Comparative Analysis

Unit: Critical Thinking and Analysis

Problem Area: Financial Information Interpretation

Lesson: Comparative Analysis

Student Learning Objectives. Instruction in this lesson should result in students achieving the following objectives:

1 **Analyze internal financial performance comparing like time periods.**

2 **Evaluate financial performance across industry competitors.**

Resources. The following resources may be useful in teaching this lesson:

E-unit(s) corresponding to this lesson plan. CAERT, Inc. http://www.mycaert.com.

"Financial Statement Analysis Primer," *Wiley.* Accessed Aug. 18, 2016. http://www.wiley.com/college/kieso/0470587237/gateway_ics/Financial_Statement_Analysis_Primer/analysis_primer.html.

"Horizontal Analysis of Financial Statements," *Accounting for Management.org.* Accessed Aug. 18, 2016. http://www.accountingformanagement.org/horizontal-analysis-of-financial-statements/.

"What Is the Difference Between Vertical Analysis and Horizontal Analysis?" *Accounting Coach®.* Accessed Aug. 18, 2016. http://www.accountingcoach.com/blog/vertical-analysis-horizontal-analysis.

Wilkinson, Jim. "Comparison Analysis," *The Strategic CFO.* Accessed Aug. 18, 2016. http://strategiccfo.com/comparison-analysis/.

Equipment, Tools, Supplies, and Facilities

- ✓ Overhead or PowerPoint projector
- ✓ Visual(s) from accompanying master(s)
- ✓ Copies of sample test, lab sheet(s), and/or other items designed for duplication
- ✓ Materials listed on duplicated items
- ✓ Computers with printers and Internet access
- ✓ Classroom resource and reference materials

Key Terms.

The following terms are presented in this lesson (shown in bold italics):

- accounting period
- accounts receivable turnover ratio
- accrual basis of accounting
- balance sheet
- cash flow statement
- comparative analysis
- competitor analysis
- current assets
- current liabilities
- current ratio
- dividends
- drawing
- efficiency ratio
- financial ratio
- financial statement
- horizontal analysis
- income statement
- inventory turnover ratio
- liquidity ratio
- market share
- owner contributions
- profit margin ratio
- profitability ratio
- statement of cash flows
- statement of owner's equity
- statement of retained earnings
- trend analysis

Interest Approach. Use an interest approach that will prepare the students for the lesson. Teachers often develop approaches for their unique class and student situations. A possible approach is included here.

> *Ask your students the following: How do you monitor your progress as a student? Do you look only at the grade you have in a class today, or do you compare your grade today with what it has been in previous grading periods? If you have moved from a "C" to a "B" in a class, you would be sure to tell your parents you are doing better. Businesses will likewise compare current performance with performance from the past. A common way to do this is by using financial statements for comparative analysis.*

CONTENT SUMMARY AND TEACHING STRATEGIES

Objective 1: Analyze internal financial performance comparing like time periods.

Anticipated Problem: What methods are used to analyze internal financial performance using like time periods?

I. Financial performance comparisons over time

A. ***Comparative analysis*** is a method of conducting a side-by-side appraisal of financial data for multiple accounting periods of the same type (e.g., month, quarter, or year). In accounting, comparative analysis can identify budget variances, trends, or significant line item changes. To detect emerging trends in the company, an accountant examines financial statement line items from one period to the next and investigates any notable differences to identify and project changes in operations and results.

B. A ***financial statement*** is a series of reports that summarize the business's financial results, condition, and cash flows. The financial statements of a company tell the story of the company's operations and financial health.

1. Financial statements are used to:
   a. Determine whether or not to extend credit to a business
   b. Decide whether or not to invest in a business
   c. Track the financial performance over a period of time
   d. Track financial trends
2. The four primary business financial statements are the balance sheet, income statement, statement of cash flows, and statement of owner's equity.
   a. The ***balance sheet*** is the part of the financial statement that reports the assets, liabilities, and owner's equity at a specific point in time. In essence,

the balance sheet reflects the accounting equation: Assets = Liabilities + Owner's Equity.

