Introduction to Entrepreneurship and Innovation

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CHAPTER 8

Assessing a New Venture's Financial Strength and Viability

Financial Management (1 of 2)

Financial Management

- Financial management deals with two things: raising money and managing a company's finances in a way that *achieves the highest rate of return.*

- Chapter 10 focuses on raising money. This chapter focuses primarily on:
  - How a new venture tracks its financial progress through preparing, analyzing, and maintaining *past financial statements.*
  - How a new venture forecasts future income and expenses by preparing *pro forma (or projected) financial statements.*

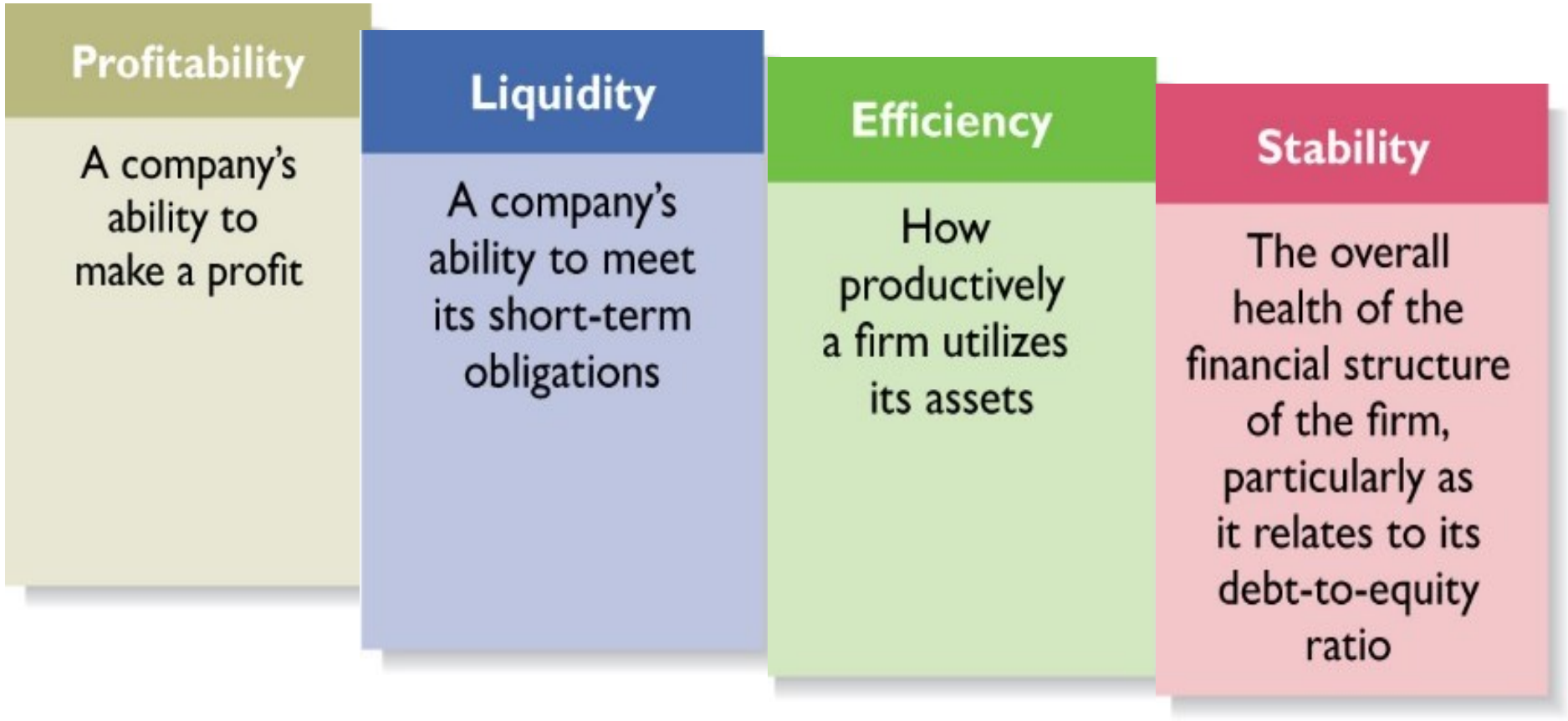
Financial Management (2 of 2)

The financial management of a firm deals with questions such as the following on an ongoing basis:

Profitability	• How are we doing? Are we making or losing money?
Liquidity	• How much cash do we have on hand? • Do we have enough cash to meet our short-term obligations?
Efficiency	• How efficiently are we utilizing our assets? • How do our growth and net profits compare to those of our industry peers? • Where will the funds we need for capital improvements come from?
Stability	• Are there ways we can partner with other firms to share risk and reduce the amount of cash we need? • Overall, are we in good shape financially?

Financial Objectives of a Firm

Primary Financial Objectives of Entrepreneurial Firms



Financial Objectives of a Firm (1 of 4)

1. Profitability
   - **Is the ability to earn a profit.**
   - Many start-ups are not profitable during their first one to three years while ***they are training employees and building their brands.***
   - However, a firm ***must become profitable to remain viable*** and provide a return to its owners.

Financial Objectives of a Firm (2 of 4)

2. Liquidity
   - **Is a company's ability to meet its short-term financial obligations.**
   - Even if a firm is profitable, it is often a challenge to ***keep enough money in the bank to meet its routine obligations in a timely manner.***

To do so, a firm must keep a close watch on *accounts receivable* and *inventories*.

A firm's **accounts receivable** is money owed to a firm by its customers.

Its **inventory** is a firm's merchandise, raw materials, and products waiting to be sold.

If a firm allows the levels of either of these assets to get too high, it may not be able to keep enough cash on hand to meet its short-term obligations.

is a firm's financial **obligations** that are expected to be paid off within a year.

Financial Objectives of a Firm (3 of 4)

3. Efficiency
   - Is how productively a firm utilizes its assets relative to its revenue and its profits.
   - Southwest Airlines, for example, uses its assets very productively. Its turnaround time, or the time its airplanes sit on the ground while they are being unloaded and reloaded, is the lowest in the airline industry.

Financial Objectives of a Firm (4 of 4)

4. Stability
   - Is the strength and vigor of the firm's overall financial posture.
   - For a firm to be stable, it must not only *earn a profit* and *remain liquid* but also *keep its debt in check.*

If a firm continues to borrow from its lenders and its debt-to-equity ratio gets too high, it may have trouble meeting its obligations and securing the level of financing needed to fuel its growth.

Debt-to-equity is calculated by dividing its long-term debt by its shareholders' equity

The Process of Financial Management (1 of 4)

What is the purpose of analyzing financial ***statements***
Or
Explain the importance of financial ***statements*** to an entrepreneurial firm

Importance of Financial Statements

- To assess whether its financial objectives are being met, firms rely heavily on analysis of financial statements.
- A financial statement *is* ***a written report that quantitatively describes a firm's financial health.***
- The ***income statement***, ***the balance sheet***, and ***the statement of cash flows*** are the financial statements entrepreneurs use most commonly.

The Process of Financial Management (2 of 4)

Forecasts

- Are an estimate of a firm's future income and expenses,
- Existing firms *base their forecasts on* ***past performance, its current circumstances****, and* ***its future plans.***
- New ventures typically base their forecasts *on* ***an estimate of sales*** *and then on* ***industry averages*** *or* ***the experiences of similar start-ups*** *regarding the cost of goods sold and other expenses.*

Budgets

- Are itemized forecasts of a company's income, expenses, and capital needs and are also *an important tool for financial planning and control.*

The Process of Financial Management (3 of 4)

Financial Ratios

- *Depict relationships between items on a firm's financial statements.*
- An analysis of its financial ratios helps a firm determine whether it is meeting its financial objectives and how it stacks up against industry peers.

