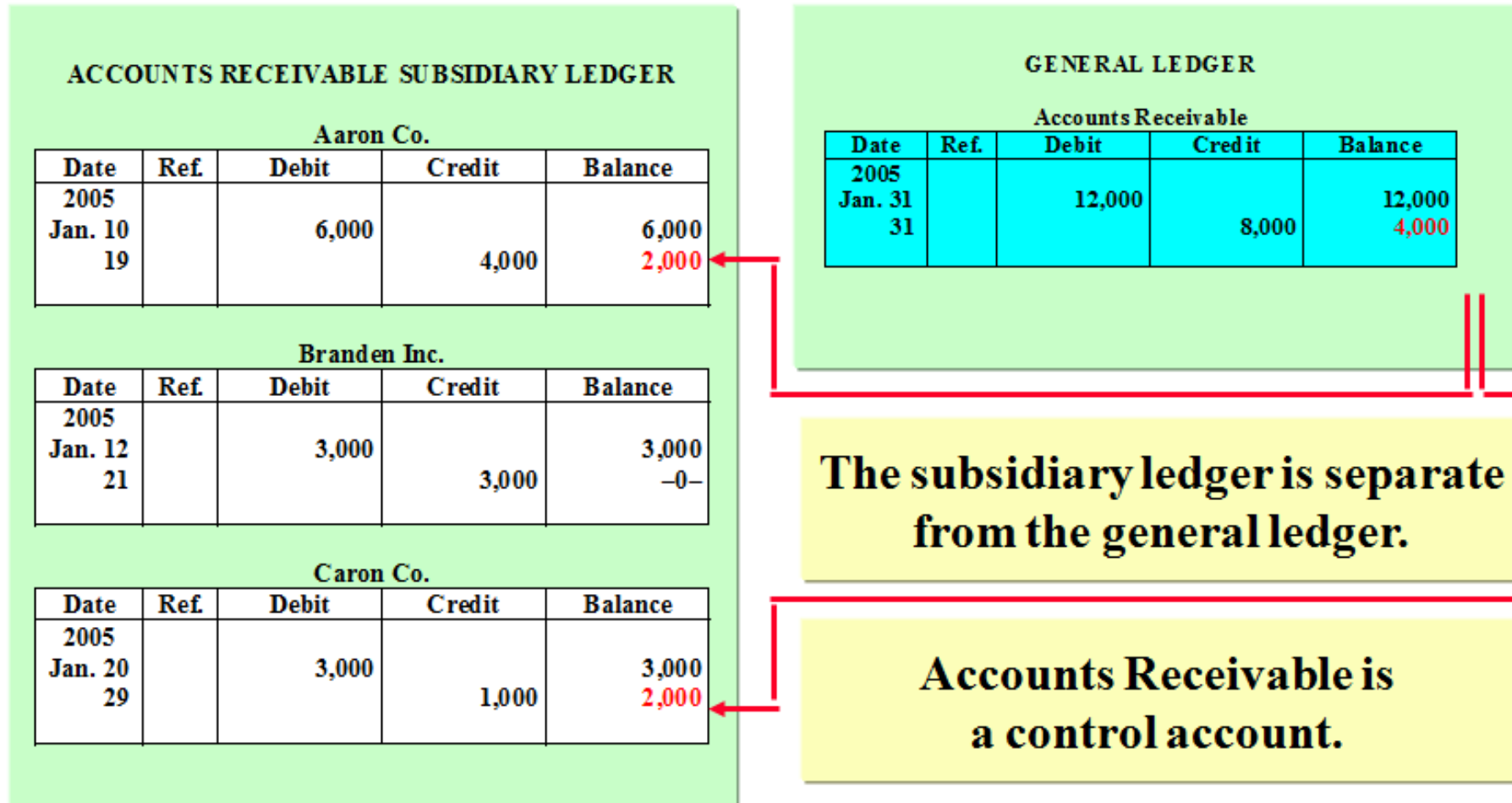
- General Ledger
- The general ledger is the summary level information for all accounts. Detail information is not kept in this account.
- Example: Suppose XYZ Co. has three customers. Anthony Adams owes XYZ \$100. Bill Brown owes \$200. And Cory Campbell owes XYZ \$300. The balance in accounts receivable in the general ledger will be \$600, but you will not be able to tell how much individual customers owe by looking at that account. The detail isn't there.