b. The ***income statement*** is the part of the financial statement that reports a company's financial performance over a specific period of time. The income statement is also referred to as the profit and loss statement or P&L. The income statement may be simple and report on income and expenses, or it may include computations of costs of goods sold (COGS) and subcategories of expenses. On the income statement, expenses are subtracted from revenue to calculate the net income or net loss for the period. The ***accounting period*** is the timeframe for which the company is reporting the results of its operations. The accounting period is usually a month, a quarter (three months), or one year.

c. The ***statement of cash flows*** is the part of the financial statement that reports the inflow and outflow of cash for the accounting period of the income statement: operating activities, investing activities, financing activities, and certain supplemental information for the period. The statement of cash flows is also known as the ***cash flow statement***. It contrasts the income statement, which presents net income or net loss on the accrual basis of accounting. The ***accrual basis of accounting*** is a system that matches revenues and expenses based on when they occur, not when cash is exchanged. Therefore, the income statement does not display the actual cash generated and used. Instead, it displays revenues and expenses.

d. The ***statement of owner's equity*** is the part of the financial statement that reconciles changes in the retained earnings account for a corporation. Owner's equity changes are reported as follows:

	Beginning Owner's Equity
+	Owner Contributions
+	Net Income or – Net Loss
–	Owner Withdrawals (drawing or dividends)
	Ending Owner's Equity

C. ***Owner contributions*** are types of capital investment (e.g., money or assets).

1. For a corporation, owner contributions are from purchases of capital stock, and this statement of owner's equity is called the ***statement of retained earnings***.
2. For a sole proprietorship and for a partnership, owner withdrawals are referred to as ***drawing***. For a corporation, owner withdrawals are ***dividends***.

D. Horizontal analysis

1. One method companies use to compare financial performance is to look at financial statements from one time period to another. Decision-makers compare financial statement line items from one month to another, from quarter to quarter, or from year to year. Typically, comparisons are made for like time

periods. Quarterly numbers should not be compared to monthly or annual numbers. In addition, monthly numbers should not be compared to quarterly or annual numbers.

2. ***Horizontal analysis*** is the comparison of financial information over a series of historical periods.
   a. Income statement analysis: Typically, horizontal analysis of an income statement involves comparing two years of income statements side by side with a third column to report the variance between the two years. For example:
      (1) Sales are reported for the year ending Dec. 31, 2016, as $50,000. Sales are reported for the year ending Dec. 31, 2015, as $45,000. Comparison shows a positive variance of $5,000.
      (2) Statement users would note that sales had increased by 11 percent ((50,000 – 45,000) ÷ 5,000). The same process is completed for each line item of the income statement.
   b. Balance sheet analysis: The horizontal analysis of the balance sheet is performed in the same manner as for the income statement. Two years of balance sheets are presented side by side, with a third column to report the variance.
3. ***Trend analysis*** is a method to compare the same item (e.g., weekly sales figures or monthly sales figures) over a long period. Then trend lines are drawn for the key item in the financial statements over several accounting periods. Trend lines are frequently drawn for revenues, expenses, net income, and debt. Trend analysis helps to:
   a. Detect patterns between factors or variables
   b. Project future pattern direction

E. Asking "Why?"
   1. It is not enough to compile comparative financial statements, calculate variances, and draw trend lines. A key step to analysis is to ask questions about the variances and trends.
   2. Financial statement users analyze the variances and ask why the variances occurred. They may decide to conduct a detailed analysis of a specific general ledger account to determine the transactions that made up the variance.
   3. Decision-makers are able to determine what caused the trends detected by the comparisons and whether the data supports the continuation of the trend.

Teaching Strategy: *Many techniques can be used to help students master this objective. Use VM–A and VM–B.*

Objective 2: Evaluate financial performance across industry competitors.

Anticipated Problem: How is financial performance evaluated across industry competitors?

II. Financial performance evaluation

A. ***Competitor analysis*** is the process of evaluating strategies, strengths, and weaknesses related to a common product or service, typically as part of a marketing plan. Competitor analysis is a method to analyze a company's financial performance by making comparisons to others in the same industry. It is similar to being at the produce section of a grocery store. If a person wants to buy the best quality apple based on taste, appearance, crunch, and color, the shopper compares several types of apples (e.g., Fugi, Gala, Granny Smith, and Red Delicious). However, that shopper would not compare an apple to types of oranges to determine apple quality. Competitor analysis is conducted with like businesses in the same industry. In business, different industries have different operating structures that may put constraints on profitability or other margins. Several ways exist to make comparisons from one like competitor to another, including:

1. ***Market share*** is a business's sales in a market compared to the total sales in that market. It is typically reported as a percentage of total sales. A business compares its own market share to its closest competitors. Market share involves capturing new customers to the market and maintaining current customers.
2. Innovation may be compared as a variable of competitor analysis. For instance, is the business generating new products or processes in the marketplace before its competitors? Is the business considered an industry leader in innovation and production?