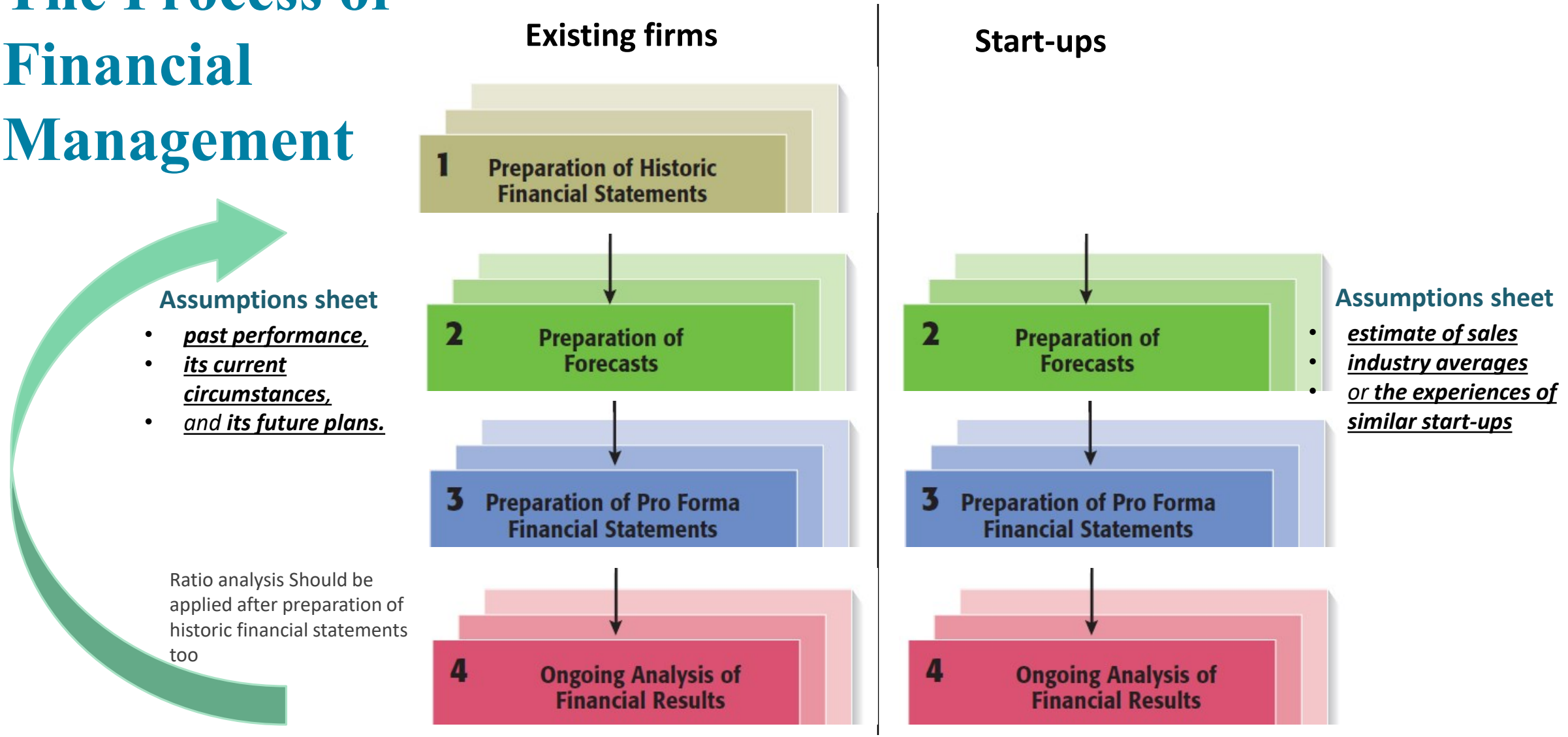
What is the purpose of analyzing financial ***ratios***
Or
Explain the importance of financial ***ratios*** analysis to an entrepreneurial firm

Importance of Financial Management

- Many experienced entrepreneurs stress the importance of keeping on top of the financial management of the firm.

The Process of Financial Management

Management process for…



Assumptions sheet

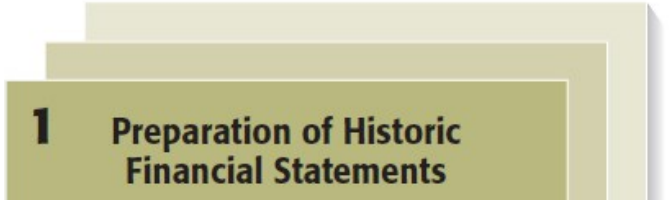
- ***past performance,***
- ***its current circumstances,***
- *and* ***its future plans.***

Ratio analysis Should be applied after preparation of historic financial statements too

Assumptions sheet

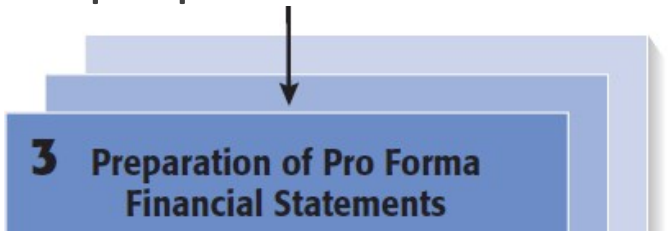
- ***estimate of sales***
- ***industry averages***
- *or* ***the experiences of similar start-ups***

Financial Statements



Historical Financial Statements

- Reflect past performance and are usually prepared on a quarterly and annual basis.
  - Publicly traded firms are required by the SEC to prepare financial statements and make them available to the public.



Pro Forma Financial Statements

- Are projections for future periods based on forecasts and are typically completed for two to three years in the future.
- Pro forma financial statements are strictly *planning tools* and are not required by the SEC.

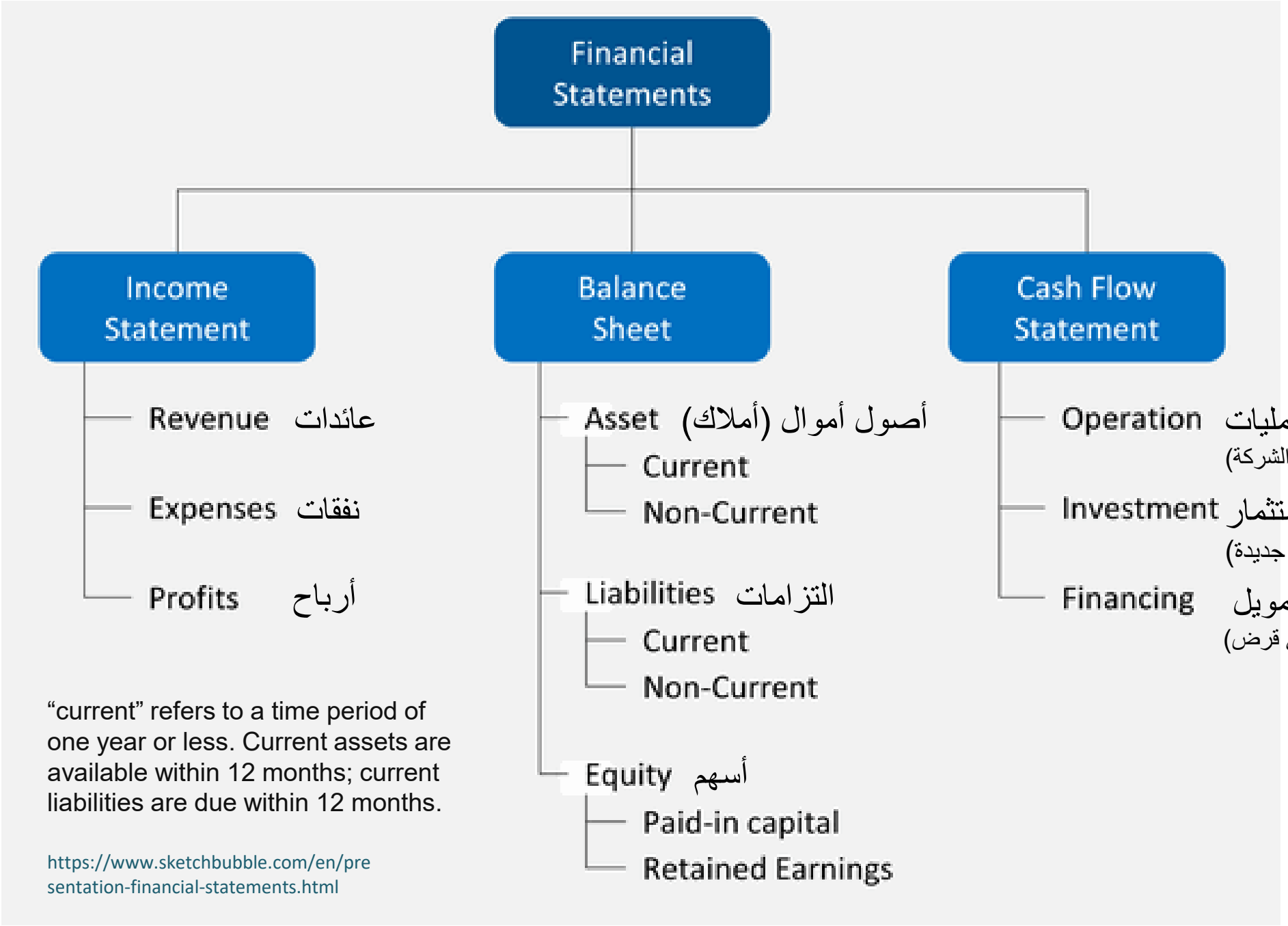
Historical Financial Statements

Three types of historical financial statements

Financial Statement	**Purpose**
Income Statement	Reflects the **results of the operations of a firm over a specified period of time.** It records all the **revenues** and **expenses** for the given period and shows **whether the firm is making a profit or is experiencing a loss.**
Balance Sheet	Is a snapshot of **a company's assets, liabilities, and owner's equity at a *specific* point in time.**
Statement of cash flows	Summarizes the **changes in a firm's cash position** for a specified period of time and details **why the changes occurred.**

Print this out while studying and keep it nearby when you read other slides

Make sure you understand each word in it



"current" refers to a time period of one year or less. Current assets are available within 12 months; current liabilities are due within 12 months.

https://www.sketchbubble.com/en/presentation-financial-statements.html

New Venture Fitness Drinks

New Venture Fitness Drinks

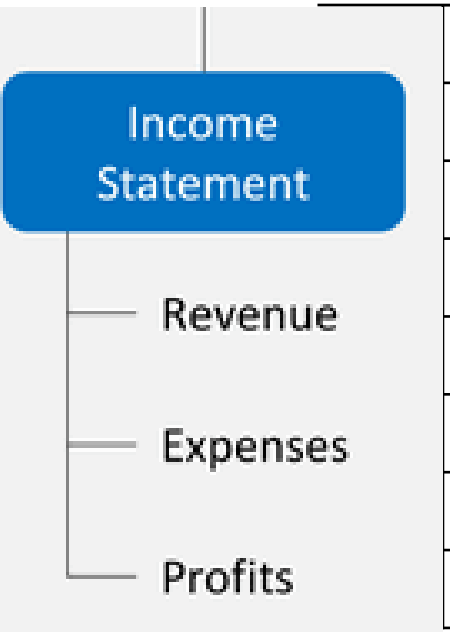
- To illustrate how financial statements are prepared, we used New Venture Fitness Drinks, the fictitious sports drink company introduced in Chapter 3.
- New Venture Fitness Drinks has been in business for five years.
- Targeting sports enthusiasts, the company sells a line of nutritional fitness drinks.
- It opened a single location in 2016, added a second location in 2018, and plans to add a third in 2019.
- The company's strategy is to place small restaurants, similar to smoothie restaurants, near large outdoor sports complexes.
- The company is profitable and is growing at a rate of 25 percent per year.

