

ACS-1803

# Introduction to Information Systems

Instructor: Kerry Augustine

## Functional Area Systems – Accounting Information Systems

Lecture Outline 4, Part 2

# Accounting Information System (AIS)

Functional Area Systems

# Functional Area Information Systems

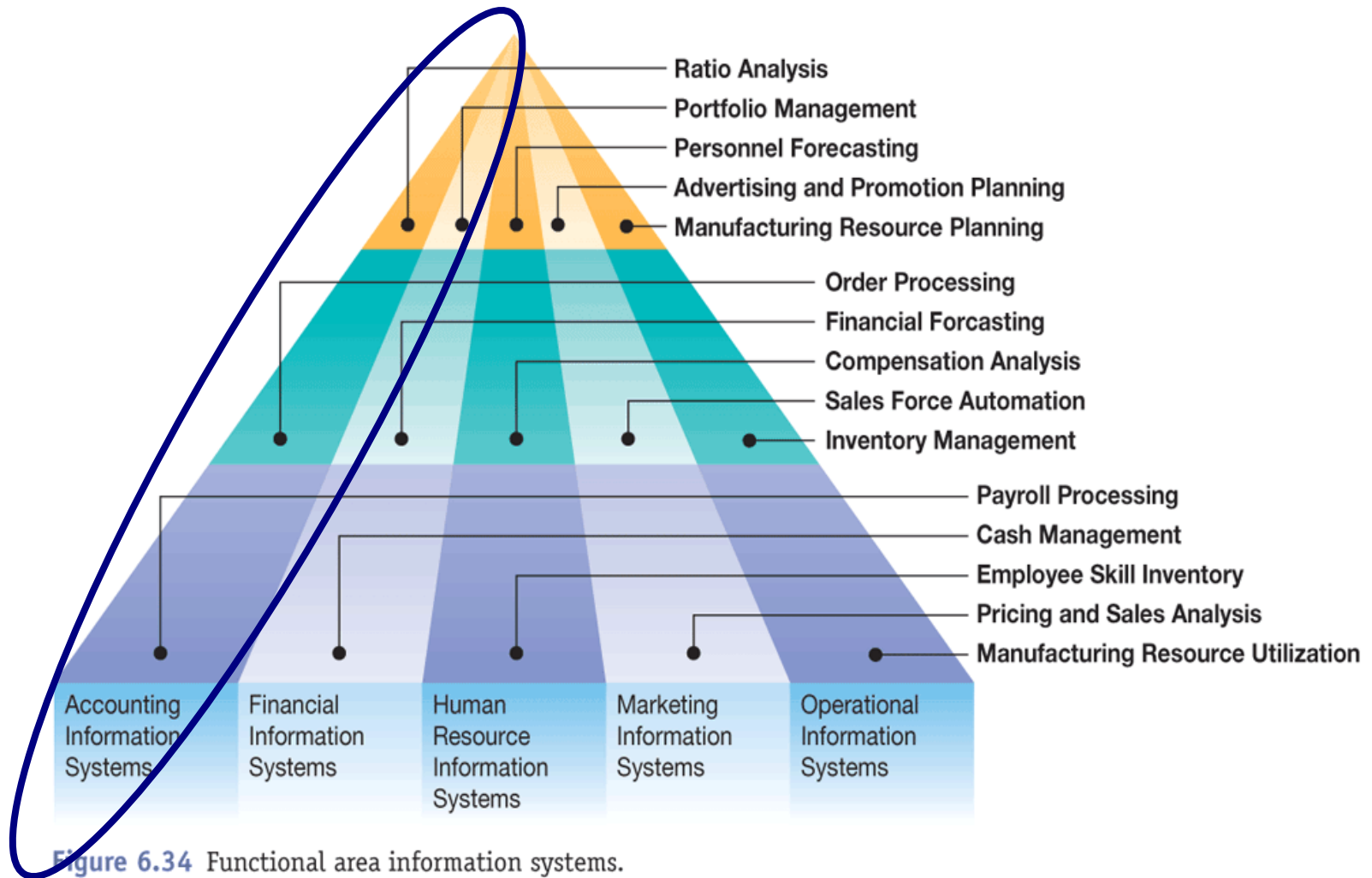


Figure 6.34 Functional area information systems.