B. A ***financial ratio*** is a computation that indicates a company's performance and monetary situation; it helps people conduct comparative analysis.

1. A financial ratio is calculated based on financial statement figures. Ratios are proportional to the business that allows small or large businesses to compare financial information. Common financial ratio comparisons made within an industry are liquidity, profitability, and efficiency ratios.

   a. A ***liquidity ratio*** is a proportional relation that measures a company's ability to pay off debts as they become due. The ***current ratio*** is a proportional ratio that measures a company's ability to pay off current liabilities with current assets. It is calculated as: Current Ratio = Current Assets ÷ Current Liabilities.

      (1) ***Current assets*** are resources that can easily be converted to cash.

      (2) ***Current liabilities*** are obligations due within the next year.

   b. A ***profitability ratio*** is a proportional relation that measures a company's ability to generate profits from its operations. A common profitability ratio used for comparisons is the ***profit margin ratio***—a proportional relation that measures how much profit will be generated from each dollar of sales. It measures how effectively the company converts sales into net income and is calculated as: Profit Margin Ratio = Net Income ÷ Net Sales.

c. An ***efficiency ratio*** is a proportional relation that measures how well a company uses its assets to generate income.

(1) An ***accounts receivable turnover ratio*** is a proportional relation that measures how many times a business can turn its accounts receivable into cash. It is calculated as: Accounts Receivable Turnover Ratio = Net Credit Sales ÷ Average Inventory.

(2) An ***inventory turnover ratio*** is a proportional relation that measures how many times average inventory is sold during the period. It is calculated as: Inventory Turnover Ratio = Cost of Goods Sold ÷ Average Inventory.

2. Many additional financial ratios may be used to make comparisons within an industry. Financial statement users compare one company's financial ratio to another company's financial ration within the industry to determine which one is performing better. In addition, the ratios may be compared to industry averages to determine whether or not the company is performing at, above, or below the industry as a whole.

Teaching Strategy: *Many techniques can be used to help students master this objective. Use VM–C. Assign LS–A.*

Review/Summary. Use the student learning objectives to summarize the lesson. Have students explain the content associated with each objective. Student responses can be used in determining which objectives need to be reviewed or taught from a different angle. If a textbook is being used, questions at the ends of chapters may be included in the Review/Summary.

Application. Use the included visual master(s) and lab sheet(s) to apply the information presented in the lesson.

Evaluation. Evaluation should focus on student achievement of the objectives for the lesson. Various techniques can be used, such as student performance on the application activities. A sample written test is provided.

Answers to Sample Test:

Part One: Matching

1. d
2. e
3. c
4. a

5. f
6. b

Part Two: Completion

1. market share
2. financial ratios
3. accounting period
4. current assets
5. horizontal analysis
6. current liabilities

Part Three: Short Answer

Answers will vary but should be similar to the following: Comparative analysis is a method of conducting a side-by-side appraisal of financial data for multiple accounting periods of the same type (e.g., month, quarter, or year). In accounting, comparative analysis can identify budget variances, trends, or significant line item changes. To detect emerging trends in the company, an accountant examines financial statement line items from one period to the next and investigates any notable differences to identify and project changes in operations and results.