Historical Income Statements

Table 8.1 Consolidated Income Statements for New Venture Fitness Drinks, Inc.

	December 31, 2018	December 31, 2017	December 31, 2016
Net sales	$586,600	$463,100	$368,900
Cost of sales	268,900	225,500	201,500
Gross profit	317,700	237,600	167,400
Operating expenses			
Selling, general, and administrative expenses	117,800	104,700	90,200
Depreciation	13,500	5,900	5,100
Operating income	186,400	127,000	72,100
Other income			
Interest income	1,900	800	1,100
Interest expense	(15,000)	(6,900)	(6,400)
Other income (expense), net	10,900	(1,300)	1,200
Income before income taxes	184,200	119,600	68,000
Income tax expense	53,200	36,600	18,000
Net income	131,000	83,000	50,000
Earnings per share	1.31	0.83	0.50

1. Income Statement: Reflects the results of the operations of a firm over a specified period of time. *It records all the revenues and expenses for the given period and shows whether the firm is making a profit or is experiencing a loss.*



		Dec 31, 2018	Dec 31, 2017	Dec 31, 2016
	Net sales	586,600	463,100	368,900
	Cost of sales	268,900	225,500	201,500
Net sales – Costs sales	Gross profit	317,700	237,600	167,400
	Operating expenses	131,300	110,600	95,300
Gross profit – Operating expenses	Operating income	186,400	127,000	72,100
	Interest	2,200	8,000	4,000
	Taxes	53,200	36,000	18,000
Operating income – (interest & taxes)	Net income	131,000	83,000	50,000

Operating margin: **operating income**(profit before taxes and interest)**/net sales** (revenues)

- Are the company's sales increasing?
- Is it profitable?
- Is the net income increasing?
- Is the company increasing or decreasing its material and labor costs per dollar of sales?

- One thing that is of a particular importance when evaluating a firm's income statements is a firm's **profit margin**, or *return on sales*, which is computed by dividing net income by net sales.

- A firm's profit margin tells what percentage of every dollar in sales contributes to the bottom line:
  - An *increasing profit margin* means that a firm is either boosting its sales without increasing its expenses or that it is doing a better job of controlling its costs.
  - In contrast, a *declining profit margin* means that a firm is losing control of its costs or that it is slashing prices to maintain or increase sales.

You try:

Refer to the income statement in the previous slide. Calculate the profit margin or return on sales for each year. Is the profit margin increasing or decreasing and why?

What Does a Company Balance Sheet Tell You?

A balance sheet shows what a company owns and owes and how much shareholders have invested.

THE BALANCE SHEET FORMULA

Assets = **Liabilities** + **Shareholders' Equity**

cash, inventory, property — *rent, wages, utilities, taxes, loans* — *retained earnings*

Investopedia

Historical Balance Sheets (1 of 2)

Assets

Table 8.2 Consolidated Balance Sheets for New Venture Fitness Drinks, Inc.

Assets	December 31, 2018	December 31, 2017	December 31, 2016
Current assets			
Cash and cash equivalents	$63,800	$54,600	$56,500
Accounts receivable, less allowance for doubtful accounts	39,600	48,900	50,200
Inventories	19,200	20,400	21,400
Total current assets	122,600	123,900	128,100
Property, plant, and equipment			
Land	260,000	160,000	160,000
Buildings and equipment	412,000	261,500	149,000
Total property, plant, and equipment	672,000	421,500	309,000
Less: accumulated depreciation	65,000	51,500	45,600
Net property, plant, and equipment	607,000	370,000	263,400
Total assets	729,600	493,900	391,500

Historical Balance Sheets (2 of 2)

Liabilities and Shareholders' Equity

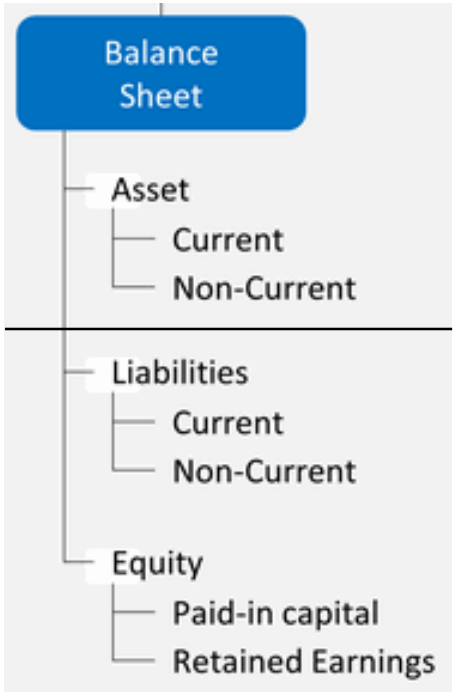
Table 8.2 (continued)

Assets	December 31, 2018	December 31, 2017	December 31, 2016
Liabilities and shareholders' equity			
Current liabilities			
Accounts payable	30,200	46,900	50,400
Accrued expenses	9,900	8,000	4,100
Total current liabilities	40,100	54,900	54,500
Long-term liabilities Long-term debt	249,500	130,000	111,000
Long-term liabilities	249,500	130,000	111,000
Total liabilities	289,600	184,900	165,500
Shareholders' equity			
Common stock (100,000 shares)	10,000	10,000	10,000
Retained earnings	430,000	299,000	216,000
Total shareholders' equity	440,000	309,000	226,000
Total liabilities and shareholders' equity	729,600	493,900	391,500

2. Balance Sheet: *Is a snapshot of a company's assets, liabilities, and owner's equity at a specific point in time.*

		Dec 31, 2018	Dec 31, 2017	Dec 31, 2016
Assets	Cash	63,800	54,600	56,500
	Accounts receivable	39,600	48,900	50,200
	inventories	19,200	20,400	21,400
	Land	260,000	160,000	160,000
	Building & equipment	412,000	261,500	149,000
	Less depreciation	65,000	51,500	45,600
Total assets		729,600	493,900	391,500
Liabilities	Accounts payable	40,100	54,900	54,500
	Long-term debt	249,500	130,000	111,000
Total liabilities		289,600	184,900	165,500
Shareholders equity	Common Stock	10,000	10,000	10,000
	Retained earnings	430,000	309,000	226,000
Total shareholders' equity		440,000	309,000	226,000
Total Liabilities + Total shareholders' equity		729,600	493,900	391,500

Must equal



When evaluating a balance sheet, the two primary questions are:

1. whether a firm has sufficient short-term assets to cover its short-term debts and

There are two calculations that provide the answer to the first question:

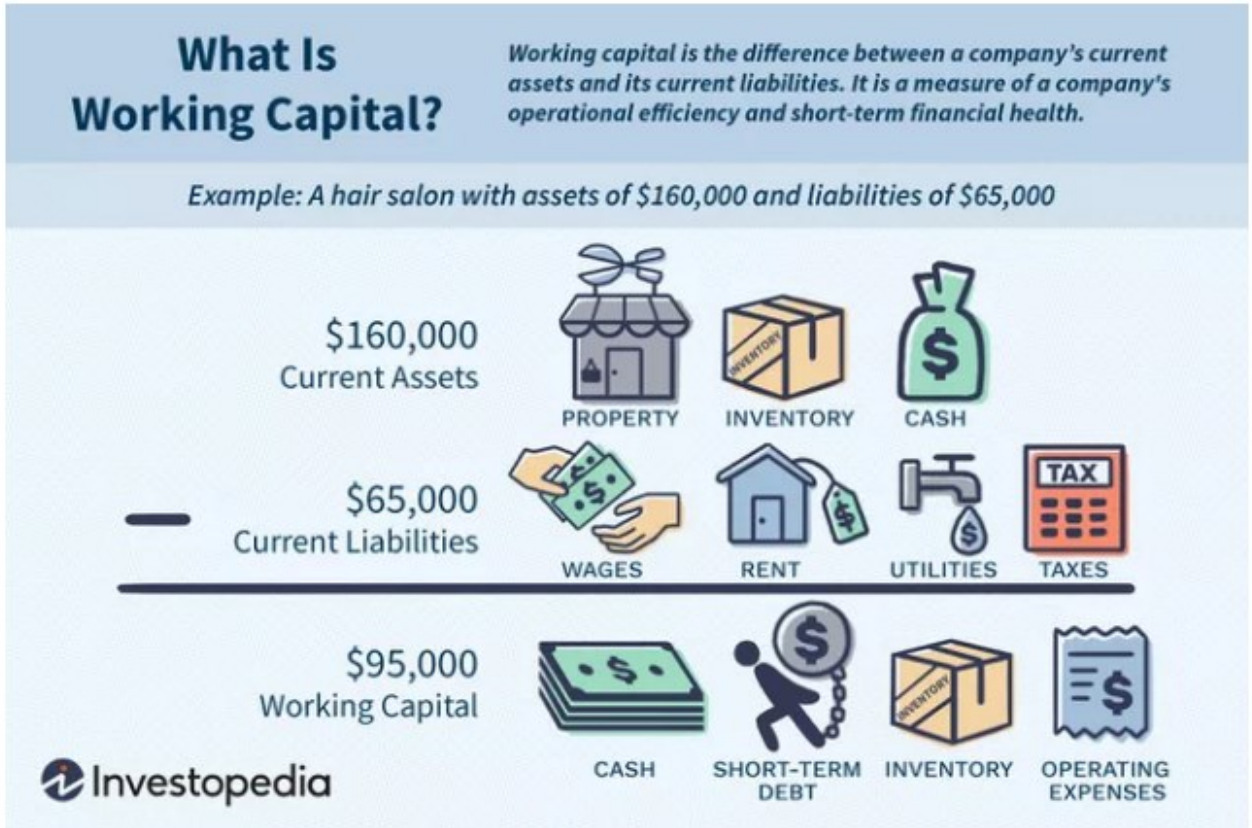
1. the **working capital** defined as its current assets minus its current liabilities. This number represents the amount of liquid assets the firm has available.
2. Its **current ratio**, which equals the firm's current assets divided by its current liabilities, can tell us more about the firm's ability to pay its short-term debts.

if the equation produces a negative number or if its working capital ratio, which is current assets divided by current liabilities, is less than one, for an extended period of time, it may be a cause of concern for certain types of companies, indicating that they are struggling to make ends meet and have to rely on borrowing

2. whether it is financially sound overall.