Copyright © 2008 Pearson Education Canada

# 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.

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

# Debits and Credits

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

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



# Debits and Credits

Normal  
Balance  
**Debit**

Normal  
Balance  
**Credit**

## Liabilities

Debit / Dr.	Credit / Cr.
↓	↑
	<b>Normal Balance</b>

## Assets

Debit / Dr.	Credit / Cr.
↑	↓
<b>Normal Balance</b>	

Chapter  
3-23

## Equity

Debit / Dr.	Credit / Cr.
↓	↑
	<b>Normal Balance</b>

Chapter  
3-25

## Expense

Debit / Dr.	Credit / Cr.
↑	↓
<b>Normal Balance</b>	

Chapter  
3-27

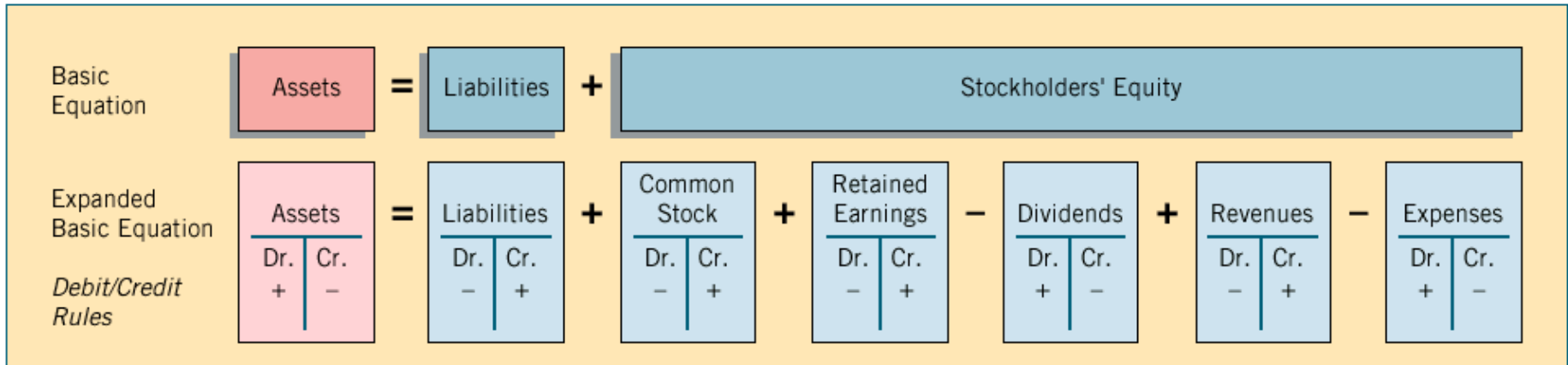
## Revenue

Debit / Dr.	Credit / Cr.
↓	↑
	<b>Normal Balance</b>

Chapter  
3-26

# Basic Accounting Equation

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



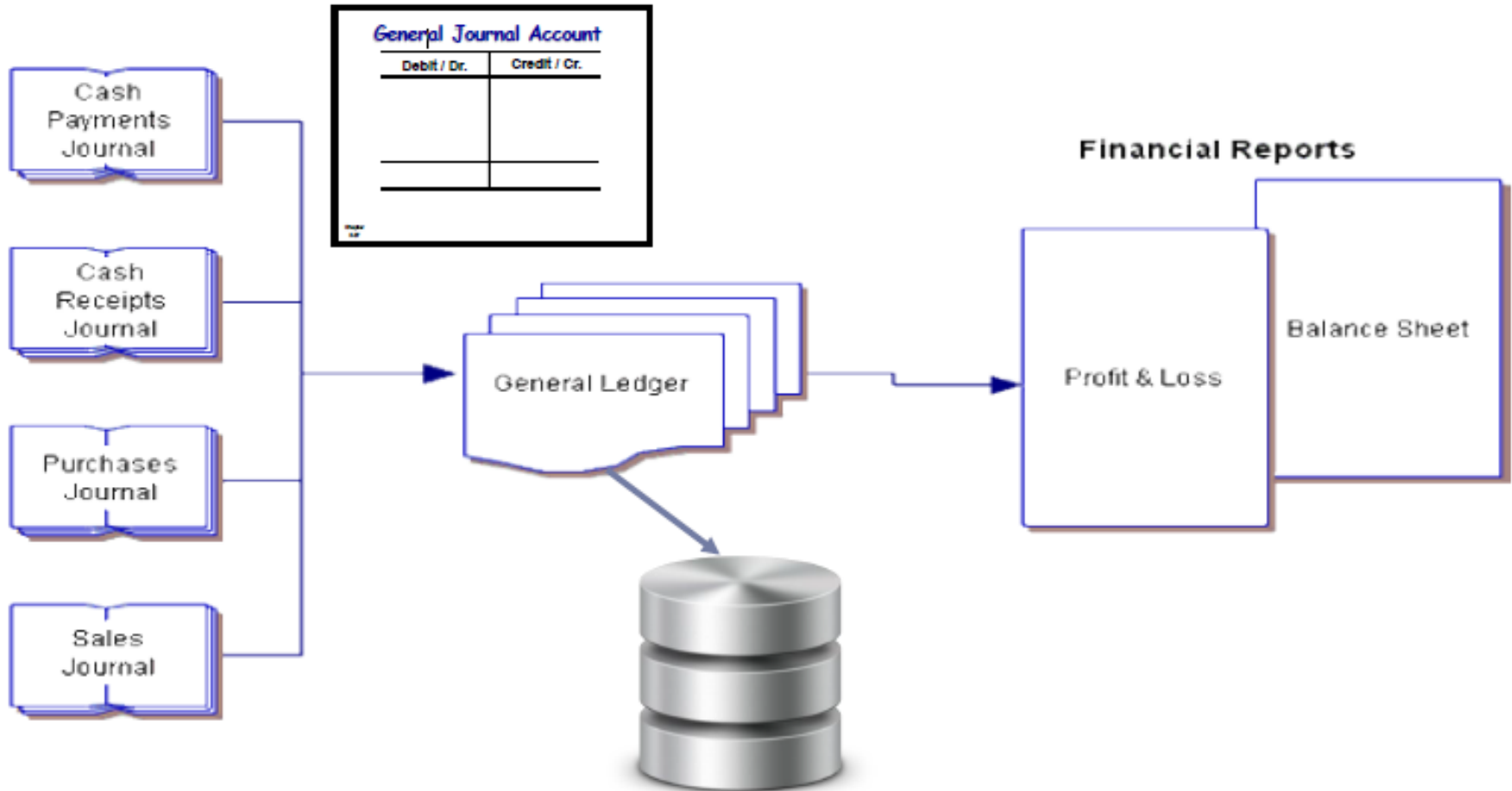
The equation must be in balance after every transaction. For every **Debit** there must be a **Credit**.

# General Ledger Process Flow

---

- ▶ General Ledger is a collection of all the accounts that keep track of a company's financial information
- ▶ The GL is at the center of an **Automated Accounting System**
- ▶ The GL Process Flow is a process from recording the transactions in the system to finally running the reports containing financial data out of the system.
  - ▶ **Input:** the raw accounting data
  - ▶ **Output:** the accounting reports that can be used to provide various levels of financial information

# Accounting System Process



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



# Accounting Processes

---

1. Journalizing
2. Posting
3. Trial Balance
4. Adjusting Entries
5. Adjusted Trial Balance
6. Preparing Financial Statements

# I. Journalizing

**General Journal** – a chronological record of transactions.

**Journal Entries** are recorded in the General 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				GJ1
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	GJ1	100,000		100,000