Sample Test

Name ______________________________

Comparative Analysis

Part One: Matching

Instructions: **Match the term with the correct definition.**

a. accounts receivable turnover ratio
b. inventory turnover ratio
c. efficiency ratio
d. liquidity ratio
e. profitability ratio
f. trend analysis

_____1. A proportional relation that measures a company's ability to pay off debts as they become due

_____2. A proportional relation that measures a company's ability to generate profits from its operations

_____3. A proportional relation that measures how well a company uses its assets to generate income

_____4. A proportional relation that measures how many times a business can turn its accounts receivable into cash

_____5. A method to compare the same item (e.g., weekly sales figures or monthly sales figures) over a long period

_____6. A proportional relation that measures how many times average inventory is sold during the period

Part Two: Completion

Instructions: **Provide the word or words to complete the following statements.**

1. A business's sales in a market compared to the total sales in that market is ________________________.

2. Computations from financial statements used for comparisons are ________________________.

3. The timeframe for which the company is reporting the results of its operations is the ________________________.

4. Assets that can easily be converted to cash are termed ________________________.

5. Comparing financial information over a series of historical periods is called ________________________.

6. Liabilities due within the next year are termed ________________________.

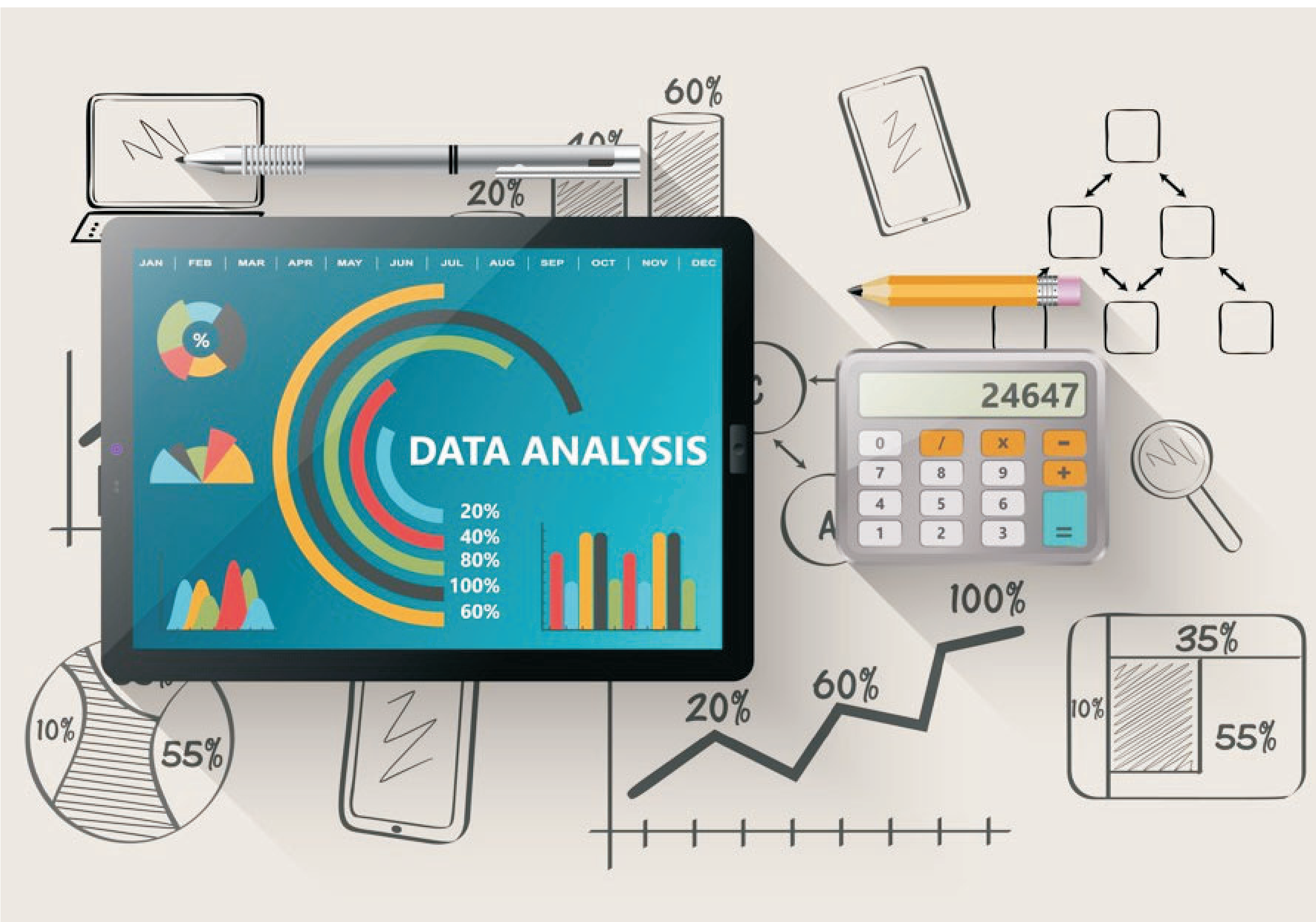
Part Three: Short Answer

Instructions: **Answer the following.**

What is your "walking definition" (a description in your own words) of comparative analysis in accounting?