Computing a company's **overall debt ratio** will give us the answer to the second question, as it is a means of assessing a firm's overall financial soundness. A company's debt ratio is computed by dividing its total debt by its total assets.

When the ratio is *decreasing* this means the company is relying less on debt to finance its operations. In general, less debt creates more freedom for the entrepreneurial firm in terms of taking different actions.



Current Ratio = **Current Assets** / **Current Liabilities**

CURRENT RATIO = CURRENT ASSETS / CURRENT LIABILITIES

<1	1.5 to 3	>3
Too Low	Excellent	Too High

Debt to Asset Ratio = **Total Debt** / **Total Asset**

- ✓ If this ratio is >0.5, it is considered that the company is highly leveraged
- ✓ Lower debt to total asset ratio is considered better as a sign of financial stability of the company.
- ✓ If the company has high debt to total asset ratio, it suggests that a company has borrowed huge funds and therefore higher financial risk.

Historical Statement of Cash Flows (1 of 2)

Table 8.3 Consolidated Statement of Cash Flows for New Venture Fitness Drinks, Inc.

	December 31, 2018	December 31, 2017
Cash flows from operating activities		
Net income	$131,000	$83,000
Additions (sources of cash)		
Depreciation	13,500	5,900
Decreases in accounts receivable	9,300	1,300
Increase in accrued expenses	1,900	3,900
Decrease in inventory	1,200	1,000
Subtractions (uses of cash)		
Decrease in accounts payable	(16,700)	(3,500)
Total adjustments	9,200	8,600
Net cash provided by operating activities	140,200	91,600
Cash flows from investing activities		

Historical Statement of Cash Flows (2 of 2)

Table 8.3 (continued)

	December 31, 2018	December 31, 2017
Purchase of building and equipment	(250,500)	(112,500)
Net cash flows provided by investing activities	(250,500)	(112,500)
Cash flows from financing activities		
Proceeds from increase in long-term debt	119,500	19,000
Net cash flows provided by financing activities	119,500	19,000
Increase in cash	9,200	(1,900)
Cash and cash equivalents at the beginning of each year	54,600	56,500
Cash and cash equivalents at the end of each year	63,800	54,600

3. Cash flow: *Summarizes the changes in a firm's cash position for a specified period of time and details why the changes occurred.*

A firm's net income, taken from its income statement, is the first line

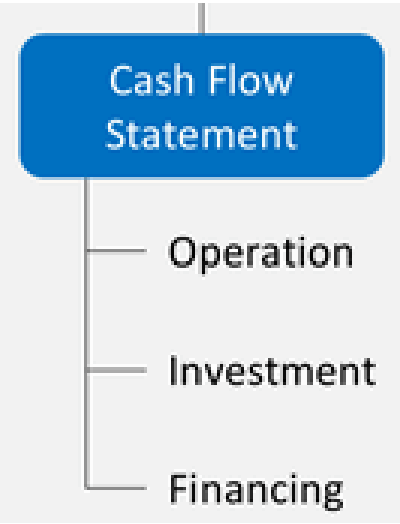
If a firm allows the levels of either of these assets to get too high, it may not be able to keep enough cash on hand to meet its short-term obligations.

a decrease in accounts payable shows up as a negative figure on the cash flow statement (in parenthesis) because the firm used part of its cash to reduce its accounts payable

It is funding its investment activities from a combination of debt and earnings

This firm is steadily increasing its cash on hand. It is accumulating cash that could be put to work for a more productive purpose.
These numbers are taken from the first line in the balance sheet

	December 31,2018	December 31,2017
Cash flows from operating activities		
Net income	$131,000	$83,000
Additions (sources of cash)		
Depreciation	13,500	5,900
Decreases in accounts receivable	9,300	1,300
Increase in accrued expenses	1,900	3,900
Decrease in inventory	1,200	1,000
Subtractions (uses of cash)		
Decrease in accounts payable	(16,700)	(3,500)
Total adjustments	9,200	8,600
Net cash provided by operating activities	140,200	91,600
Cash flows from investing activities		
Purchase of building and equipment	(250,500)	(112,500)
Net cash flows provided by investing activities	(250,500)	(112,500)
Cash flows from financing activities		
Proceeds from increase in long-term debt	119,500	19,000
Net cash flows provided by financing activities		19,000
Increase in cash	9,200	(1,900)
Cash and cash equivalents at the beginning of each year	54,600	56,500
Cash and cash equivalents at the end of each year	63,800	54,600



Ratio Analysis (1 of 2)

Ratio Analysis

- The most practical way to interpret or make sense of a firm's historical financial statements is through ratio analysis, as shown in the next slide.

Comparing a Firm's Financial Results to Industry Norms

- Comparing a firm's financial results to industry norms helps a firm determine how it stacks up against its competitors and if there are any financial "red flags" requiring attention.

Historical Ratio Analysis (1 of 2)

Table 8.4 Ratio Analysis for New Venture Fitness Drinks, Inc.

Ratio	Formula	2018	2017	2016
Profitability ratios: associate the amount of income earned with the resources used to generate it				
• Return on assets	ROA = net income/average total assets[a]	21.4%	18.7%	14.7%
• Return on equity	ROE = net income/average shareholders' equity[b]	35.0%	31.0%	24.9%
• Profit margin	Profit margin = net income/net sales	22.3%	17.9%	13.6%
Liquidity ratios: measure the extent to which a company can quickly liquidate assets to cover short-term liabilities				
• Current	Current assets/current liabilities	3.06	2.26	2.35
• Quick	Quick assets/current liabilities	2.58	1.89	1.96
Overall financial stability ratio: measures the overall financial stability of a firm				
• Debt	Total debt/total assets	39.7%	37.4%	42.3%
• Debt to equity	Total liabilities/owners' equity	65.8%	59.8%	73.2%

- **Ratio analysis:** Depict relationships between items on a firm's financial statements.
- An analysis of its financial ratios *helps a firm determine whether it is meeting its financial objectives* and *how it stacks up against industry peers.*

	Ratio	Formula	2018	2017	2016
Profitability ratios	Return on Assets	Net income/average total assets	21.4%	18.7%	14.7%
	Return on Equity	Net income/average shareholders' equity	35.0%	31.0%	24.9%
	Profit Margin	Net income/net sales	22.3%	17.9%	13.6%
Liquidity ratios	Current	Current assets/ current liabilities	3.06	2.26	2.35
	Quick	Quick assets/ current liabilities	2.58	1.89	1.96
Financial stability ratios	Debt	Total debt/ total assets	39.7%	37.4%	42.3%
	Debt to Equity	Total liabilities/ owner's equity	65.8%	59.8%	73.2%

Kamal is the owner of a digital photography. The company has been profitable every year of its existence.

- Its debt ratio (Total debt/ Total assets) is currently 68 percent,
- its current ratio is 1.1 (Current assets/ current liabilities),
- and its debt-to-equity ratio (Total liabilities/ Owner's equity) is 72.2 percent.

Do these financial numbers cause any reason to be concerned? Why or why not?

In general, many investors look for a company to have a debt ratio **between 0.3 and 0.6**. From a pure risk perspective, debt ratios of 0.4 or lower are considered better, while a debt ratio of 0.6 or higher makes it more difficult to borrow money.

In general, a good current ratio is **anything over 1**, with 1.5 to 2 being the ideal. If this is the case, the company has more than enough cash to meet its liabilities while using its capital effectively.

The optimal debt-to-equity ratio will tend to vary widely by industry. A ratio greater than 1 implies that the majority of the assets are funded through debt. A ratio less than 1 implies that the assets are financed mainly through equity. A lower debt to equity ratio means the company primarily relies on wholly-owned funds to leverage its finances.

Comparing a Firm's Financial Results to Industry Norms:

- Comparing a firm's financial results to industry norms helps a firm determine how it stacks up against its competitors and if there are any financial "red flags" requiring attention.
- This type of comparison works best for firms that are of similar size, so the results should be interpreted with caution by new firms.

- Sometimes raw financial ratios that are not viewed in context are deceiving. For example, a firm's past three years' income statements may show that it is increasing its sales at a rate of 15 percent per year. This number may seem impressive—until one learns that the industry in which the firm competes is growing at a rate of 30 percent per year, showing that the firm is steadily losing market share.