2. Post Transactions to Ledgers

- Subsidiary ledger
- The subsidiary ledger contain the detail account associated with the related general ledger account. The accounts receivable subsidiary ledger will contain three separate t-accounts – one for Anthony Adams, one for Bill Brown, and one for Cory Campbell.
- e.g.
 - accounts receivable
 - Inventory
 - Accounts payable

2. Post Transactions to Ledgers

Relationship between General and Subsidiary ledger



2. Post Transactions to Ledgers

- Ledgers are used to summarize the financial status, including the current balance, of individual accounts.
- The general ledger contains summary-level data for every asset, liability, equity, revenue, and expense account of an organization.
- A **subsidiary ledger** records all the detailed data for any general ledger account that has many individual subaccounts.
- What are some commonly used subsidiary ledgers?
 - **accounts receivable**
 - **inventory**
 - **accounts payable**
- What is the general ledger account corresponding to a subsidiary ledger called?
 - **control account**
- A control account contains the total amount for all individual accounts in the subsidiary ledger.

2. Post Transactions to Ledgers

Accounts Receivable Subsidiary Ledger

C. Daley AR1				
Date	Ref.	Debit	Credit	Balance
20X1				
Mar. 18		200		200

B. Johnson AR2				
Date	Ref.	Debit	Credit	Balance
20X1				
Mar. 22		700		700

L. Jones AR3				
Date	Ref.	Debit	Credit	Balance
20X1				
Mar. 15		500		500

P. O'Reilly AR4				
Date	Ref.	Debit	Credit	Balance
20X1				
Mar. 5		1,500		1,500
Mar. 29		1,000		2,500

T. Smith AR5				
Date	Ref.	Debit	Credit	Balance
20X1				
Mar. 1		1,000		1,000

Control Account

Accounts Receivable 110				
Date	Ref.	Debit	Credit	Balance
20X1				
Mar. 31		4,900		4,900
		200		
		700		
		500		
		2,500		
		+ 1,000		
		4,900		

2. What is the Chart of Accounts?

Financial Statement	Section	Asset or Liability	Account Code
Balance Sheet	Tangible Assets	Fixed Assets	100
		Accumulated Depreciation	110
	Current Assets	Inventory	200
		Accounts Receivable (control)	250
		Bank	300
		Cash	350
		Current Liabilities	Accounts Payable (control)
	Payroll Taxes - Employees		450
	Payroll Taxes - Employers		500
	Sales Tax		550
	Long Term Liabilities	Bank Loan	600
		Mortgage	650
	Financing	Owners Equity	700
		Retained Earnings	750

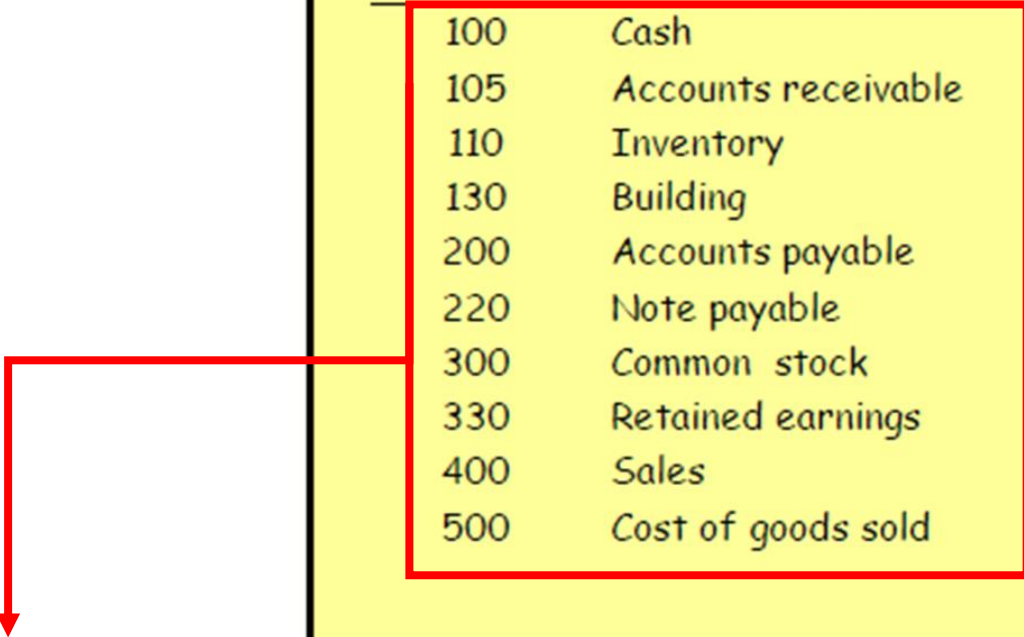
- The chart of accounts is a list of all general ledger accounts used by an organization.
- It is important that the chart of accounts contains sufficient detail to meet the information needs of the organization.