# Post Transactions to Ledgers

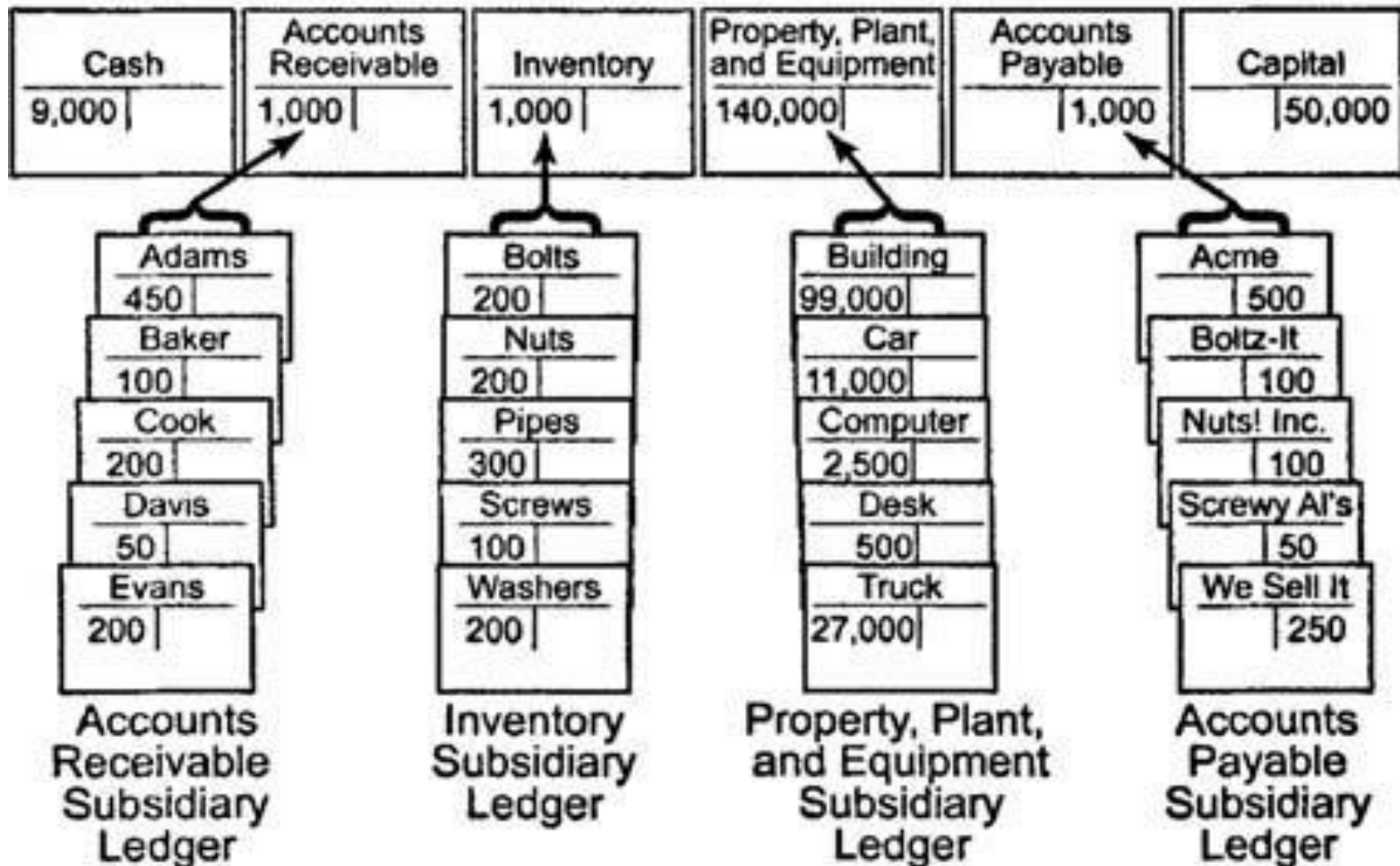
---

- ▶ Ledgers are used to summarize the financial status of individual accounts (balance)
- ▶ The GL contains summary-level data for every asset, liability, equity, revenue, and expense account of an organization.
- ▶ A subsidiary ledger contains subaccounts
  - ▶ e.g. Accounts Receivable, Inventory, accounts payable
- ▶ The general ledger account corresponding to a subsidiary ledger is called Control Account
- ▶ A control account contains the total amount for all individual accounts in the subsidiary ledger.



