

TRAINING MANUAL

- MANAGEMENT OF ORGANISATIONS AND BUSINESS DEVELOPMENT -

ACCOUNTING & CORPORATE FINANCE

Publication 505
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Tax Withholding and Estimated Tax

SCHEDULE D (Form 1040)

Department of the Treasury
Internal Revenue Service

Capital Gains and Losses

► Attach to Form 1040 or Form 1040EZ.
► Go to www.irs.gov/scheduleD for instructions and the latest information.
► Use Form 8949 to list your transactions for lines 1a, 2, 3, 8a, 9, and 10.

Part I Short-Term Capital Gains and Losses—Generally Assets Held One Year or Less (see instructions)

1a	1b	1c	1d	1e	1f	1g	1h	1i	1j
Short-term capital gains	Short-term capital losses	Net short-term capital gain or loss	Long-term capital gains	Long-term capital losses	Net long-term capital gain or loss	Capital loss carryover	Capital loss carryover	Capital loss carryover	Capital loss carryover

1a Totals for all short-term transactions reported on Form 1099-B for which basis was reported to the IRS and for which you have no adjustments (see instructions). However, if you choose to report all these transactions on Form 8949, leave this line blank and go to line 1b.

1b Totals for all transactions reported on Form(s) 8949 with or without basis reported on Form(s) 8949 with or without basis.

1c Net short-term capital gain or loss.

1d Net long-term capital gain or loss.

1e Capital loss carryover from previous years.

1f Capital loss carryover from previous years.

1g Capital loss carryover from previous years.

1h Capital loss carryover from previous years.

1i Capital loss carryover from previous years.

1j Capital loss carryover from previous years.

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COLEACP implements two intra-ACP Fit For Market programmes. The Fit For Market programme, co-funded between the EU and the AFD, now in its fifth year, aims to strengthen the competitiveness and sustainability of the African, Caribbean and Pacific (ACP) horticultural sector, primarily for the private sector.

Fit For Market SPS began in January 2019 and focuses on strengthening the sanitary and phytosanitary (SPS) systems of the ACP horticultural sector, primarily for the public sector.

Both programmes form part of the intra-ACP indicative programme (2014-2020) of cooperation between the EU and the OACPS.



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Chapter 1

Fundamentals

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It is important that entrepreneurs and business owners understand the relationship between accounting information and corporate finance. Insight into a firm's financial situation is gained through the "accounting equation," which is comprised of elements that reflect the changing value of a business.

1.1. WHAT ACCOUNTING & CORPORATE FINANCE ARE ABOUT

Investopedia says that Accounting & Corporate Finance deals with financing, capital structure, and money management to help maximise returns and shareholder value. Money is considered the lifeblood of business and any decision that involves the use of money is a financial decision.

1.1.1. Accounting Perspective



This accounting equation must be in balance and looks at what a company owns (its assets), what it owes (its liabilities), and the residual that belongs to shareholders (owners' equity).

The accrual basis is used to record accounting entries in the accounting system. That is the recognition of the transactions as ownership passes and related expenses are incurred. The equation above includes three broad buckets, or categories, of value which must be accounted for:

a. Assets

An asset is anything a company owns which holds some quantifiable value, meaning that it could be liquidated and turned to cash. They are the goods and resources owned by the company. Assets can be further broken down into current assets and noncurrent assets. Current assets are what a company expects to convert into cash within a year's time, such as cash and cash equivalents, prepaid expenses, inventory, marketable securities, and accounts receivable. Noncurrent assets are long-term investments that a company does not expect to convert into cash within a year, such as land, equipment, patents, trademarks, and intellectual property.

b. Liabilities

A liability is anything a company owes. This may include payroll, rent and payments owed to suppliers, taxes, or bonds payable. As with assets, liabilities can be classified as either current liabilities or noncurrent liabilities. Current liabilities are typically those due within one year, which may include accounts payable and other accrued expenses. Noncurrent liabilities are typically those that a company does not expect to repay within one year. These include long-term obligations, such as leases, bonds payable, or loans.

c. Shareholders' Equity

Shareholders' equity refers to the net worth of a company and reflects the amount of money that would be left over if all assets were sold and liabilities paid. Shareholders' equity belongs to the shareholders, whether they be private or public owners. Among stockholders' equity is **Retained earnings**: The company's total net income or loss from the first day it is in business to the date on the balance sheet. This could also be reduced by dividends payments.

