Case Study: Merchandising Financial Statement Analysis

by Sophia

1. Case Study: Legacy Clothing

The subject company for our case study is called Legacy Clothing. Legacy Clothing is a sole proprietorship, which is a company that is owned by a single individual, and where that individual and the business are legally treated as the same.

The purpose of Legacy Clothing as a business is to own and operate clothing/merchandise stores. It is similar to a department store chain, selling men's, women's, and children's clothing and other related items. Legacy Clothing has locations throughout Washington, DC, and they have a staff of 50 people employed in their stores.

Legacy Clothing	
Type of company	Sole proprietorship

Business purpose	Own and operate clothing/merchandise stores
Business location(s)	Washington, D.C. Staff of 50 people

Legacy Clothing needs financial statement analysis. There are two types of financial statement analysis, income statement analysis and balance sheet analysis, and Legacy Clothing needs both.

Income statement analysis is needed to help Legacy Clothing with trend analysis so they can identify trends. It is also helpful for assessing past performance and predicting future performance. Income statement analysis also provides a more complete picture for our financial statements. It helps us understand the relationship between expenses and revenues, the changing composition of our expenses over time, and it helps measure the results of expense management.

The other type of financial statement analysis is balance sheet analysis. This analysis is important because it helps with inventory management and to understand the flow of our merchandise, or how the inventory is flowing in the business. We don't want to have too much inventory, because there's going to be an increased cost associated with storing, protecting, and managing that inventory. If we have too little inventory, we might not be able to make our sales, because we don't have the items in stock.

2. Case Study: Income Statement Analysis

Now that we've determined why Legacy Clothing needs to have financial statement analysis, let's look at performing financial statement analysis for them, starting with their income statement analysis.

2a. Vertical Analysis

The starting point for income statement analysis is going to be our income statement, so you'll see that we've prepared an income statement for our subject company.

Now we're ready to perform our analysis. The first thing that we're going to do is express our expenses as a percentage of our total sales. As you can see, our total sales of $990,000 represents 100%. Next, we will express our expenses as a percentage of that total sales number.

Income Statement Analysis					
Legacy Company					
Income Statement			Vertical	Total gross	
For the period ending December 31, 2012			Analysis	revenue	
Sales		990,000	100%		
Sales Returns and Allowances	30,000		3%		
Sales Discounts	15,000	45,000	2%		
Net Sales		945,000			
Cost of Goods Sold		228,000	23%	Example:	
Gross Profit		717,000		$\frac{228,000}{990,000} = 0.23 = 23\%$	
Operating Expenses					
Salaries Expense	360,000		36%	Example:	
Advertising Expense	10,000		1%	$\frac{360,000}{990,000} = 0.36 = 36\%$	
Rent Expense	50,000		5%		
Insurance Expense	15,000		2%		
Supplies Expense	6,000		0.6%		
Depreciation Expense - Buildings	2,500	443,500	0%		
Income from Operations		273,500			
Other Revenue (Expenses)					
Interest Expense		20,000	2%		
Net Income		253,500			

For instance, our cost of goods sold are 23% of total sales, salaries expense are 36% of total sales, etc.

Note, this analysis is beneficial for understanding the different relationships between the specific expenses and the total sales. It can help Legacy Clothing to understand the composition of their expenses and how those expenses change over time, including any trends that can be identified.

2b. Gross Margin Ratio

Now, let's look at performing another type of income statement analysis, calculating the gross margin ratio. As you can see below, the formula for calculating the gross margin ration is net sales minus cost of goods sold, divided by net sales.

	Income Statement Analysis		
	Legacy Company		
	Income Statement		
	For the period ending December 31, 2012		
Sales			990,000
Sales Returns and Allowances		30,000	
Sales Discounts		15,000	45,000
	Net Sales		945,000
Cost of Goods Sold			228,000
	Gross Profit		717,000

Gross Margin Ratio $= \dfrac{\text{Net Sales - Cost of Goods Sold}}{\text{Net Sales}}$

$= \dfrac{945{,}000 - 228{,}000}{945{,}000}$

$= \dfrac{717{,}000}{945{,}000}$ ← Same as Gross Profit value

$= 0.76$

$= 76\%$

We can populate that information from our income statement to calculate that our gross margin ratio is 76%, which tells us that our gross profit from our total sales is 76%.

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3. Case Study: Balance Sheet Analysis

Now, let's shift our focus to a balance sheet analysis, below, for Legacy Clothing. We will be calculating our inventory turnover, as well as our days inventory on hand or days in inventory, by using information from both the income statement and balance sheet.

> 🚩 **HINT**
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> You will be using Cost of Goods Sold (COGS) for several of these calculations. Keep in mind that this number includes all the direct costs related to producing those goods. You won't need to include other expenses or freight costs for these calculations.

Balance Sheet Analysis

Income Statement

Sales		990,000
Sales Returns and Allowances	30,000	
Sales Discounts	15,000	45,000
Net Sales		945,000
Cost of Goods Sold		228,000
Gross Profit		717,000

Balance Sheet

Current Assets		
Beginning Inventory		150,000
Ending Inventory		125,000

3a. Inventory Turnover

Inventory turnover can be calculated one of two ways. The first method involves looking at net sales divided by inventory.

$$\text{Inventory Turnover} = \frac{\text{Net Sales}}{\text{Inventory}}$$

$$= \frac{945,000}{125,500}$$

$$= 7.6$$

If we take our net sales and divide it by our ending inventory, this tells us that our inventory is sold 7.6 times during the period.

However, a more accurate way to calculate our inventory turnover is to look at our cost of goods sold and divide it by our average inventory, which speak more to period-based activity.

$$\text{Inventory Turnover} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

$$= \frac{228,000}{137,500} \qquad \frac{150,000+125,000}{2} = 137,500$$

$$= 1.7$$

Therefore, we take our cost of goods sold and divide by the average of our beginning and ending inventory balance, we'll see that our inventory turnover is more accurately reflected as 1.7 times, which is the number of times inventory is sold during the period.

3b. Days Inventory on Hand/Days in Inventory

Now, if we perform a days inventory on hand or days in inventory calculation, this will tell us how many days our inventory is actually held.

We take the number of days in the period--in this case, 365, because we are looking at an annual period--and divide it by our inventory turnover ratio, the 1.7 that we just calculated.

$$\text{Inventory Turnover} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

$$= \frac{228,000}{137,500}$$

$$= 1.7$$

$$\begin{array}{l}\text{Days Inventory on Hand} \\ \text{Or} \\ \text{Days in Inventory}\end{array} = \frac{\text{\# of days in period}}{\text{Inventory Turnover}}$$

$$= \frac{365}{1.7}$$

$$= 214.7$$

Now we can see that the number of days that Legacy Clothing holds their inventory is 214.7 days.

📋 **SUMMARY**

Today we introduced our **case study** company called **Legacy Clothing**, a department store selling men's, women's, and children's clothing and other related items. We performed financial statement analysis for our subject company, including two types of **income statement analysis**: **vertical analysis** and calculating **gross margin ratio**. We also performed **balance sheet analysis** for Legacy Clothing, specifically Great. So now that we've performed our financial statement analysis for our subject merchandising company, Legacy Clothing, let's summarize what we talked about today. In a nutshell, we discussed our case study company, Legacy Clothing, and then we looked at performing financial statement analysis for the company. We looked at performing income statement analysis, and we looked at balance sheet analysis, specifically calculating **inventory turnover** as well as **days inventory on hand/days in inventory**.

Source: Adapted from Sophia instructor Evan McLaughlin.