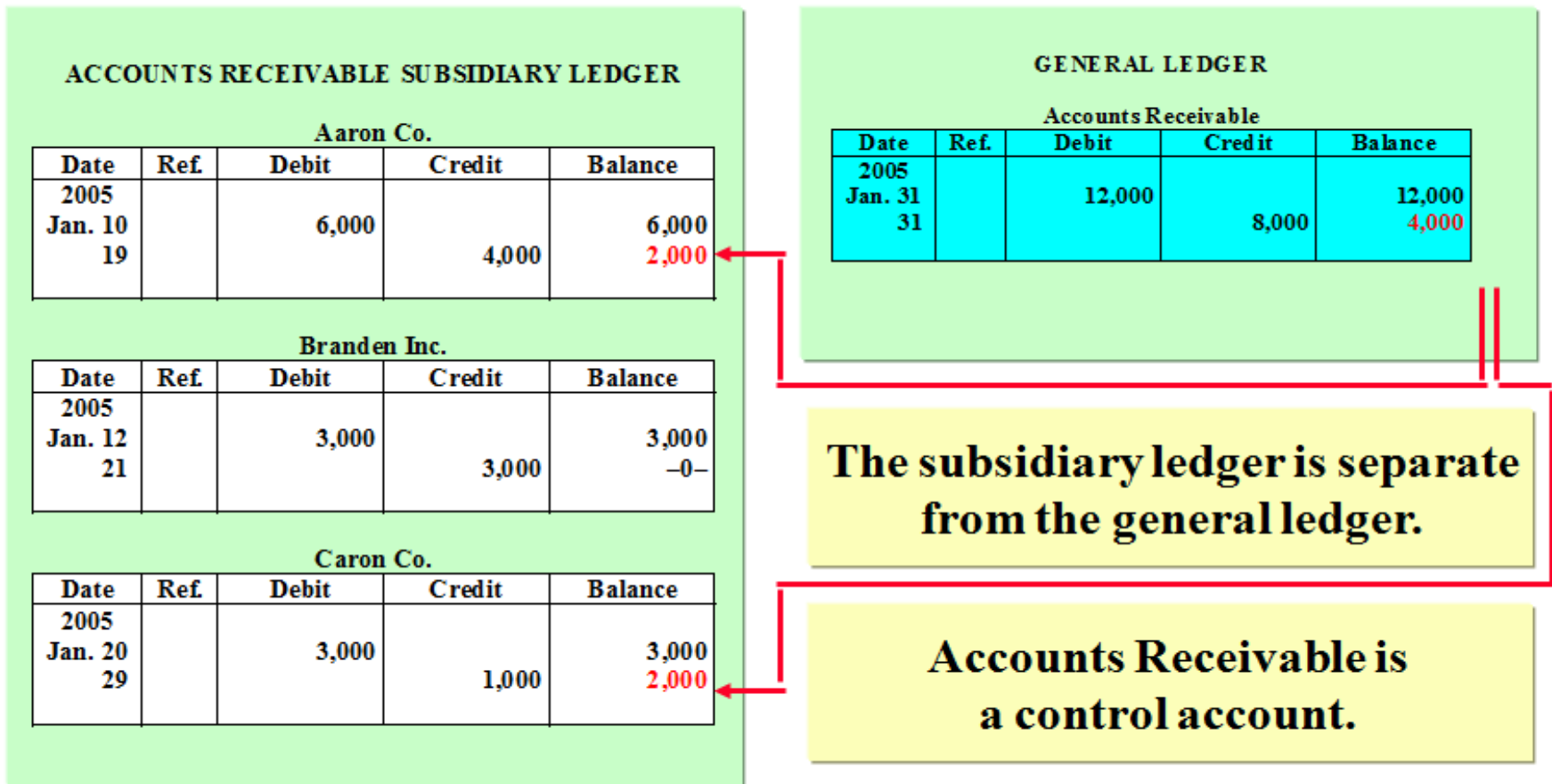
# Ledgers

Selected General Ledger Accounts



# Subsidiary Ledger

## Relationship between General and Subsidiary ledger



# 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)	400
		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

- 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. 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 in the ledger.

## 4. Adjusting Entries

---

- ▶ Revenues – Recorded in the period in which they are earned.
- ▶ Expenses – Recognized in the period when they are incurred
- ▶ Adjusting entries - needed to ensure that the revenue recognition and matching principles are followed.

# Classes of Adjusting Entries

## Prepayments

### 1. **Prepaid Expenses.**

Expenses paid in cash and recorded as assets before they are used or consumed.

### 2. **Unearned Revenues.**

Revenues received in cash and recorded as liabilities before they are earned.

## Accruals

### 3. **Accrued Revenues.**

Revenues earned but not yet received in cash or recorded.

### 4. **Accrued Expenses.**

Expenses incurred but not yet paid in cash or recorded.

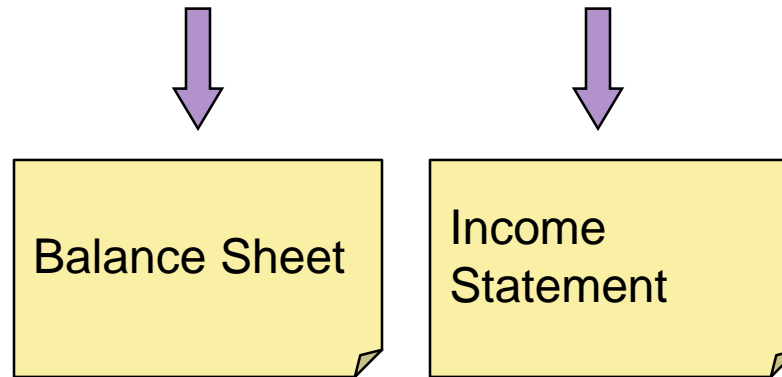
## 5. Adjusted Trial Balance

Shows the balance of all accounts, after adjusting entries, at the end of the accounting period.