Transactions are recorded operating with the understanding that over time revenues and costs expenses will smooth out and reflect the economic reality. This makes it possible to compare year-on-year growth of a company's revenues, costs, and profits without factoring in one-off events, as well as seasonal and cyclical changes.

1.1.2. Corporate Finance Perspective

Unlike accounting's reliance on transactional data, finance looks at how effectively an organisation generates and uses cash. In Corporate Finance, Free Cash Flows are considered a most important measure, which examines how much money a company has available to distribute to investors, or reinvest, after all expenses have been covered. Cash is a strong indicator of profitability, and investment decisions are based on an expectation of future return on investment.

Corporate finance is the discipline that provides analysis for informed decision-making in financial situations, such as the decision to raise capital, consider whether to merge or buy another company or whether to issue debt. This analysis involves the preparation of "pro forma" financial reports which were "projected" financial statements built out based on certain assumptions to assist decision-making. As such, the ability to read financial statements will allow the learner to acquire skills to make smarter business and investment decisions, regardless of the learner's position.

1.1.2.1. Journal Entries

The first step in the accounting cycle is the Journal, which is the way that all business transactions are recorded or entered in accounting systems. As business transactions take place throughout the accounting period, journal entries record, in the relevant accounting journal, how the transaction has impacted the accounting equation - **Assets = Liabilities + Owners' Equity**. For instance, when the company spends cash to purchase a new vehicle, the cash account is decreased or credited, and the vehicle account is increased or debited. The entries are then totaled and posted to the General Ledger. After completing the general ledger entries for an accounting cycle, the next step is to prepare a trial balance. A trial balance comes from the process of totaling the debits and credits from the general ledger to make sure they balance for the accounting period in question. The financial statements are prepared from the trial balance.

Learners should understand how to track financial transactions and how they work. The process of recording and classifying financial transactions is to maintain records of a business's financial activities to create a useable summary of financial transactions. This provides a snapshot of the business's financial stability.

All the transactions result in at least two changes to the financial records or bookkeeping termed "double-entry" accounting. A transaction that changes a business's assets must also change that business's liabilities or net assets to ensure that the accounting equation remains in balance. There is accounting software available to assist with the recordkeeping and generation of the financial reports, Excel and branded. An initial journal to record a business transaction is a General journal.

Basic records for MSMEs to record payments would be an Expense journal, to record all disbursements, whether by cash or check. Another is the Sales journal for recording sales, whether paid for by customers in cash or made on credit, as well as for payments received on account. Bank transfers would be identified by the bank's transfer number. Financial records should be centralized for easy retrieval as needed to respond to queries regarding audit and tax obligations and to manage debtors and creditors.

Working Example 1 - Preparing an Income Statement for Month of June 2010

JUNE 2010 TRANSACTIONS**5th June**

- Paid Kingston Superstore, with cheque #30, \$200 for groceries and \$117.50 for vehicle repairs, GCT included.

7th June

- Paid Kingston Utilities with cheque #31. \$587.50 was paid for rent, \$235 for telephone, \$352.50 for power. All payments included GCT.

12th June

- Purchased \$1000 of groceries and \$587.50 (incl. GCT) of tires from Caribbean Stores on account.

15th June

- Sold \$822.50 of catering, including GCT and \$200 of groceries to Kingston Business Club-Invoice #49

23rd June

- Sold catering services worth \$600.00 plus GCT to Kingston Business Club for a conference. (They will pay on the 25th of the month) - invoice #50.

25th June

- Paid on account to Caribbean Stores \$1200.00 Cheque #33.
- Paid telephone bill \$293.75 (including GCT), cheque #34
- Received payment on account from Women Business Owners for 16 June catering, \$1000.00 – inv. #42.
- Sold \$400.00 plus GCT of catering on account to Chamber of Commerce.

27th June

- Sold \$350.00 of groceries on account to Vanessa Jackson.

28th June

- Purchased at Jamaican Gas on account vehicle repairs and gasoline for \$240 plus GCT.
- Received \$2000.00 payment from Kingston Business Club – invoice #39.

29th June

- Received a \$200 plus GCT electric bill for month of June but did not pay the bill.

