

## Mini Lesson: Income Statement

*Revised August 2016*

An **income statement** is a financial statement that measures a company's financial performance over a specific accounting period. Financial performance is assessed by giving a summary of how the business incurs its revenues and expenses through both operating and non-operating activities. It also shows the net profit or loss incurred over a specific accounting period, typically over a fiscal quarter or year.

### Important Definitions and Formulas: (Definitions found on Investopedia.com)

- **Net Sales** is total revenue less the cost of sales returns, allowances, and discounts.  
$$\text{Net Sales} = \text{Sum of all revenues} - \text{Sales Returns and Allowances}$$
- **Cost of Goods Sold** or services provided are the direct costs attributable to the production of the goods or services sold by a company.  
$$\text{Cost of Goods Sold} = \text{Cost per unit of goods sold} \times \text{Amount of units sold}$$
- **Gross Profit** is a company's revenue minus its cost of goods sold. Gross profit is a company's residual profit after selling a product or service and deducting the cost associated with its production and sale.  
$$\text{Gross Profit} = \text{Total Sales Revenue} - \text{Cost of Goods Sold}$$
- The **Gross Profit Rate** represents the percent of total sales revenue that the company retains after incurring the direct costs associated with the production of goods and services. The higher the percentage, the more the company retains on each dollar of sales to service its other costs and obligations.  
$$\text{Gross Profit Rate} = (\text{Revenue} - \text{Cost of Goods Sold}) / \text{Revenue}$$
- **Net Income** is company's total earnings (or profit). Net income is calculated by taking revenues and adjusting for the cost of doing business, depreciation, interest, taxes and other expenses. This number is an important measure of how profitable the company is over a period of time. It is also often referred to as "the bottom line" since it is listed at the bottom of the income statement.  
$$\text{Net Income} = \text{Gross Profit} - \text{Total Expenses}$$
- The **Profit Ratio** is a percentage of profitability calculated as net income divided by revenues, or net profits divided by sales. It measures how much out of every dollar of sales a company actually keeps in earnings. A higher profit margin indicates a more profitable company that has better control over its costs compared to its competitors.  
$$\text{Profit Ratio} = \text{Net Income} / \text{Net Sales}$$

Click on the tab with the worksheet titled Activity 1 to begin.

### Activity 1: Completing an Income Statement

Gina's Cupcakes have just operated for a full fiscal year and the firm now has to complete an income statement. Use the information given to complete the income statement.

- Sales Revenue = \$254,863
- Less Sales Returns and Allowances = \$0
- Cost of Goods Sold = \$110,642

- 401(k) = 5% of salaries
- Advertising = \$300 every month
- Depreciation = \$1,571
- Furniture = \$2,671
- Insurance = \$6,045
- Interest = \$9,414
- Payroll Tax = 7.65% of salaries
- Rent = \$1,584 every month
- Salaries = \$115,147
- Supplies = \$2,173
- Utilities = \$214 every month
- Miscellaneous = \$20

## Directions:

- a. Create a copy of the current worksheet and rename the new worksheet "Activity 1 Solution."
- b. Enter values in cell H8 and H9 for Sales Revenue and Less Sales Returns and Allowances.
- c. Enter formula in cell I10 to calculate Net Sales.
- d. Enter value in cell H12 for Cost of Goods Sold.
- e. Enter formula in cell H14 to calculate Gross Profit.
- f. Enter formula in cell H15 to calculate Profit Margin Rate.
- g. Enter values or formulas for cells H18:H29 to calculate Expenses (401(k), Advertising, Depreciation, Furniture, Insurance, Interest, Payroll Tax, Rent, Salaries, Supplies, Utilities, and Miscellaneous).
- h. Enter formula in cell I30 to calculate Total Expenses.
- i. Enter formula in cell I32 to calculate Net Income. Use red colored font in cell I32 if the firm experienced a Net Loss.
- j. Enter formula in cell I34 to calculate Profit Ratio.
- k. Format cells H15 and I34 to Percentage with 2 decimal places and % symbol.
- l. Format cell areas H8:I14 and H18:I32 to Currency with 2 decimal places, comma separator, and \$ symbol.
- m. Merge and Center row 3 across columns C through I.
- n. Use Format Painter to select cells C3:I3's format to cells C4:I4 and C5:I5.
- o. Fill color for cells C3:I5 to Light Blue, then use Bold Font and font size 14.
- p. Hold down the CTRL key to select non-adjacent cells and Fill color for cells C6:I6, C11:I11, C16:I16, C31:I31, and C35:I35 to Dark Grey.
- q. Change cells C7:I7 and C17:I17 to Bold Font and font size 13, then merge and left align.
- r. Hold down the CTRL key to select non-adjacent cells D10, D12, D14, D30, C32, and C34 and use Bold Font.
- s. Use Thick Box Borders to surround cells C3:I35 and a bottom border for cells H9 and H29.