<b>Adjusted Trial Balance</b>	<b>Debit</b>	<b>Credit</b>
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>

## 6. 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.



# 6. Preparing Financial Statements

Assume the following Adjusted Trial Balance

## Balance Sheet

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

# 6. 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>

## 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** \$ 87,000

# Computerized Accounting 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;
- A G/L system could be internally integrated with the other closely related subsystems. In the last case, the entire, integrated system is installed at once.
- 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

# Other Finance and Accounting solutions for Businesses

Vendor	Software	Type of TPS Offered	Target Customers
AccuFund	AccuFund	Financial reporting and accounting	Nonprofit, municipal, and government organizations
OpenPro	OpenPro	Complete ERP solution, including financials, supply chain management, e-commerce, customer relationship management, and retail POS system	Manufacturers, distributors, and retailers
Intuit	QuickBooks	Financial reporting and accounting	Manufacturers, professional services, contractors, nonprofits, and retailers
Sage	Timberline	Financial reporting, accounting, and operations	Contractors, real estate developers, and residential builders
Redwing	TurningPoint	Financial reporting and accounting	Professional services, banks, and retailers

# Computerized Accounting System

---

There are two main preparatory steps in using accounting software after it is removed from the box (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.
2. 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.
  - entering particulars on the Company (e.g. name address)
  - identifying each account (card) by name and by code number for all the Company's assets, liabilities, equities, revenues, and expenses - *establishing the Chart of Accounts*.