Sales Journal for June 2010

WORK EXAMPLE SALES									
Sales journal									
Date	Description	Invoice No.	Cash Receipt	Tax Collect	Catering Sale	Grocery Sale	other	Deposit	A/c Rec on Account
15/06/2010	Catering - 25 Dinners and Grocery to KBC	49	1,022.50	122.50	700.00	200.00			
23/06/2010	Catering KBC Conference on a/c	50		105.00	600.00				(705.00)
25/06/2010	KBC Payment on Account		500.00						500.00
25/06/2010	Payment on account Re INV. #42		1,000.00						1,000.00
25/06/2010	Catering Chamber of Commerce	51		70.00	400.00				(470.00)
27/06/2010	Groceries to Mrs. Vanessa Jackson on a/c	52				350.00			(350.00)
28/06/2010	Payment on a/c Re INV. # 39 - KBC		2,000.00						2,000.00
	TOTAL		4,522.50	297.50	1,700.00	550.00	-	-	1,975.00

Notes: Sales Tax 17.5% - A/c Account Receivable
 Sales will be totaled and recorded in the Income Statement
 Accounts Receivable is an asset on the Balance Sheet

Expense Journal for June 2010

WORK EXAMPLE EXPENSES											
Expense journal											
Date	Description	Cheque No.	Amount Paid	Tax Collect	Utilities	Rent	Electric	Payroll	Grocery	Vehicle	A/c Payable on A/c
5/6/ 2010	Catering Kingston Superstore	30	317.50	17.50					200.00	100.00	
7/6/ 2010	Kingston Utilities	31	1,175.00	175.00	200.00	500.00	300.00				
12/6/ 2010	Caribbean Stores - Payment on account			87.50					1,000.00	500.00	1,587.50
15/06/2010	Caribbean Stores - Payment on account	32	1,000.00								1,000.00
25/06/2010	Caribbean Stores - Payment on account	33	1,200.00								1,200.00
25/06/2010	Telephone Bill	34	293.75	43.75	250.00						
28/06/2010	Jamaican Gas	35		42.00						240.00	(282.00)
29/06/2010	Electricity Bill			35.00			200.00				(235.00)
	TOTAL		3,986.25	400.75	450.00	500.00	500.00	-	1,200.00	840.00	3,270.50

Note: Sales Tax 17.5% - Expenses will be totaled and recorded in the Income Statement
 Accounts Payable is a Liability on the Balance Sheet - No Sales Tax on grocery items

As reflected in the above statements, note that if the business is liable for a Sales tax, then even when the transaction is non-cash – Accounts Receivable for Sales, or Accounts Payable for purchases – the tax should be separated and reported at the time of the transaction.

1.2. USERS OF FINANCIAL INFORMATION

The main groups that use financial information presented in financial statements are:

a. Internal Users

User # 1 - Owners

User # 2 - Management

b. External Users

User # 3 - Creditors

User # 4 - Employees

User # 5 - Investors

User # 6 - Government

User # 7 - Consumers and

User # 8 - Stock Exchange.

Users base their expectations of returns on their assessment on:

- The amount, timing, and uncertainty of future net cash inflows to the entity.
- Management's stewardship of the entity's resources.
- Qualitative characteristics of financial information

1.2.1. Internal Users

User # 1 - Owners

The owners provide funds or capital for the business and ultimately responsible to bear all risk associated with the business. They are interested in the profitability and solvency of the business concern. In small business enterprises, owners control the affairs of the business directly. In medium or large enterprises, owners want to be assured that the business is being prudently managed and whether the capital is being employed properly. Owners want to see that they are receiving reasonable returns on their capital.

User # 2 - Management

The leadership of the business may report to a Board of Directors and they need the accounting information on cost of sales, profitability, and solvency of the business for planning, controlling and decision making. Management is interested in assessing the capacity of the business to earn profits in future. It is responsible for evaluating the solvency of the enterprise to meet its debt obligations on time. Through various ratios viz. Debt-Equity Ratio, Current Ratio, etc., management can understand the short term or long-term solvency of the business. Similarly, with the help of Cash Flow Statement, the need for short term and long-term funds can be known. The accounts are the basis, on which the management can study the merits and demerits of the business activity. The financial statements also assist to determine the future course of action for the business and whether the assumptions made about the business and industry are realistic.

1.2.2. External Users

User # 3 - Creditors/Suppliers

Creditors are the persons who supply goods on credit, or lenders and financial institutions viz. banks and financing companies are interested to know the short term as well as the long-term solvency position of the entity. They analyse the financial statements to assure themselves about the firm's solvency. It is usual that these groups are interested to know the financial soundness before granting credit. The progress and prosperity of the firm, to which credits are extended, are largely watched by creditors from the point of view of security and further credit. Profit and Loss Account and Balance Sheet are the key to knowing the soundness of the business.