- t. Save file as Income Statement XX, where XX are your initials.
- u. Click on the tab with the worksheet titled Activity 2 to continue.

### Activity 2: Income Statement Using Goal Seek

Gina's Cupcakes was unhappy with the results of their first fiscal year in business due to their net loss. They know they will most likely bring sales up by at least 30% and are assuming that all expenses will increase by at most 1.5%. Create an income statement with these projected amounts. The firm also aims to have a profit ratio of 4.92%. If the only change they can make to the firm is reducing the Insurance expense, what amount must they to reduce it to in order to achieve this goal? (Use Goal Seek).

#### Directions:

- a. Create a copy of the current worksheet and rename the new worksheet "Activity 2 Solution."
- b. Enter formula in cell I9 to calculate a 15% increase in Sales Revenue.
- c. Enter the past amount in cell I10 for Less Sales Returns and Allowances.
- d. Enter formula in cell I11 to calculate Net Sales.
- e. Enter \$140,483 in cell I13 for Cost of Goods Sold.
- f. Enter formula in cell I15 to calculate Gross Profit.
- g. Enter formula in cell I16 to calculate Profit Margin Rate.
- h. Enter formula in cells I19:I30 to calculate the new amounts for all Expenses.
- i. Use Auto Sum in cell I31 to calculate Total Expenses.
- j. Enter formula in cell I33 to calculate Net Income.
- k. Enter formula in cell I35 to calculate Profit Ratio.
- l. Enter the same Projected amounts in the Reduction column for cells J9:J10, J13, J19:J22, and J24:J30. Enter formulas in cells J11, J15, J16, J31, J33, and J35 to calculate Net Sales, Gross Profit, Profit Margin Rate, Total Expenses, Net Income, and Profit Ratio.
- m. Format cells I16:K16 and I35:K35 to Percentage with 2 decimal places and % symbol.
- n. Format cells I9:J11, I13:J13, I15:J15, I19:J31, and I33 to Currency with 2 decimal places, comma separator, and % symbol.
- o. Use Goal Seek to determine the amount for Insurance expense in order to achieve a Profit Ratio of 4.92%. Hint: Set Cell J35 equal to 4.92% by changing cell J23.
- p. Change font color of the new Insurance amount in cell J23 to Dark Purple.
- q. Calculate Percent Change in Insurance in cell H39. Hint: Percent Change = (New Amount-Old Amount)/Old Amount
- r. Format cell H39 to Percentage with 2 decimal places and % symbol, then change font color to red.
- s. Use bottom border for cells I10:J10 and I30:J30.
- t. Save file.
- u. Click on the tab with the worksheet titled Activity 3 to continue.

### Activity 3: Income Statement – Vertical Analysis

**Vertical Analysis** is a technique for evaluating financial statement data that expresses each item within a financial statement in terms of a percent of a base amount.

The end of the fiscal year 2015 ended significantly different than the projections. Gina's Cupcake must complete a new income statement for the year. Create an income statement for 2014-2015 using the information given. Complete a Vertical Analysis of each income statement with Net Sales as the base amount.