# Initializing a Computerized Accounting 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).

# Financial Information System

Functional Area Systems

# Functional Area Information Systems

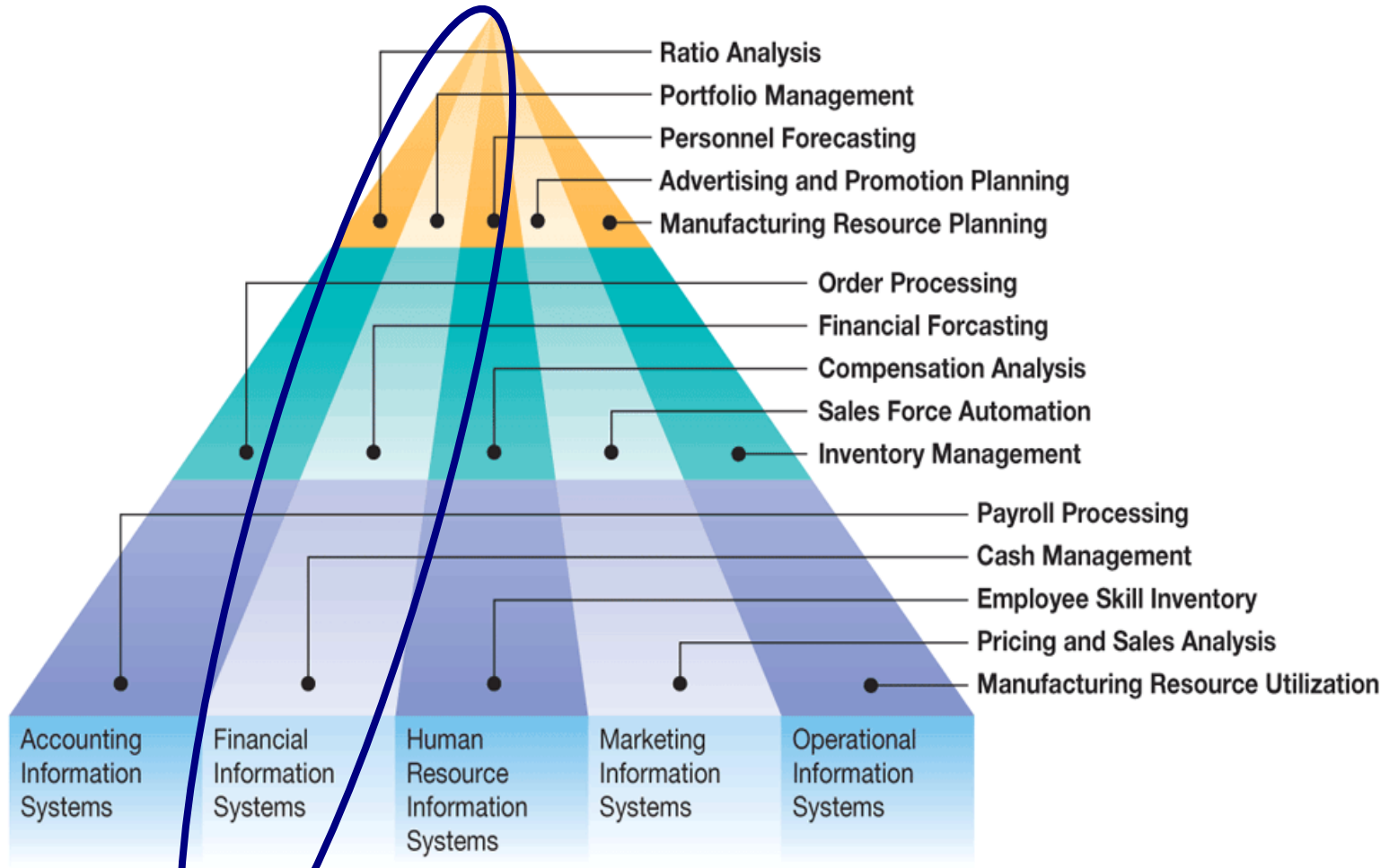


Figure 6.34 Functional area information systems.

Copyright © 2008 Pearson Education Canada

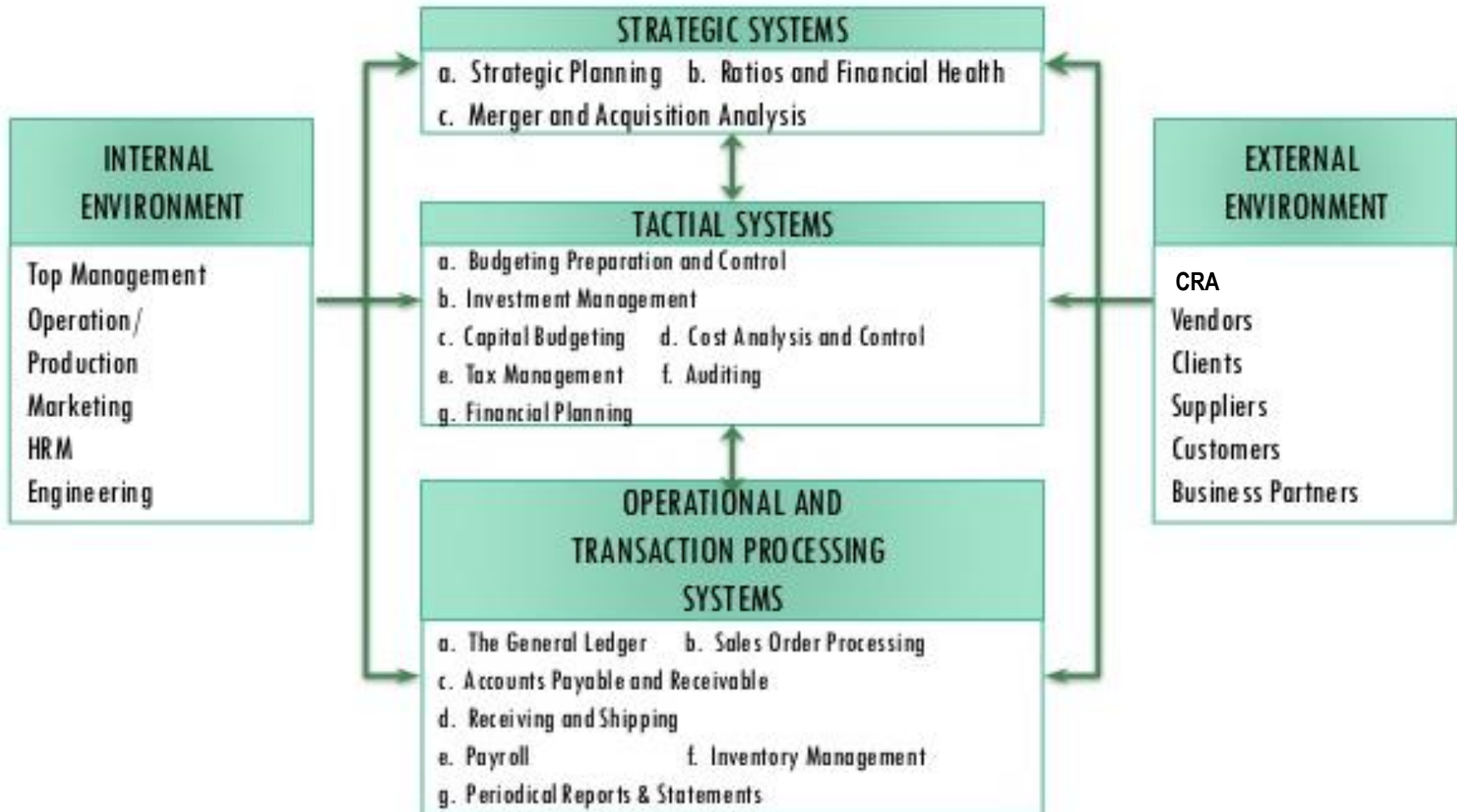


# Finance Information Systems

---

- ▶ **Finance:** Provide internal and external professional access to stock, investment and capital spending information.
  - ▶ Acquires and manages cash for a business
  - ▶ Acquire through shares or loans
  - ▶ Invest Cash wisely
  - ▶ Company must maintain liquidity
  - ▶ Need to analyze considerable financial information