User # 4 - Employees and Trade Unions

Payment of bonus depends upon the size of profit earned by the firm. The more important point is that the workers expect regular wages and a wage rise, bonus, better working conditions etc., depend upon the profitability of the firm. Trade Unions have an interest since the salaries of the employees indirectly depend upon the profits of the enterprise. The amount of bonus to be granted to employees is also fixed after analysing the financial statements. The wealth of the business enterprise is an indication that the positions of employees are stable and chances of growth within the enterprise are bright.

User # 5 - Investors, Potential Investors & Business Analysts

The prospective investors, who want to invest their money in a firm, of course wish to see the progress and prosperity of the firm, before investing their money, by going through the financial statement of the firm. This is to safeguard the investment. For this purpose, this group is eager to go through the accounting statements which enable them to know the safety of investment. Since investors are not always involved in the day to day working of an enterprise, so for investing further capital, they get the information through financial statements.

User # 6 - Government and Other Regulators

Government keeps a close watch on the firm which yield good amount of profits. Governments are interested in the financial statements to know the earnings for the purpose of taxation.

Taxation Authorities: Various taxes and excise duties are levied by government after analyzing the financial statements. Taxation authorities viz. Income Tax Department, Sales Tax Department and Customs and Excise, analyse the financial statements to make sure that they are prepared as per the legal provisions and that information relating to sales and income are correct in order to assess the tax liability of the business enterprise. Financial statements also inform government about the need for changes in policies and their likely impact on the different industries.

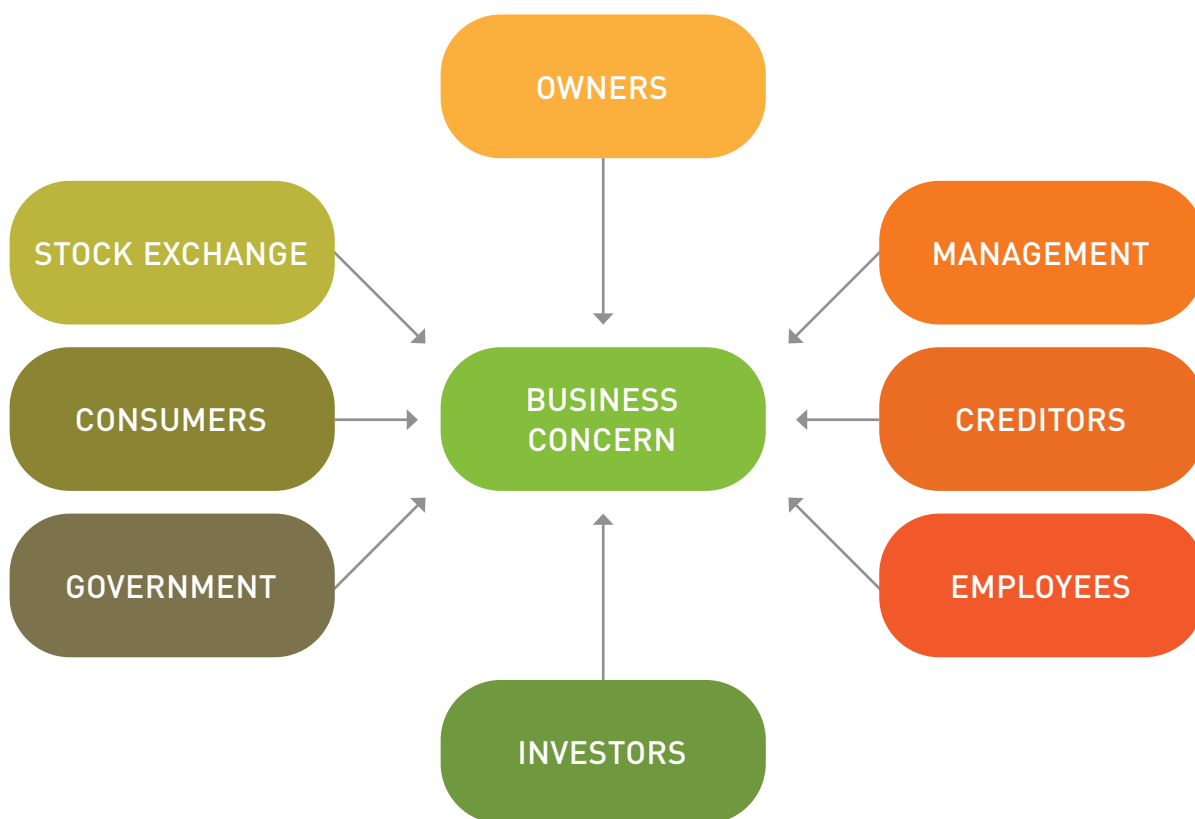


Figure 1 - Users of Financial Information
Users of financial information relating to a business organisation