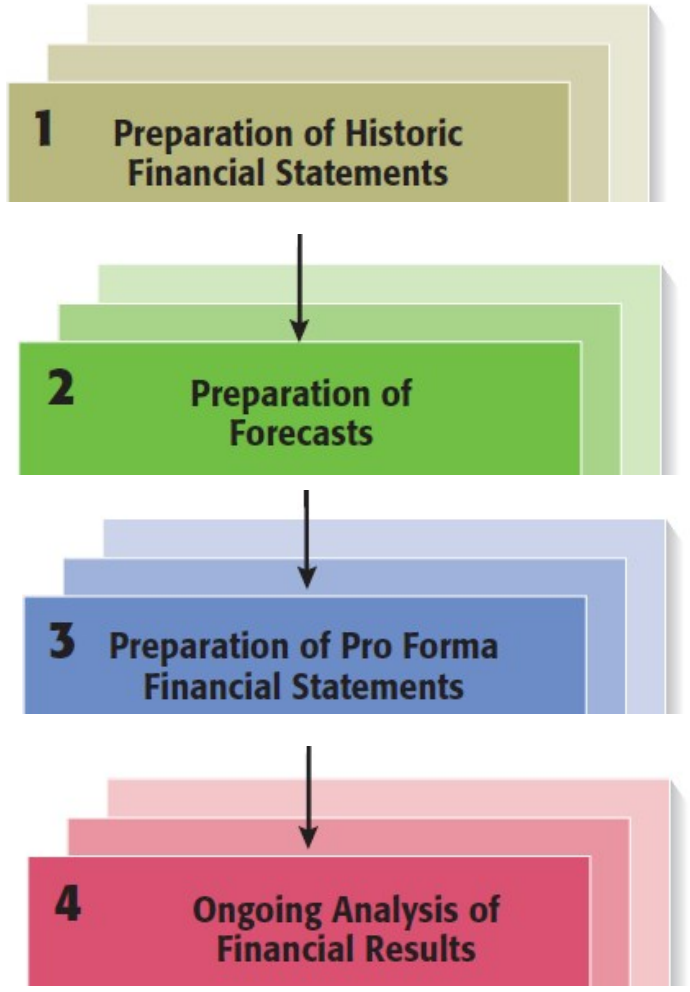
Forecasts (1 of 4)

Forecasts

- The analysis of a firm's historical financial statements are followed by the preparation of forecasts.
- Forecasts are predictions of a firm's future sales, expenses, income, and capital expenditures.
- A firm's forecasts provide the basis for its pro forma financial statements.
- A well-developed set of pro forma financial statements helps a firm create accurate budgets, build financial plans, and manage its finances in a proactive rather than a reactive manner.

Management process for…

Existing firms

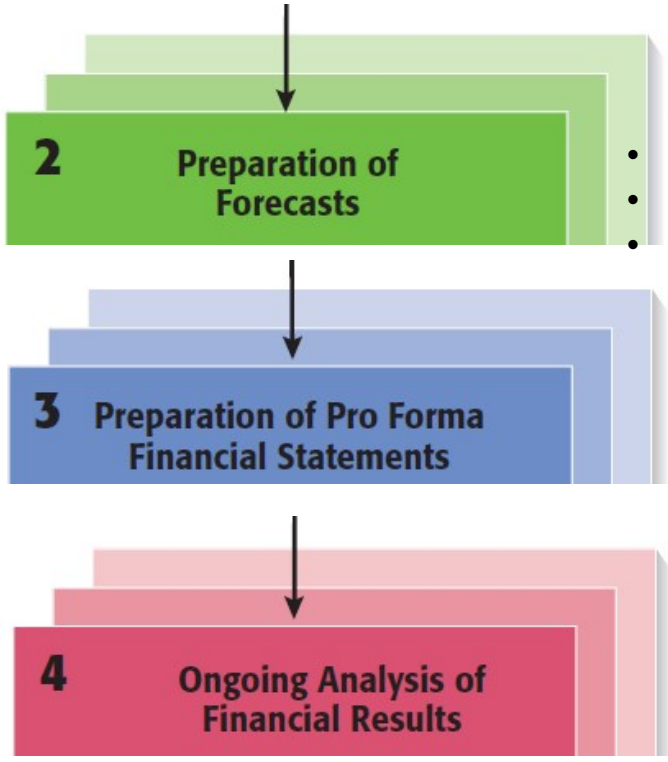


Assumptions sheet

- ***past performance,***
- ***its current circumstances,***
- *and* ***its future plans.***

Ratio analysis Should be applied after preparation of historic financial statements too

Start-ups



Assumptions sheet

- ***estimate of sales***
- ***industry averages***
- *or* ***the experiences of similar start-ups***

Forecasts (2 of 4)

Sales Forecast

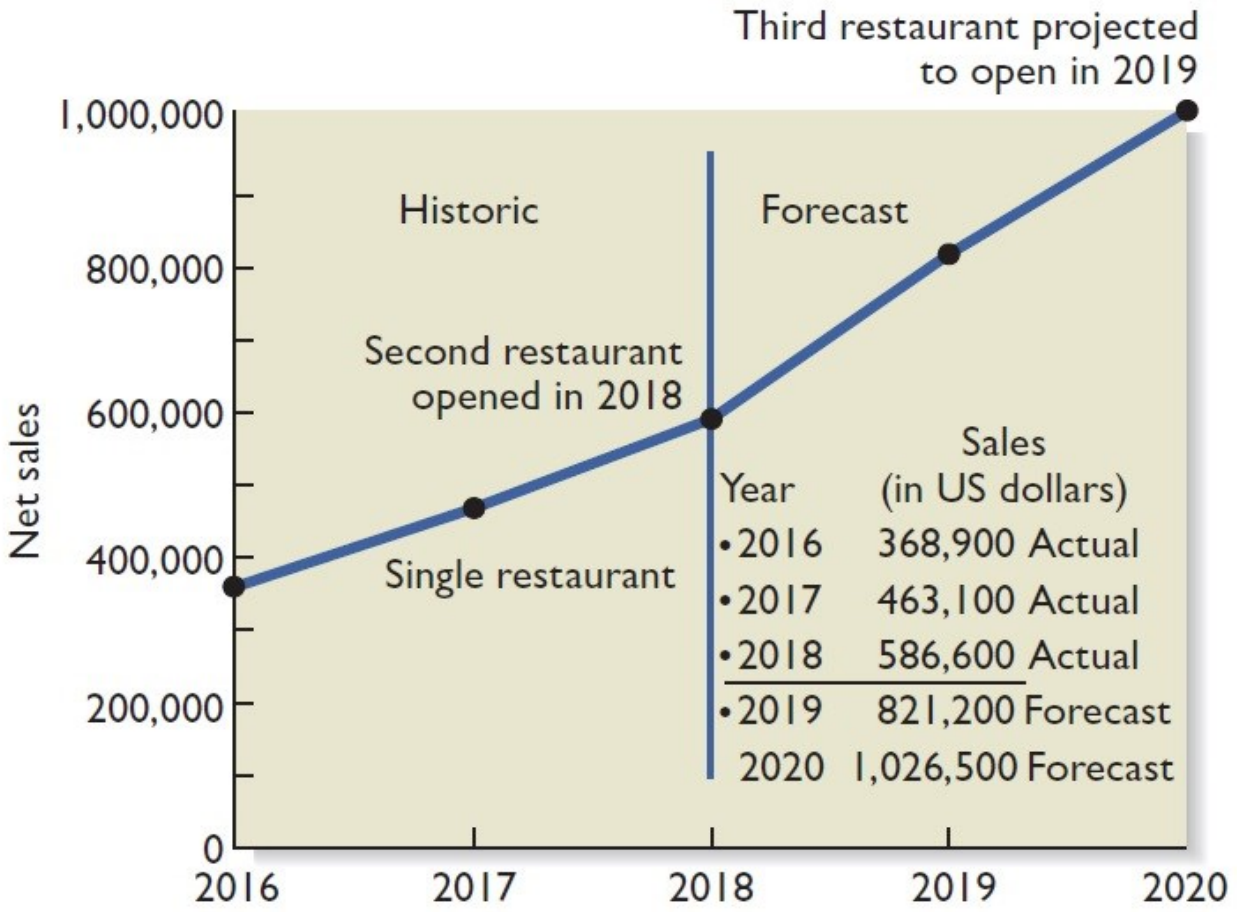
- A sales forecast is a projection of a firm's sales for a specified period (such as a year).
- It is the first forecast developed and is the basis for most of the other forecasts.
  - A sales forecast for a new firm is based on a good-faith estimate of sales and on industry averages or the experiences of similar start-ups.

    completely new firm's forecast should be preceded in its business plan by an explanation of the sources of the numbers for the forecast and the assumptions used to generate them. This explanation is called an ***assumptions sheet***
  - A sales forecast for an existing firm is based on (1) its record of past sales, (2) its current production capacity and product demand, and (3) any factors that will affect its future production capacity and product demand.

- If a company overestimates the demand for its products, it might get stuck with excess inventory and spend too much on overhead. If it underestimates the demand for its product, it might have to turn away business, and some of its potential customers might get into the habit of buying other firms.