3. Preparing Trail Balance

- A list of the individual accounts with their balances taken from the ledger
- If the information is incorrectly journalized or posted, the trial balance will not be correct
- Computational errors
 - Transposition or slide errors
 - Posting errors

3. Trial Balance

- **Trial Balance** – a list of each account and its balance; used to prove equality of debit and credit balances.

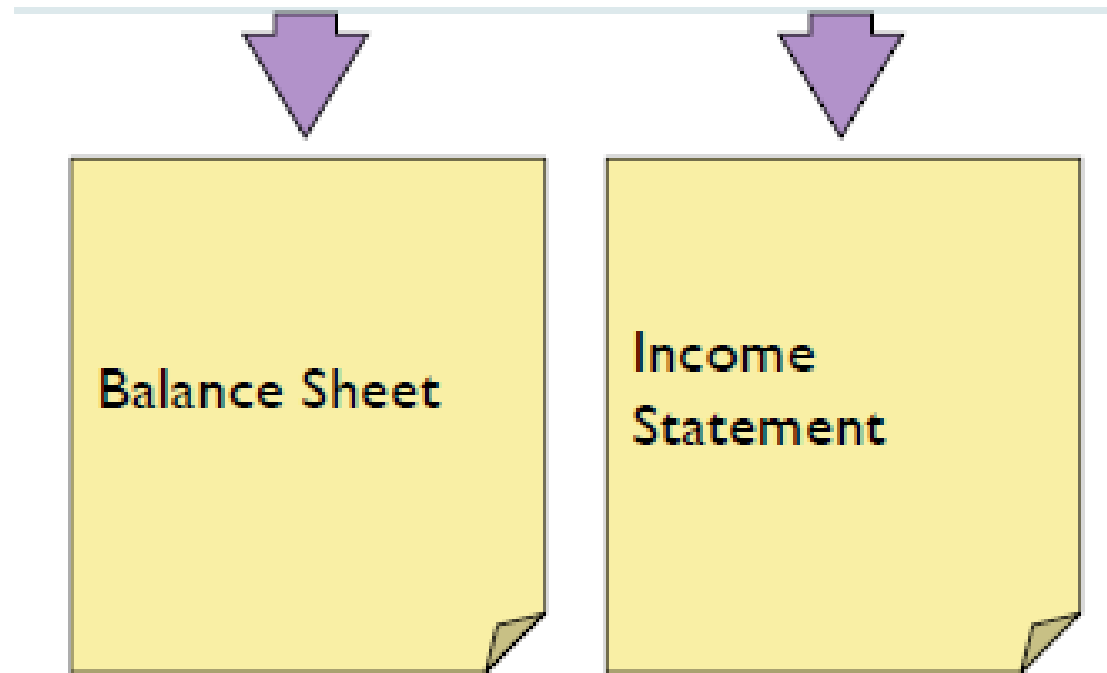


Acct. No.	Account	Debit	Credit
100	Cash	\$ 140,000	
105	Accounts receivable	35,000	
110	Inventory	30,000	
130	Building	150,000	
200	Accounts payable		\$ 60,000
220	Note payable		150,000
300	Common stock		100,000
330	Retained earnings		
400	Sales		75,000
500	Cost of goods sold	30,000	
		<u>\$ 385,000</u>	<u>\$ 385,000</u>

The Trial Balance lists the accounts in the same order as the ledger.