User # 7 - Consumers/Competitors

These groups are interested in getting a consistent source of the goods/services at competitive prices. Therefore, they wish to know whether the business is being responsibly managed financially so that they may rely on this as a source in their supply chain. Proper accounting control will in turn realise reduced production costs, leading to reasonable prices. The Competition has interest in knowing the relative strengths and weaknesses for strategic purposes, and business enterprises examine and analyse the financial statements of other business enterprises, to plan and improve their knowledge of the market. As such, businesses regularly keep a constant touch with the accounting information of their competitors and market.

User # 8 - Stock Exchange and General Public

The financial statements facilitate the stock exchange to protect investors' interests or to oversee the market operations as a watchdog of corporate investors. Other stakeholders such as Professional bodies, Chambers of Commerce, Trade Associations, Employers' Associations and Trade Unions are all deeply interested in such statements of businesses. For various reasons such as determining the price of securities, decisions for buying or selling of securities, knowing the contribution of public or private sector in the gross national product. Generally, accounting information helps the society to know the contribution made by business for the upliftment of society.

1.3. BASIC FINANCIAL STATEMENTS

Understanding the concepts behind financial statements is important for all stakeholders. Financial statements are reports designed to provide insight into the financial health and status of an organisation.

- Investors can better understand whether to invest in a business or company.
- business owners or entrepreneurs are able to assess business performance and adjust key initiatives or strategies.
- managers can more effectively manage budgets, oversee their team, and develop closer relationships with leadership—leading ultimately to playing a larger role in the organisation.

1.3.1. Income Statement

An income statement is also known as a Profit or Loss Statement.

1.3.1.1. What Is an Income Statement?

An income statement is a summary of a company’s profit or loss transactions during any one given period, such as a month, a calendar quarter, or one year. The income statement records all revenues for a business during the period under review, as well as the operating expenses for the business.

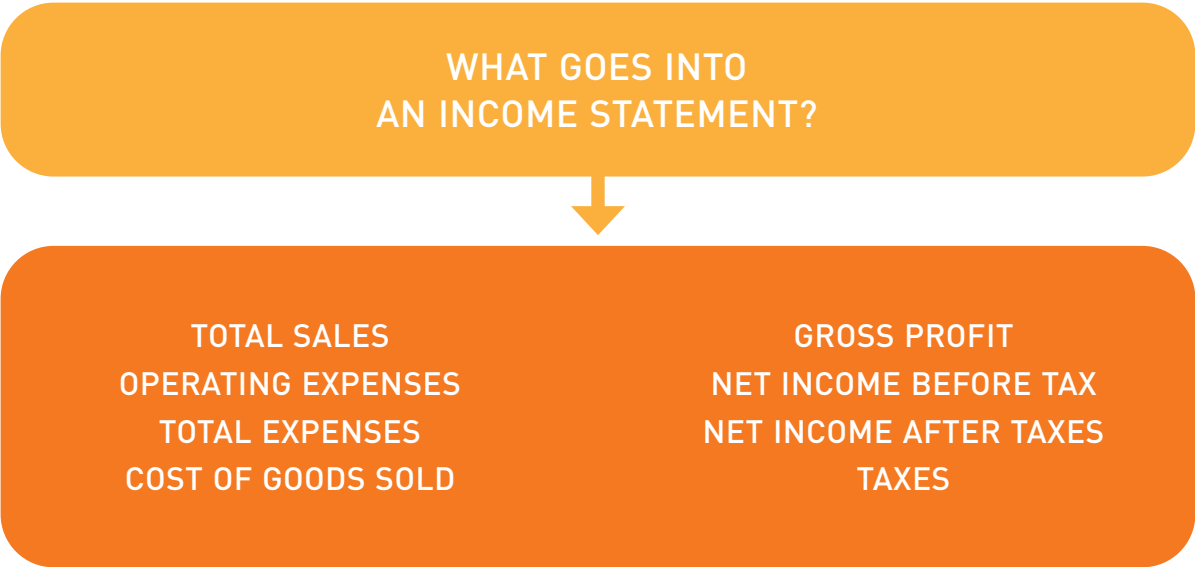


Figure 2 - What goes into an Income Statement
(Source: <https://businesstown.com/articles/>)

1.3.1.2. What Are Income Statements Used for?

An income statement is one of the most important business financial statements. The income statement is used to track revenues and expenses so that you can determine the operating performance of your business over a reporting period. Small

business owners use these statements to find out which areas of their business are over or under budget.