Forecasts (3 of 4)

Figure 8.3 Historical and Forecasted Annual Sales for New Venture Fitness Drinks



1. Sales Forecast

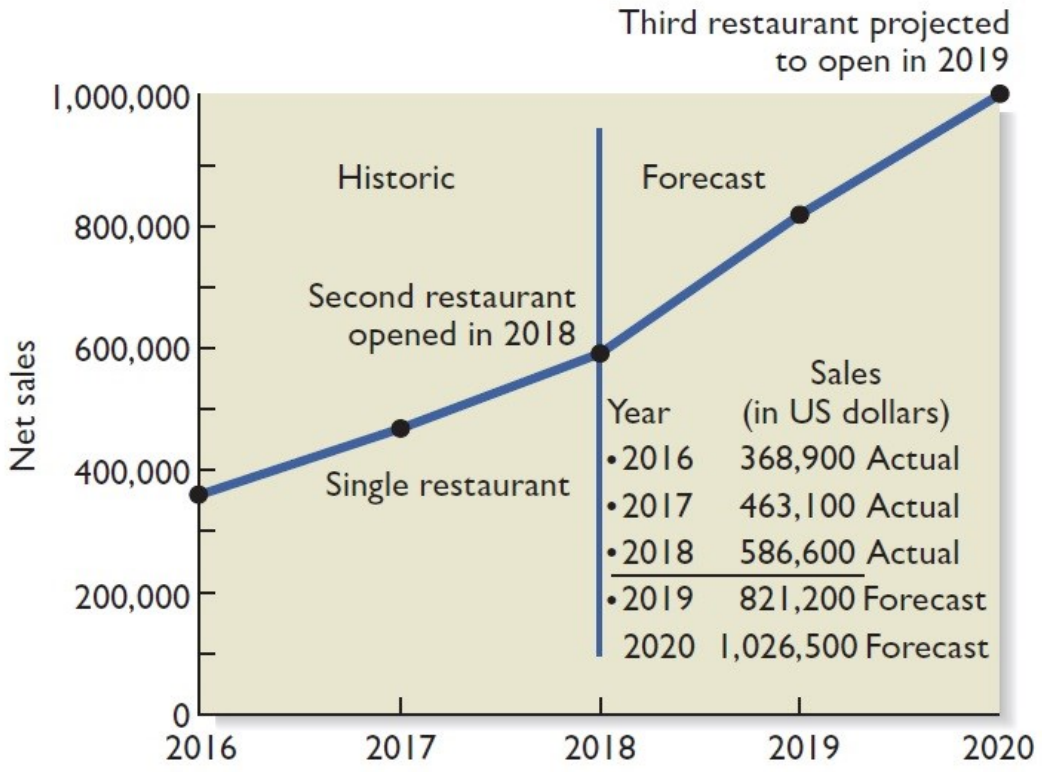
- A sales forecast is a projection of a firm's sales for a specified period (such as a year).
- It is the first forecast developed and is the basis for most of the other forecasts.

A sales forecast for an existing firm is based on:	A sales forecast for a new firm is based on
(1) its record of past sales, (2) its current production capacity and product demand (3) any factors that will affect its future product capacity and product demand.	(1) a good-faith estimate of sales (2) on industry averages (3) the experiences of similar start-ups.

For example, the assumptions sheet for a new venture may say that its forecasts are based on selling 500 units of its new product the first year, 1,000 units the second year, and 1,500 units the third year and that its cost of goods sold will remain stable (meaning that it will stay fixed at a certain percentage of net sales) over the three-year period.

First step is: forecasting sales… *to do so:*

1. Calculate the percentage of increase in sales of previous performance as in the example (1)
2. Multiply the percentage of increase in sales by the actual sales of last year then add that to the actual sales of the same year as in the example (2)
3. Calculate other increases according to any other factors as in the example (3)



Example (1)

	Dec 31, 2018	Dec 31, 2017	Dec 31, 2016
Net sales	586,600	463,100	368,900

Increase in sales in 2017: (463,100 – 368,900) / 368,900 = 0.255

Increase in sales in 2018: (586,600 - 463,100) / 463,100 = 0.267

Example (2): depending on past performance

586,600 x 26.7 % = 156,622 **units more in 2019**

586,600 + 156,622 = 743,222 **the initial forecast sales for 2019**

Example (3): taking into consideration the new branch

The new branch will increase sales by another 50% of the initial forecasted increase for 2019

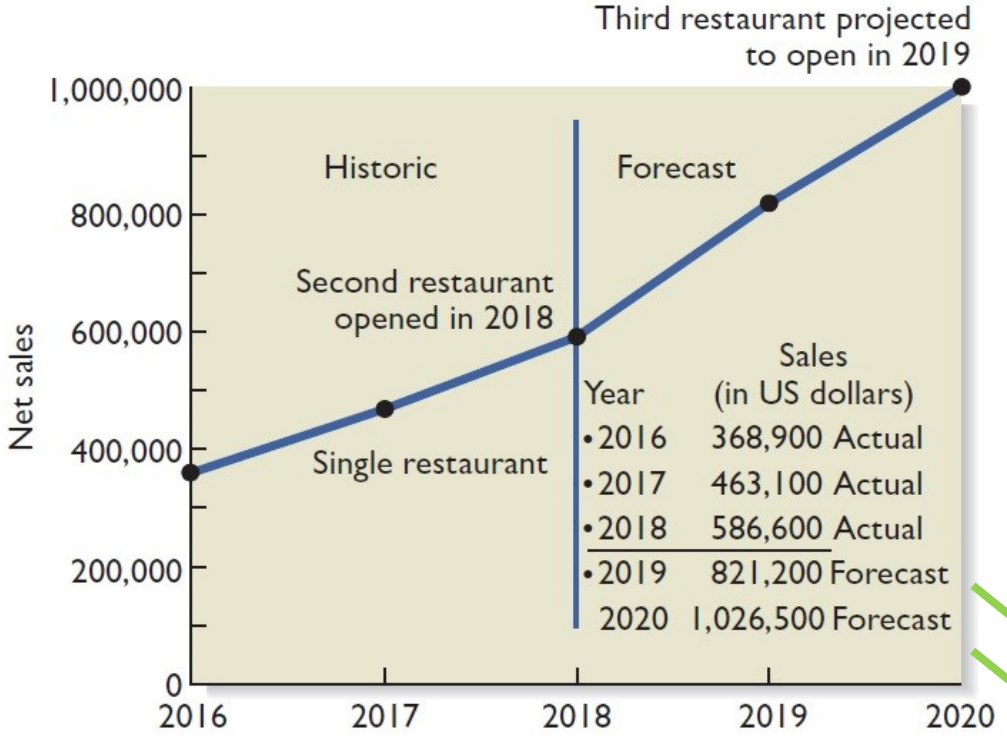
156,622 x 0.50 = 78,311

586,600 + 156,622 + 78,311 = 821,533 **the forecasted sales for 2019**

Forecasts (4 of 4)

Forecast of Costs of Sales and Other Items

- Once a firm has completed its sales forecast, it must forecast its cost of sales (or cost of goods sold) and the other items on its income statement.
- The most common way to do this is to use the percent-of-sales method, which is a method for expressing each expense item as a percentage of sales.
- If a firm determines that it can use the percent-of-sales method and it follows the procedures described in the textbook, then the net result is that each expense item on its income statement will grow at the same rate as sales (with the exception of items that can be individually forecast, such as depreciation).



First step was: forecasting sales… *refer to previous slides*

Second step is: forecasting costs… *to do so:*

1. Calculate the average of costs of sales of previous performance as in the example (1)
2. Multiply the percentage of costs of sales by the forecasted sales for the next periods as in the example (2)

Example (1)

Costs of sales is calculated from numbers taken from the income statement.

	Dec 31, 2014	Dec 31, 2013	Dec 31, 2012
Net sales	586,600	463,100	368,900
Cost of sales	268,900	225,500	201,500

Costs of sales for 2017: 225500 / 463100 = 0.487

Costs of sales for 2018: 268900 / 586600 = 0.458

Costs of sales average for 2017 & 2018: (0.487 + 0.458) / 2 = 0.473

Example (2)

821,200 x 47.3%= 388,427 **the forecasted costs for 2019**

1,026,500 x 47.3%= 485,534 **the forecasted costs for 2020**

"Pizza maker" project

	Per unit	In a day (12 hours = 2 shifts)	In a month (25 work days)	In a year (full capacity) (per month x 12)	Operating at 50% capacity First year	Operating at 65% capacity Second year	Operating at 80% capacity Third year	Operating at 80% capacity Fourth year
No. of Units	1 large pizza	36	900 units	10,800	5,400	7,020	8,640	8,640
Sales price	4 JDs	4 x 36 = 144 JDs	3,600 JDs	43,200 JDs	21,600 JDs	28,080 JDs	34,560 JDs	34,560 JDs
Cost of Sales	1 JDs	36 JDs	900 JDs	10,800 JDs	5,400 JDs	7,020 JDs	8,640 JDs	8,640 JDs
Gross profit	4 – 1 = 3 JDs	108 JDs	2,700 JDs	32,400 JDs	16,200 JDs	21,060 JDs	25,920 JDs	25,920 JDs
Operating expenses				18,800 + (8,000 startup costs) = 26800 JDs	18,800 + (8,000 startup costs) = 26800	29,400 JDs	27,140 JDs	20,020 JDs
Operating income				5,600 JDs	-10,600 JDs	-8,340 JDs	-1,220 JDs	5,900JDs

Operating expenses	Per month	In a year (full capacity) (per month x 12)	Operating at 50% capacity First year	Operating at 65% capacity Second year	Operating at 80% capacity Third year	Operating at 80% capacity Fourth year
Startup cost		8,000				
Payroll	1200	14,400				
Rent	200	2,000				
Marketing	50	600				
Utilities	50	600				
Insurance	50	600				
Other	50	600				
Total	1600	18,800+ (8,000 startup costs) = 26800 JDS	18,800+ (8,000 startup costs) = 26800 JDs	18,800 + 10,600 = 29,400 JDs	18,800 + 8,340 = 27,140 JDS	18,800 + 1,220 = 20,020 JDS

If the fixed costs for the project during a year reach 18,800 JDs…
and the startup costs were 8,000 JDs…

- calculate the break-even point for the project for that year.
- **when can the project cover up the startup costs?**

3. break-even point

Is the point where total revenue received equals total costs associated with the sale of the product

The formula for break-even analysis:

$$\frac{\text{Total fixed costs + (startup costs)}}{\text{(price per unit – average variable costs per unit)}}$$

For the "pizza maker" Project

If the fixed costs for the project during the year reach 18,800 JDs and the start up cost is 8000, calculate the break-even point during that year.