4. Preparing Financial Statements

Financial Statements are prepared directly from the Adjusted Trial Balance.



The **Balance Sheet** is a report that shows what the company owns (Assets) and how it got the money for what it owns (Liabilities i.e. borrowing/ owing) plus Stockholders' Equity (i.e. Investments, Retained Earnings) at a single moment in time. The **Income Statement** is a report that shows the company's revenues and expenses during a particular period in time.

4. Preparing Financial Statements

Assume the following Adjusted Trial Balance

Adjusted Trial Balance	Debit	Credit
Cash	\$ 140,000	
Accounts receivable	35,000	
Building	190,000	
Note payable		\$ 150,000
Common stock		100,000
Retained earnings		38,000
Dividends declared	10,000	
Sales		185,000
Interest income		17,000
Cost of goods sold	47,000	
Salary expense	25,000	
Depreciation expense	43,000	
	<u>\$ 490,000</u>	<u>\$ 490,000</u>

Balance Sheet

Balance Sheet	
Assets	
Cash	\$ 140,000
Accounts receivable	35,000
Building	190,000
Total assets	<u>\$ 365,000</u>
Liabilities	
Note payable	150,000
Stockholders' equity	
Common stock	100,000
Retained earnings	115,000
Total liab. & equity	<u>\$ 365,000</u>

4. Preparing Financial Statements

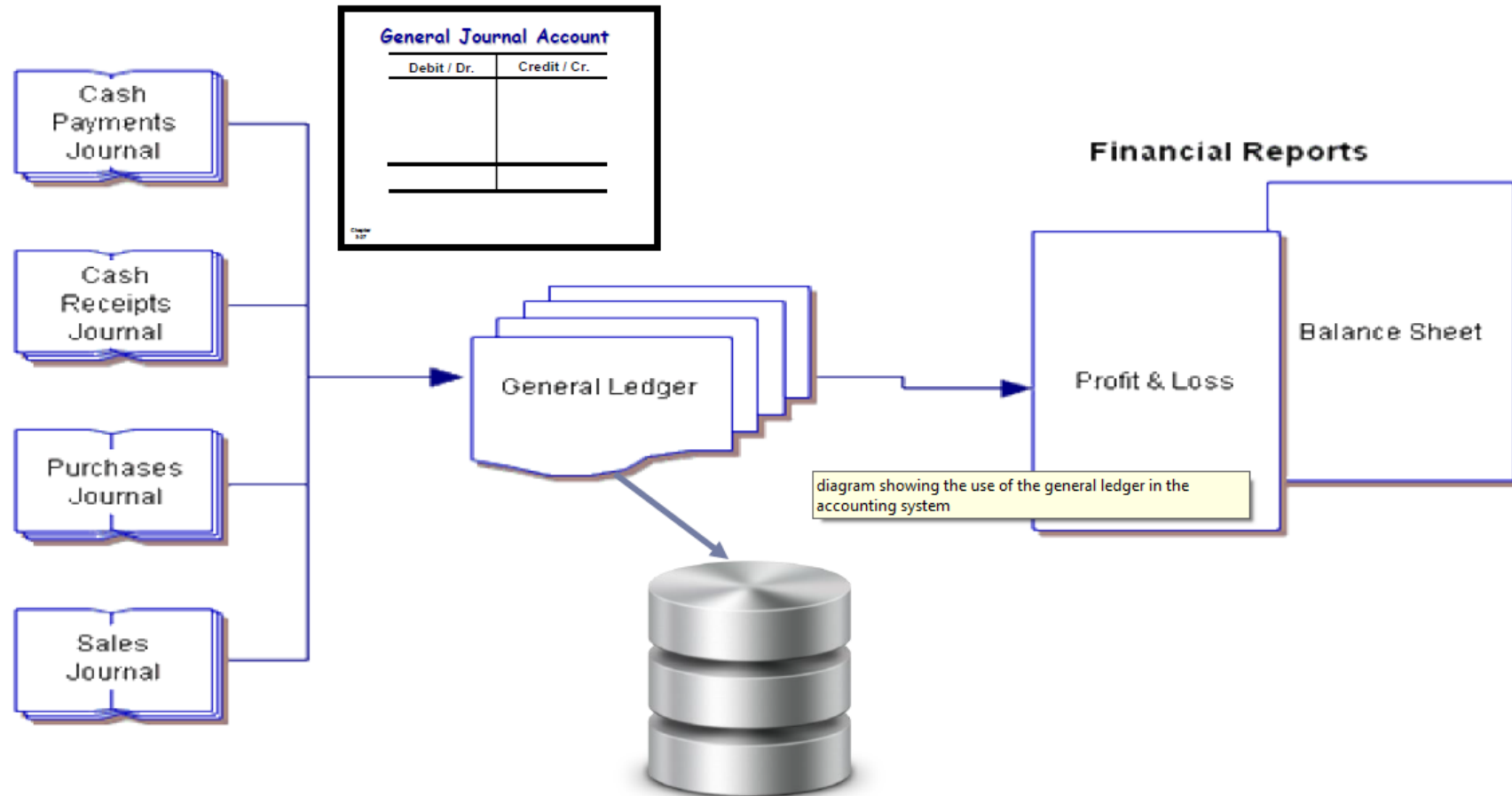
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Depreciation expense	43,000	
	<u>\$ 490,000</u>	<u>\$ 490,000</u>