These statements allow you to pinpoint specific items that are causing unexpected expenditures, such as cell phone use, advertising, or supply expenses. Income statements can also track dramatic increases in product returns or cost of goods sold as a percentage of sales and can be used to determine income tax liability.

Income statements, along with balance sheets, are the most basic elements required by potential lenders, such as banks, investors, and vendors. They will use the financial information to determine credit limits. The income statement could determine whether to award a loan or not.

Using the information provided in Chapter 1 - Working Example 1 is the corresponding Cash Flow and Profit & Loss Statement in Chapter 1 Figure 2 which follows. This demonstrates that although the business had an increased cash flow during the month, the company had made a loss for the month of June.

Table 1 - Preparing an Income Statement

CASH FLOW STATEMENT FOR JUNE 2010		
Opening Cash Balance Assumption)		3,200.00
Cash in	4,522.50	
Cash out	3,986.25	
Closing Cash Balance		3,736.25
Net change		536.25

PROFIT & LOSS STATEMENT FOR JUNE 2010		
Sales		
Catering sales	1,700.00	
Grocery Sales	550.00	
Others	-	
Total Revenue		2,250.00
Expenses		
Utilities	450.00	
Electricity	500.00	
Payroll	-	
Vehicle expenses	840.00	
Rent	500.00	
Grocery	1,200.00	
Total Expenses		3,490.00
Net income		(1,240.00)

1.3.1.3. Following is a review of some components of an income statement

a. Sales

The sales figure represents the amount of revenue generated by the business. The amount recorded represents total sales, minus any product returns or sales discounts.

b. Cost of Goods Sold (CGS)

CGS represents the direct costs associated with manufacturing or growing plants or flowers or producing any product for sale. Costs include materials purchased from suppliers and used in the production of the products, as well as any internal expenses directly expended in the production process. In a service business where the owner is the only person providing the service, and no salary is taken beyond the company profits, then the service expense may be zero. However, in a service business where the owner takes a salary or has employees, the cost of their labor, including benefits, would be part of cost of goods sold.

c. Gross Profit

Gross profit is calculated by subtracting the CGS from net sales.

d. Operating Expenses

These are the daily expenses incurred in the operation of the business. They are indirect expenses and so are not included in Cost of Goods Sold as they do not vary with production activity. They are divided into two categories:

1. Selling and marketing expenses

Includes distributing, marketing, and selling expenses; shipping and insurance costs; advertising expenses, web site maintenance and social media spend. Costs to sell and deliver; Sales salaries such as the salaries plus bonuses and commissions paid to sales staff are treated as CGS.

2. General/Administrative expenses

Include rent, utilities, insurance, legal, audit and accounting fees, salaries and benefits, office supplies, research and developmental expenses and depreciation of office assets and FF&E which are the movable furniture, fixtures and equipment used in the business – computers, wheel barrow, cutting shears. Other General/Administrative expenses include: Collateral and promotions material; Advertising; Other sales costs; Office salaries; Rent; Utilities; Depreciation; Other overhead Expense.

e. Total Expenses

This is a tabulation of all expenses incurred in running your business, exclusive of taxes or interest expense on interest income, if any.

f. Net Income Before Income Taxes

This is income earned before income taxes, arrived at by subtracting total operating expenses from gross profit.

g. Taxes

The income taxes due to the government and if applicable, state and local government.

h. Net Income

The amount of money the business has earned after paying taxes.

i. What Is Profit?

Profit is typically defined as the balance that remains when a business's operating expenses are subtracted from its revenues. It is the remainder when the books are balanced, and all expenses are subtracted from proceeds. Profit can either be distributed to the owners and shareholders of the company as dividends or reinvested back into the company. It may be used to purchase new inventory for sale or used to finance research and development of new products. Profit can be negative, which is a loss arising from spending more that was earned.