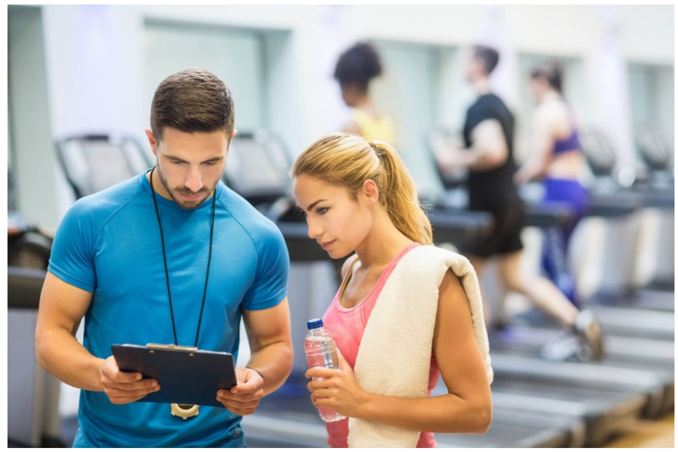
COMPARATIVE ANALYSIS: STATISTICS

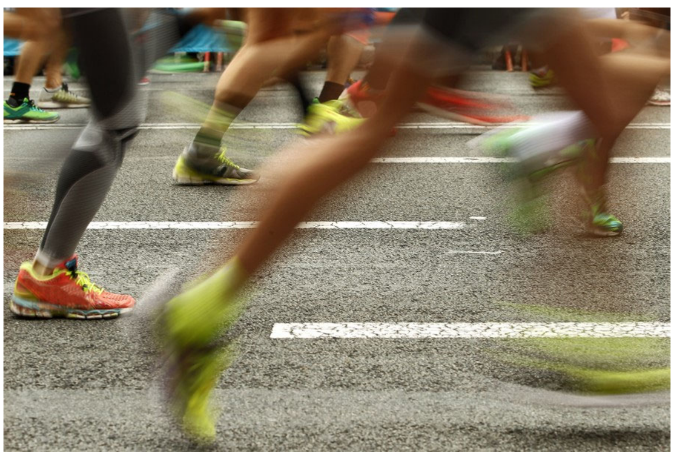
Comparative analysis is a method of conducting a side-by-side appraisal of financial data for multiple accounting periods of the same type (e.g., month, quarter, or year). In accounting, comparative analysis can identify budget variances, trends, or significant line item changes.