Income Statement

Income Statement	
Revenues:	
Sales	\$ 185,000
Interest income	17,000
Total revenue	<u>202,000</u>
Expenses:	
Cost of goods sold	47,000
Salary expense	25,000
Depreciation expense	43,000
Total expenses	<u>115,000</u>
Net income	<u>\$ 87,000</u>

Accounting System Process



The General Ledger is a component of Financial Accounting Software and exists in the form of an electronic database.

Accounting Information System

- A computerized General Ledger may operate on its own, with no connections to any subsystems; it may be (installed) on its own, but connected to other subsystems such as Order Entry, Accounts Receivable, etc., which are also installed as separate modules; or,
- We might have a G/L system which is internally integrated with the other closely related subsystems. In the last case, the entire, integrated system is installed at once.
- Two very popular computerized accounting systems are **SAGE 50** (*formally Simply Accounting*) and **SAGE 300 ERP** (*formally ACCPAC*).

Accounting Information System

SAGE Simply Accounting

- Features Overview
- Intelligence Demo
- Dashboard

This is an integrated accounting package for small to medium businesses, usually with only one division. Because it is smaller, and relatively inexpensive, it is an integrated package with a General Ledger, Order Entry (basic), A/R, Invoicing, and also Purchasing, A/P, Inventory, and Payroll.

Computerized Accounting System

SAGE Aaccpac ERP

- SAGE Accpac 6.0 Overview
- SAGE Accpac End-to-End

This is usually for mid to larger sized businesses. The General Ledger System stands on its own. One can also purchase an Accounts Receivable System, and Accounts Payable System, and Inventory System etc.. One can connect them all, to create an integrated system.