Working Example 2 - Preparing an Income Statement for Month of June 2010

PROFIT & LOSS STATEMENT FOR JUNE 2010		
Sales		
Catering sales	1,700.00	
Grocery Sales	550.00	
Others	-	
Total Revenue		2,250.00
Expenses		
Utilities	450.00	
Electricity	500.00	
Payroll	-	
Vehicle expenses	840.00	
Rent	500.00	
Grocery	1,200.00	
Total Expenses		3,490.00
Net income		(1,240.00)

If we assume an opening cash balance of \$3,200, using the same information, the Cash Flow is as follows

CASH FLOW STATEMENT FOR JUNE 2010		
Opening Cash Balance (Assumption)		3,200.00
Cash in	4,522.50	
Cash out	3,986.25	
Closing Cash Balance		3,736.25
Net change		536.25

From the Profit & Loss statement we note that the business made a loss of \$1,240 during the month of June. However, the business ended up with more cash in hand at the end of the month \$3736.25, than it had at the beginning of \$3200. This is because the firm received payments on account resulting from sales made in earlier months.

1.3.1.4. The Difference Between Cash Flow and Profit

The key difference between cash flow and profit is that while profit indicates the amount of money left over from revenue or fees earned after all expenses have been paid, cash flow indicates the net flow of cash received into and out of a business.

1.3.1.5. Which Is More Important: Cash Flow or Profit?

Investors and business owners are often in search of a single metric by which they can understand the health of a company. They want to know the one number they should look at to determine whether they should make an investment or pivot their business strategy. Cash flow and profit, as two critical and related financial metrics, often get pitted against each other: Which is more important?

There is not a simple answer to that question; both profit and cash flow are important in their own ways. As an investor, business owner, key employee, or entrepreneur, you need to understand both metrics and how they interact with each other if you want to evaluate the financial health of a business.

For example, it is possible for a company to be both profitable and have a negative cash flow hindering its ability to pay its expenses, expand, and grow. Similarly, a company with positive cash flow and increasing sales may fail to make a profit, as is the case with many startups and businesses scaling up.

Table 2 - Income Statement for Simple Company

GENERAL & ADMINISTRATIVE	
Office Salaries	115,823
Rent	49,315
Utilities	17,384
Depreciation	11,939
Other Overhead Costs	28,875
Total General & Administrative	223,336
Total Operating Expenses	\$ 404,685
Net Income Before Taxes	\$ 361,574
Taxes	123,862
Net Income	\$ 237,712

SIMPLE INCOME STATEMENT FOR YEAR ENDING 12/31/20	
Sales	
Gross Cut Flower Sales	1,139,437
Less Returns	1,805
Net Sales	\$1,137,632
Cost of Goods Sold	
Growing Material	47,036
Fertilizer, Herbicide, Irrigation Water, etc.	247,950
Direct wages	76,387
Total Cost of Goods Sold	\$ 371,373
Gross Profit	\$ 766,259
Operating Expenses	
MARKETING & SALES	
Sales & Mktg Salaries	137,243
Collateral & Promotions	13,381
Advertising	27,313
Other Sales & Mkt Costs	3,412
Total Marketing & Sales Expenses	\$ 181,349

In Chapter 1 – Table 1, a multi-step Income Statement for Simple Company, is presented as an alternative, to break out the elements - Operating Revenues, Operating Expenses, from non-operating revenues and non-operating expenses - to arrive at Net Income or Loss. This statement format provides more detail than

the less transparent, single-step statement, which shows all expenses before Net Income. This provides information for users to analyse and understand how the company is performing at different areas of the business as income is generated. The gross profit is shown after the Cost of Goods Sold, and then Operating and General and Administrative expenses to generate the Net Earnings Before Income Taxes, and after Income Taxes.

1.3.2. Balance Sheet

The Balance sheet or Statement of Financial Position contains the most important financial information about a business. It communicates an organization's worth, or "book value."

1.3.2.1. What Is a Balance Sheet?

A balance sheet is a snapshot of the financial condition of a business at a specific moment in time, usually at the close of an accounting period. It is comprised of assets, liabilities, and owners' or stockholders' equity. At any given time, assets must equal liabilities plus owners' equity.