26, 800/(4-1) = 8934 pizzas

If the total fixed cost associated with opening a new restaurant is $101,000 per year, the average price for a fitness drink is $2.75, and the variable cost (or cost of goods sold) for each drink is $1.10, then the break-even point for the new restaurant is as follows:

$101,000/($2.75 - $1.10) = 61,212 units

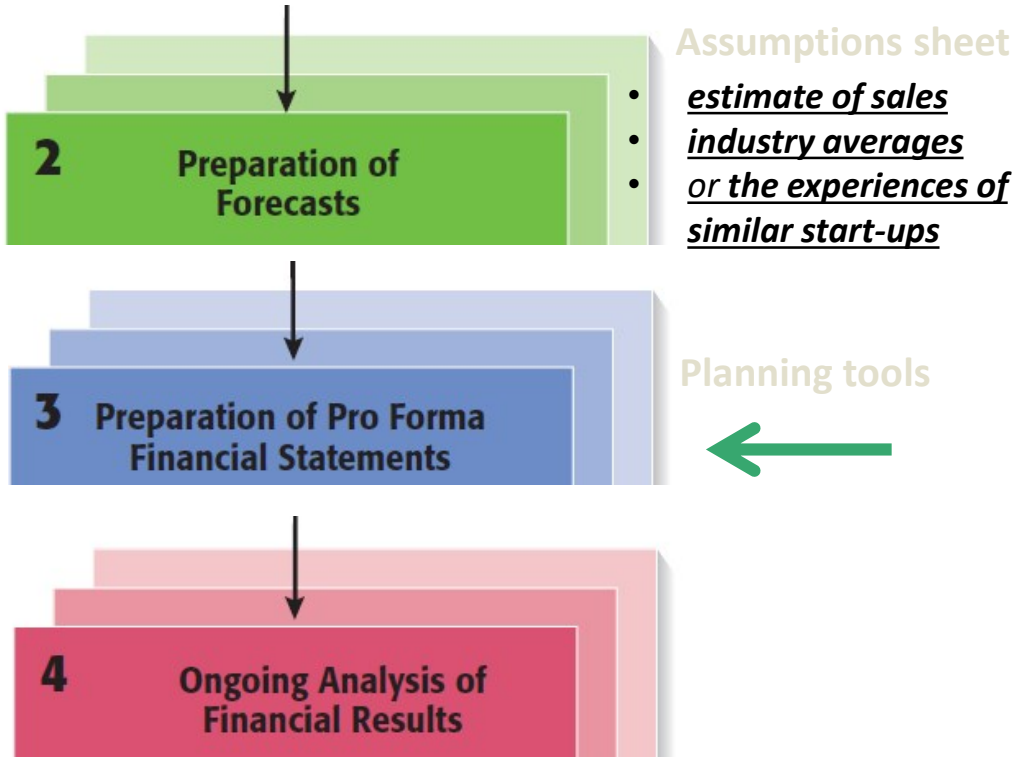
This number means that the new restaurant will have to sell 61,212 "units" per year to "break even" at the current price of the drinks, or 170 fitness drink per day.

Pro Forma Financial Statements

Pro Forma Financial Statements

- **Pro Forma Financial Statements:** Are projections for future periods based on forecasts and are typically completed for two to three years in the future. *They are planning tools*
- A firm's pro forma financial statements are similar to its historical financial statements except that they look forward rather than track the past.
- The preparation of pro forma financial statements helps a firm rethink its strategies and make adjustments if necessary.
- The preparation of pro forma financials is also necessary if a firm is seeking funding or financing.

Start-ups



Pro Forma Income Statement	**Shows the projected financial results of the operations of a firm over a specific period.** The percentage used to forecast the increase in sales is used to prepare the projected income statement

Pro Forma Balance Sheet	**Shows a projected snapshot of a company's assets, liabilities, and owner's equity at a specific point in time.** how its activities will affect its ability to meet its short-term liabilities and how its finances will evolve over time. It can also quickly show how much of a firm's money will be tied up in accounts receivable, inventory, and equipment. It is common for a new firm to invest the majority of its cash in activities that fund its growth, such as property, plant, and equipment purchases, rather than pay dividends.

Pro Forma Statement of Cash flows	**Shows the projected flow of cash into and out of a company for a specific period.**

https://www.cbsnews.com/news/my-company-grew-too-fast-and-went-out-of-business/

My Company Grew Too Fast -- and Went Out of Business

Read for your own benefit… not required for exam

When I started Wise Acre Frozen Treats, no other company was making organic popsicles from unrefined sweeteners. Working out of a schoolhouse kitchen in March 2006, I developed my recipes using honey and maple syrup. A year and a half in, I brought on my first employee, and then it really took off from there.

By 2008, we had 15 employees, a 3,000-square-foot manufacturing facility, and distribution to all of the natural foods stores and many major supermarket chains on the East Coast. Then we landed a contract to distribute on the West Coast, too -- but we never got the chance to fill all the orders. By the end of the year, we'd gone bankrupt and I was unemployed.

A meteoric rise

After our first year, opportunities started coming up really fast. We won the "Most Innovative Product" award out of more than 2,000 products at a large food show called Expo East. From there, we lined up a contract with a huge national distributor, United National Foods, and got freezer space in premier stores like Wegmans and Whole Foods.

Previously, we'd been filling orders for eight stores for a few hundred dollars each, but our first order from United National was something like $45,000 worth of product. It was a quantum leap.

The company's progress was right in line with my business plan's best-case scenario.

A run-in with the local billionaire

Once business took off, I knew I needed to raise more capital to cover our operating expenses, which included labor, equipment, ingredients, packaging materials, insurance, taxes, legal fees, design and marketing, as well the lease on our building.

Local bankers gave us $300,000, split between a regular loan and an equipment loan. We also received $200,000 from an investment firm. But because we had so many orders to fill, I knew we really needed about $1 million to keep us solvent.

We made a handshake deal for that amount with a local billionaire at the end of spring 2008. He told me, "I'll be able to make this happen really quickly," so I went back home and bought equipment -- even though I didn't have the money to pay for it.

Weeks later, the bottom fell out of the economy. Our would-be investor was all wrapped up in the stock market decline and pulled out of our deal. That was the beginning of the end.

Investor issues

There were five or six months when I was constantly doing a mad dash between running the company and meeting with potential investors. The investors would always say, "We're looking for someone making $2 million in revenue."

At that point, Wise Acre was making about $200,000. I'd ask them, "If we were making that much, why would I need you? I have a product that sells really well, no one else has it -- what else do I need to do?"

They all said, "We'd like to see what you can do without our money first."

It's a chicken-and-egg thing: If you're already really successful and you don't really need the money, they'll give it to you.

Why we failed

Our business plan indicated that it would be about two years from starting production to making a profit. But one of our biggest problems was that we didn't raise the money we needed *before* we hit milestones like getting distribution throughout the East Coast. We went from eight stores to dozens, then hundreds, immediately. We were burning through about $30,000 a month at our peak, but we didn't have the capital in place to back it up.

I also wish I'd hired people who were good at raising money. The people I did hire had good contacts, but they didn't have the background or experience to effectively raise the funds we needed. Even in that economy, I could have raised the money if I'd had the right people on board from the start.

The aftermath

By the end of 2008, Wise Acre had gone out of business. Even though the orders were still coming in, we couldn't pay our bills. The $300,000 bank loan was in my name, and I had to declare bankruptcy. Now the bank owns the product, the equipment and all of the trademarks.

To add insult to injury, I live in a remote area without many jobs, so I was unemployed for about a year. To go from being the boss of a big shop to being unemployed was really demoralizing. Now, thankfully, I have a professional job, but it's not at the same level.

It was incredibly frustrating and depressing to have things end the way they did, but running my own company was a hell of an experience. It's important to stand behind a product that you believe in. A lot of it is timing, and a lot of it is making your own luck.

Pro Forma Income Statements

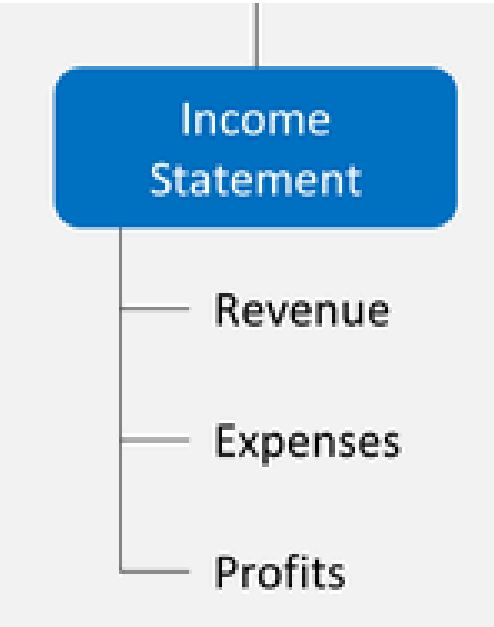


Table 8.6 Pro Forma Income Statement for New Venture Fitness Drinks, Inc.