# Finance Information Systems



# Tactical Systems in Finance

---

## ▶ **Budgeting Systems**

- ▶ Plan Revenues and expenses line-by-line
- ▶ Can summarize in various ways
- ▶ Can compare this year's budget to last year's
- ▶ Can compare actual expenses vs. budgeted (Get actual results from General Ledger System
  - ▶ Variance analysis
- ▶ Spreadsheet-type systems useful for budgeting (use of formulas)
- ▶ Can use previous budget as basis for next year, 5 years, 10 years
- ▶ How is such system tactical?

# Tactical Systems in Finance

---

## ▶ **Cash Management Systems**

- ▶ Ensure that the business has sufficient cash to meet its needs
  - ▶ Day-to-day operations
  - ▶ For acquisition of long-term assets
- ▶ Important output is the Cash Flow Report
- ▶ Can forecast cash flows of a period of time
- ▶  $\text{Flow} = \text{total cash receipts} - \text{total cash payments}$

# Tactical Systems in Finance

---

## ▶ **Capital Budgeting Systems**

- ▶ Provide help with planning acquisition (disposal) of major plant assets that will be used by the business during many years
- ▶ Provide outgoing and incoming cash for the life of the asset
  - ▶ Use assumptions
  - ▶ Consider the time value of money (net present value)
  - ▶ E.g. Can help decide whether to lease or buy a new printer

# Tactical Systems in Finance

---

## ▶ **Investment Management Systems**

- ▶ Oversee organization's investment in stocks, bonds, and other securities
- ▶ Online databases provide immediate updates for stock and bond prices
- ▶ Value screen inputs the current price of each stock and calculates the gain or loss the company's investment portfolio would generate if sold now

# Strategic Systems in Finance

---

## ▶ Characteristics

- ▶ Support very high-level managers
- ▶ Strategic systems relate to organizational goals
- ▶ Often, such systems use internal data (which may have originated in organizational AIS) and external data (eg. From online databases that contain economic, social, demographic, etc., info)

# Strategic Systems in Finance

---

## ▶ **Financial Condition Analysis Systems**

- ▶ Provide insightful analysis of financial statements and data (e.g. Debt:equity ratio, current ratio)
  
- ▶ Online databases can allow for financial analysis of competitors, suppliers, buyers and other organizations



# Financial Condition Analysis Examples

Ratio	How it is calculated	What it measures
Cash Ratio	$(\text{Cash} + \text{Cash Equivalents} + \text{Investments}) / \text{Current Liabilities}$	Measures ratio of cash, cash equivalents and investments to current liabilities Indicates ability to cover current liabilities and relates directly to short-term financial conditions
Current Ratio	$\text{Current Assets} / \text{Current Liabilities}$	Measures the ratio of current assets to current liabilities Ratio is an indication of a government's ability to meet short-term financial obligations with current assets
Operating Ratio	$\text{Total Revenues} / \text{Total Expenditures}$	Operating ratios greater than 1.00 indicates a budget surplus – less than 1.00 a deficit Important to the short-term financial condition Provides feedback and opportunities to make corrections to prevent deficits over the long-term
Debt/Equity Ratio	$\text{Total Liabilities} / \text{Stockholders' Equity}$	Indicates how much debt a company is using to finance its assets relative to the amount of value represented in <b>shareholders'</b> equity

# Strategic Systems in Finance

---

## ▶ **Long Range Forecasting Systems**

- ▶ May use both internal and external data
- ▶ Apply statistical techniques
- ▶ Heavy use of graphics
- ▶ Analyze trends

## ▶ **Corporate Planning Systems**

- ▶ Use data from past, like forecasting systems
- ▶ More elaborate. It contains simulation models for various aspects of business
- ▶ Models must have valid assumptions

# Summary

---

- ▶ **GL Process**
  - ▶ (Six main steps)
- ▶ **Computerized Accounting Information systems**
- ▶ **Tactical Systems in Finance**
- ▶ **Strategic Systems in Finance**