VM–B

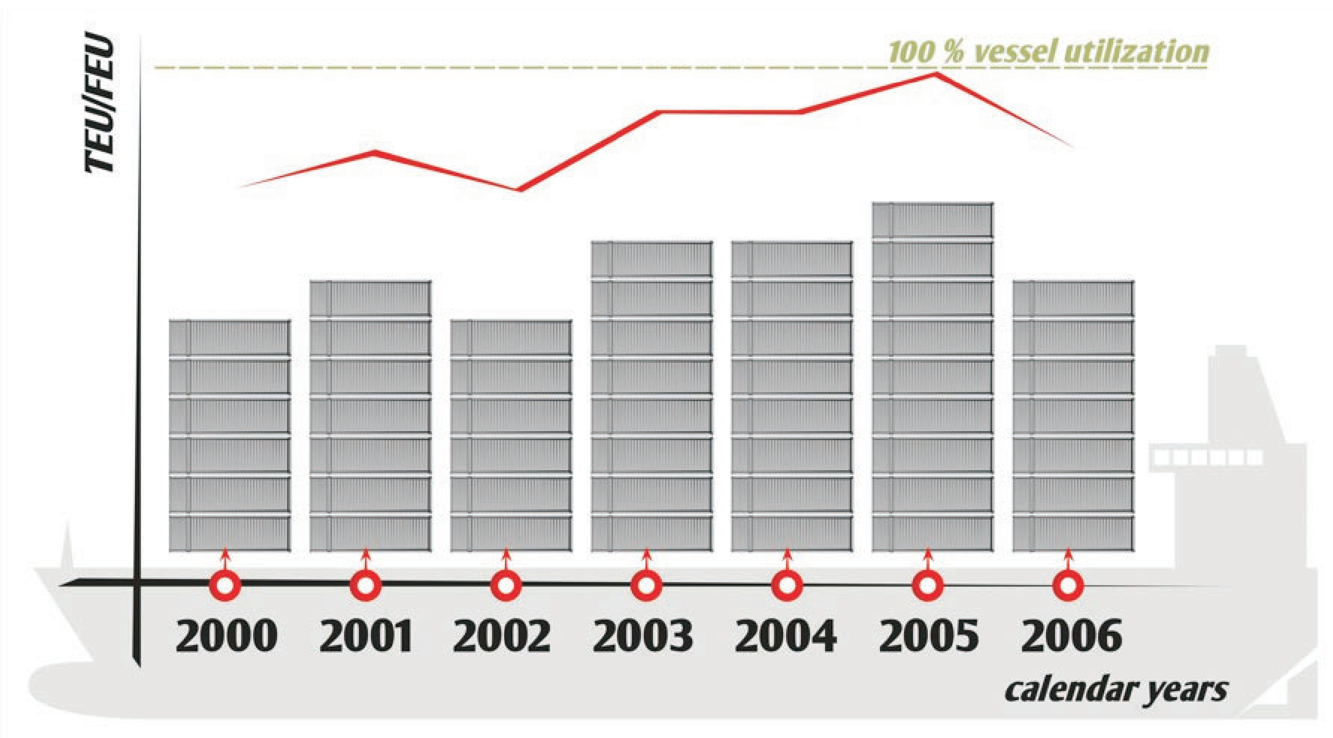
HOW DO YOU MEASURE PROGRESS?





MAKING FINANCIAL COMPARISONS

- Compare like periods: month to month or year to year.
- Compare companies within the same industry—competitor analysis.
- Ask why variances and trends are occurring. Dig deeper!



LS–A

Name ______________________________

Financial Statement Comparative Analysis

Purpose

The purpose of this activity is to explore comparative analysis and the associated computations.

Objectives

1. Select a company on which to conduct comparative analysis computations.
2. Calculate horizontal analysis for certain line items.
3. Calculate specific financial ratios.
4. Draw conclusions based on computations.
5. Report your findings and key questions.

Materials

- lab sheet
- writing utensil
- paper
- device with Internet access

Procedure

1. Work independently or with a partner. Take notes on your paper as needed.
2. Use Yahoo! Finance at https://finance.yahoo.com/ or another Internet search engine to access two consecutive years of financial statements for a company of your choice. Record the company you chose here: ________________________

3. Perform horizontal analysis for the specific items listed below. Record your computations in the space provided.

Item	**Year 2:** (Most recent year)	**Year 1:**	**Variance** (Year 2 – Year 1)	**% Variance** Variance ÷ Year 1
Current assets				
Current liabilities				
Total equity				
Net sales				
Total expenses				
Net income				

4. Calculate the following ratios for the most recent year using the financial statements for the company chosen in Procedure 2. Record your computations:
   a. Current ratio:
   b. Profit margin ratio:
   c. Inventory turnover ratio:
5. Compare the ratios you calculated with the industry average ratios. Find the industry averages on Yahoo! Finance at https://finance.yahoo.com/. Record your findings below.

Ratio Type	Chosen Company's Ratio	Industry Average Ratio
Current		
Profit margin		
Inventory turnover		

6. Based on your research, consider the following questions. Write a response and explanation to each question on your paper.
   a. Does the company seem to be improving or declining over time?
   b. How is the company doing in comparison to others in the same industry?
   c. What may be the cause(s) of the company's current financial condition?
   d. If you were the CFO of the company, what questions would you ask to help make financial decisions?
7. Report your findings and your questions (from Procedure 6) to your classmates and instructor.
8. Turn in your completed lab sheet to your instructor.