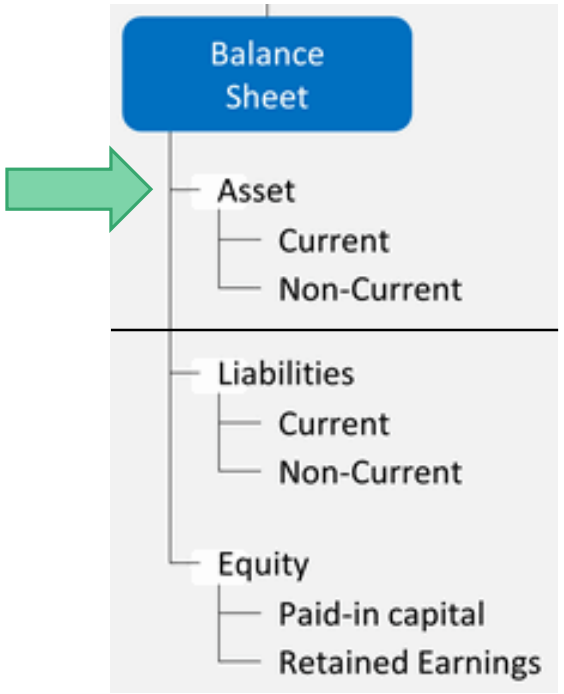
	2018 Actual	2017 Projected	2016 Projected
Net sales	$586,600	$821,200	$1,026,500
Cost of sales	268,900	390,000	487,600
Gross profit	317,700	431,200	538,900
Operating expenses			
Selling, general, and administrative expenses	117,800	205,300	256,600
Depreciation	13,500	18,500	22,500
Operating income	186,400	207,400	259,800
Other income			
Interest income	1,900	2,000	2,000
Interest expense	(15,000)	(17,500)	(17,000)
Other income (expense), net	10,900	20,000	20,000
Income before income taxes	184,200	211,900	264,800
Income tax expense	53,200	63,600	79,400
Net income	131,000	148,300	185,400
Earnings per share	1.31	1.48	1.85

Pro Forma Balance Sheets (1 of 2)

Assets

Table 8.7 Pro Forma Balance Sheets for New Venture Fitness Drinks, Inc.

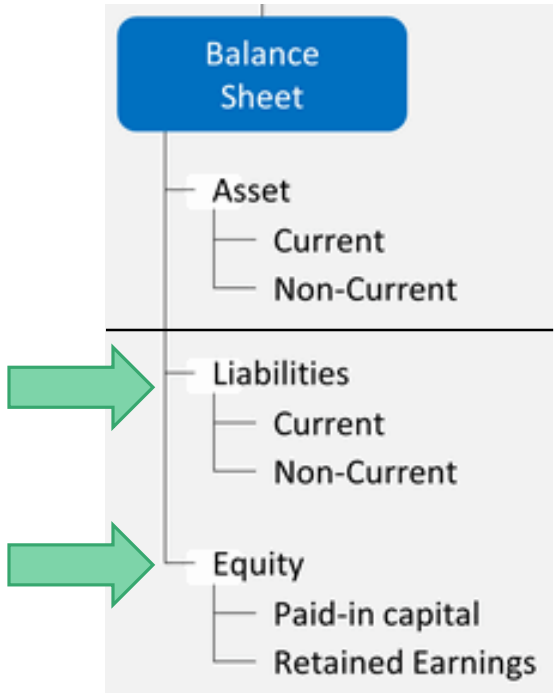
Assets	December 31, 2018	Projected 2019	Projected 2020
Current assets			
Cash and cash equivalents	$63,800	$53,400	$80,200
Accounts receivable, less allowance for doubtful accounts	39,600	57,500	71,900
Inventories	19,200	32,900	41,000
Total current assets	122,600	143,800	193,100
Property, plant, and equipment			
Land	260,000	260,000	360,000
Buildings and equipment	412,000	512,000	687,000
Total property, plant, and equipment	672,000	772,000	1,047,000
Less: accumulated depreciation	65,000	83,500	106,000
Net property, plant, and equipment	607,000	688,500	941,000
Total assets	729,600	832,300	1,134,100



Pro Forma Balance Sheets (2 of 2)

Table 8.7 (continued)

Assets	December 31, 2018	Projected 2019	Projected 2020
Liabilities and shareholders' equity			
Current liabilities			
Accounts payable	30,200	57,500	71,900
Accrued expenses	9,900	12,000	14,000
Total current liabilities	40,100	69,500	85,900
Long-term liabilities			
Long-term debt	249,500	174,500	274,500
Total long-term liabilities	249,500	174,500	274,500
Total liabilities	289,600	244,000	360,400
Shareholders' equity			
Common stock (100,000 shares)	10,000	10,000	10,000
Retained earnings	430,000	578,300	763,700
Total shareholders' equity	440,000	588,300	773,700
Total liabilities and shareholders' equity	729,600	832,300	1,134,100

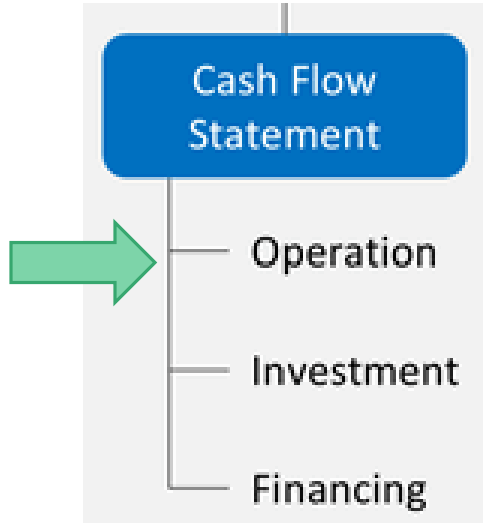


Pro Forma Statement of Cash Flows (1 of 2)

Operating Activities

Table 8.8 Pro Forma Statement of Cash Flows for New Venture Fitness Drinks, Inc.

	December 31, 2018	Projected 2019	Projected 2020
Cash flows from operating activities			
Net income	$131,000	$148,300	$185,400
Changes in working capital			
Depreciation	13,500	18,500	22,500
Increase (decrease) in accounts receivable	9,300	(17,900)	(14,400)
Increase (decrease) in accrued expenses	1,900	2,100	2,000
Increase (decrease) in inventory	1,200	(13,700)	(8,100)
Increase (decrease) in accounts payable	(16,700)	27,300	14,400
Total adjustments	9,200	16,300	16,400
Net cash provided by operating activities	140,200	164,600	201,800

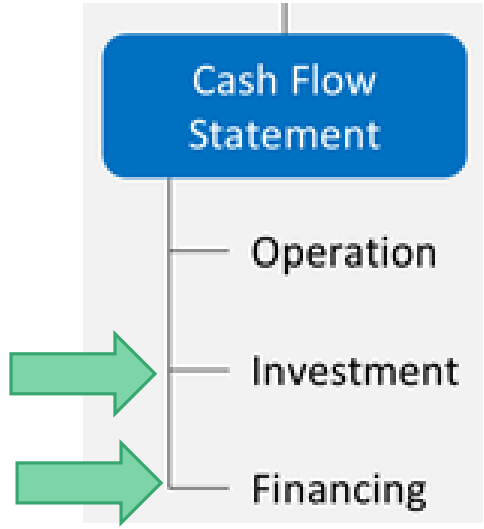


Pro Forma Statement of Cash Flows (2 of 2)

Investing Activities and Financing Activities

Table 8.8 (continued)

	December 31, 2018	Projected 2019	Projected 2020
Cash flows from investing activities			
Purchase of building and equipment	(250,500)	(100,000)	(275,000)
Net cash flows provided by investing activities	(250,500)	(100,000)	(275,000)
Cash flows from financing activities			
Proceeds from increase in long-term debt	119,500	–	100,000
Principle reduction in long-term debt		(75,000)	
Net cash flows provided by financing activities			
Increase in cash	9,200	(10,400)	26,800
Cash and cash equivalents at the beginning of the year	54,600	63,800	53,400
Cash and cash equivalents at the end of the year	63,800	53,400	80,200



Ratio Analysis (2 of 2)

Ratio Analysis (On-going Analysis of Financial Results)

- The same financial ratios used to evaluate a firm's historical financial statements should be used to evaluate the pro forma financial statements.

- This work is completed so the firm can get a sense of :
  - *how its projected financial performance compares to its past performance*
  - and *how its projected activities will affect its cash position and its overall financial soundness.*

Ratio Analysis Based on Historical and Pro-Forma Financial Statements

Table 8.9 Ratio Analysis of Historical and Pro Forma Financial Statements for New Venture Fitness Drinks, Inc.

Ratio	Historical 2016	Historical 2017	Historical 2018	Projected 2019	Projected 2020
Profitability ratios					
Return on assets	14.7%	18.7%	21.4%	19.0%	18.9%
Return on equity	24.9%	31.0%	35.0%	28.9%	27.2%
Profit margin	13.6%	17.9%	22.3%	18.1%	18.1%
Liquidity ratios					
Current	2.35	2.26	3.05	2.07	2.24
Quick	1.96	1.89	2.58	1.60	1.78
Overall financial stability ratios					
Debt	42.3%	37.4%	39.7%	29.3%	31.8%
Debt to equity	73.2%	59.8%	65.8%	41.5%	46.6%