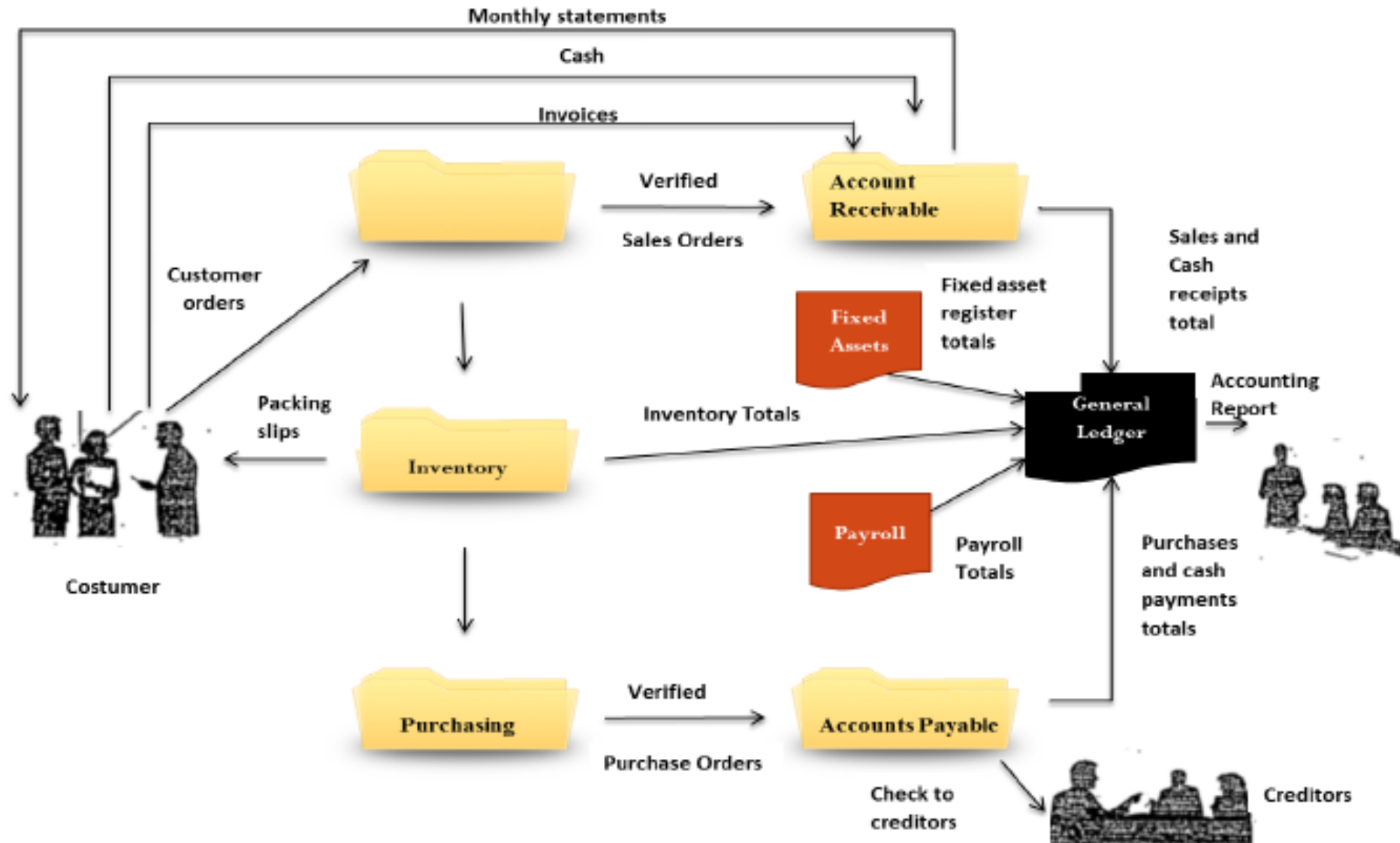
Accounting Information System

- There are two main preparatory steps in using accounting software after it is removed from the box (generally on a CD).
 1. Installing the system: (a *computing* function). Copying the software to the computer's hard disk and getting it ready to run.
 1. Initializing the system: (an *accounting* function). Entering specifics on the Company into the system so as to make it ready for day-to day use. This would involve: entering particulars on the Company (e.g. name address) and most importantly, identifying each account (card) by name and by code number for all the Company's assets, liabilities, equities, revenues, and expenses. The latter is called *establishing the Chart of Accounts*.

Accounting Information System

- The system balances have to be entered for each account (unless the business is starting ‘from scratch’ on the date of initialization).
- If the General Ledger is to be connected to other subsystems, the current status of receivables, payables, inventory, etc. will have to be entered into such systems.
- Note: when a business says it has a “computerized accounting system”, it may be talking of only the computerized General Ledger or an integrated Accounting Information System (AIS), with the General Ledger at the centre (see conceptual model diagram).

Cross-Organizational Functional Accounting Information System (AIS)



Functional Area Systems – Accounting Information Systems

End of Lecture 4 Part 2