- Sales Revenue = \$354,482.58
- Less Sales Returns and Allowances = \$0
- Other Revenue = \$0
- Cost of Goods Sold = \$150,789
- 401(k) = 5% of salaries
- Advertising = \$350.54 every month
- Depreciation = \$1,571
- Furniture = \$1,015
- Insurance = \$5,018.22
- Interest = \$9,571.25
- Payroll Tax = 7.65% of salaries
- Rent = \$1,610 every month
- Salaries = \$117,821.14
- Supplies = \$378.48
- Utilities = \$212.14 every month
- Other = \$53.88

#### Directions:

- a. Create a copy of the current worksheet and rename the new worksheet “Activity 3 Solution.”
- b. Enter values in cells K9 and K10 for Sales Revenue and Less Sales Returns and Allowances.
- c. Enter formula in cell K11 to calculate Net Sales.
- d. Enter value in cell K13 for Cost of Goods Sold.
- e. Enter formula in cell K15 to calculate Gross Profit.
- f. Enter formula in cell K16 to calculate Profit Margin Rate.
- g. Calculate values for 401(k), Advertising, Payroll Tax, Rent, and Utilities and enter values for Depreciation, Furniture, Insurance, Interest, Salaries, Supplies, and Miscellaneous in cells K19:K30.
- h. Use AutoSum in cell K31 to calculate Total Expenses.
- i. Enter formula in cell K33 to calculate Net Income in cell K33, then use red color font if there is a net loss.
- j. Enter formula in cell K35 to calculate Profit Ratio.

- k. Format cell K16 and K35 to Percentage with 2 decimal places and % symbol.
- l. Hold down the CTRL key to select non-adjacent cells K9:K11, K13, K15, K19:K31, and K33 and format to Currency with 2 decimal places, comma separator, and \$ symbol.
- m. Use bottom border for cells K10 and K30.
- n. Conduct a Vertical Analysis with Net Sales as the base amount for all three statements in cells H9:H11, H13, H15, H19:H31, H33, J9:J11, J13, J15, J19:J31, J33, L9:L11, L13, L15, L19:L30, and L33. Hint: Amount/Base Amount
- o. Hold down on the CTRL key to select non-adjacent cells H9:H11, H13, H15, H19:H31, H33, I9:I11, I13, I15, I19:I31, I33, K9:K11, K13, K15, K19:K30, and K33 and format to Percentage with 2 decimal places and % symbol, then change font color to Dark Purple.
- p. Set column width of columns B to L to 11, then delete column F.
- q. Save file.
- r. Click on the tab with the worksheet titled Activity 4 to continue.

#### Activity 4: Income Statement – Horizontal Analysis

**Horizontal Analysis** is a technique for evaluating financial statement data over a period of time to determine the increase or decrease that has taken place, expressed as either an amount or a percentage.

The firm would like to create a Horizontal Analysis for the past 2 fiscal years. Find the change in Amount and Percent for Gina's Cupcakes.

#### Directions:

- a. Create a copy of the current worksheet and rename the new worksheet "Activity 4 Solution."
- b. Enter formula in cells I9:I11, I13, I15, I16, I19:I31, I33, and I35 to find the change in amount from Fiscal Year Ending 2014 to Fiscal Year Ending 2015.
- c. Enter formula in cells J9:J11, J13, J15, J16, J19:J30, J33, and J35 to find the change in percent from Fiscal Year Ending 2014 to Fiscal Year Ending 2015.  $\text{Change in Percent} = (\text{New}-\text{Old})/\text{Old}$
- d. Hold down on the CTRL key to select non-adjacent cells I9:J11, I13:J13, I15:J15, I16:J16, I19:J31, I33:J33, and I35:J35 and format to Percentage with 2 decimal places and % symbol, then use purple font.
- e. Use bottom border for cells I10:J10 and I30:J30.
- f. Save file.