Figure 3 - Balance Sheet Equation

Source: <http://trollcasmartstudy.blogspot.com/2016/04/definition-of-assets-and-liabilities.html>

It might sound as if owners' equity falls under the category of liabilities, but essentially you can think of it as the value that is owed from the business to the owners. In other words, you carefully add up the assets on the left side of the balance sheet and then add up all the liabilities on the right side of the balance sheet and then subtract the liabilities from the assets. The net number is the owners' equity. It is, of course, possible that the owners' equity is negative if the liabilities are greater than the assets.

1.3.2.2. What Is a Balance Sheet Used For?

A Balance Sheet helps a small business owner quickly get a handle on the financial strength and capabilities of the business. Analysts see how a company is performing, as at the Balance Sheet date and can predict how it is poised to perform in the immediate future. This makes balance sheets an essential tool for individual and institutional investors, as well as key stakeholders within an organization and any outside regulators.

Balance Sheets can identify and analyse trends, particularly in the area of receivables and payables. Is the receivables cycle lengthening? Can receivables be collected more aggressively? Is some debt uncollectable? Has the business been slowing down payables to forestall an inevitable cash shortage?

Working Example 3 - Preparing a Balance Sheet

DETERMINE THE REPORTING DATE AND PERIOD

A balance sheet is intended to show total assets, liabilities, and shareholders' equity of a company on a specific date, typically referred to as the reporting date. Often, the reporting date will be the final day of the reporting period. Most companies, especially publicly traded ones, will report on a quarterly basis. When this is the case, the reporting date will most usually fall on the final day of the quarter: Q1: March 31; Q2: June 30; Q3: September 30; Q4: December 31.

Many companies that report on an annual basis often use December 31st as their reporting date, but they can choose any date which is usually compatible with their trading cycle.



Assets

Cash is considered the most liquid of all assets. Long-term assets, such as real estate or machinery, are less likely to sell overnight or have the capability of being quickly converted into a current asset, such as cash.

1. **Current assets:** Current assets are any assets that can be easily converted into cash within one calendar year. Examples of current assets are checking or money market accounts, accounts receivable, and notes receivable that are due within one year's time.
 - Cash and cash equivalents: Money available immediately, such as in checking accounts, is the most liquid of all short-term assets.
 - Accounts receivable: This is money owed to the business for purchases made by customers, suppliers, and other vendors.
 - Notes receivable: Notes receivable that are due within one year are current assets. Notes that cannot be collected on within one year should be considered long-term assets.
 - Short-term marketable securities; Inventory; Other current assets
2. **Long-term assets:** Long-term assets include land, buildings, machinery, and vehicles that are used in connection with the business.
 - Land: Land is considered a fixed asset but, unlike other fixed assets, is not depreciated, because land is considered an asset that never wears out.
 - Buildings: Buildings are categorised as fixed assets and are depreciated over time.

- Office equipment: This includes copiers, fax machines, printers, and computers used in your business.
 - Machinery: This figure represents machines and equipment used in your plant to produce your product. Examples of machinery might include lathes, conveyor belts, or a printing press.
 - Vehicles: This includes any vehicles used in your business.
 - Total fixed assets: This is the total dollar value of all fixed assets in your business, less any accumulated depreciation.
3. **Total assets:** This represents the total dollar value of both short-term and long-term assets of your business. Typically, a balance sheet will list assets in two ways: As individual line items and then as total assets. Splitting assets into different line items will make it easier for analysts to understand exactly what the assets are and where they came from; tallying them together will be required for final analysis. Assets, often split into Current and Noncurrent assets, should both be subtotaled, and then totaled together.

Liabilities and Owners' Equity

This includes all debts and obligations owed by the business to outside creditors, vendors, or banks that are payable within one year, plus the owners' equity. Often, this side of the balance sheet is simply referred to as "liabilities."

1. **Current liabilities:** This is the total of all current liabilities owed to creditors that must be paid within a one-year time frame.
 - Accounts payable: This is comprised of all short-term obligations owed by your business to creditors, suppliers, and other vendors. Accounts payable can include supplies and materials acquired on credit.
 - Notes payable: This represents money owed on a short-term collection cycle of one year or less. It may include bank notes, mortgage obligations, or vehicle payments.
 - Accrued payroll and withholding: Include any earned wages or withholdings that are owed to or for employees but have not yet been paid.
 - Accrued expenses.
 - Deferred revenue e.g. Deposits or prepayments received for contracts still pending at end of period.
 - Commercial paper.
 - Current portion of long-term debt.
 - Other Current Liabilities.
2. **Long-term liabilities:** These are any debts or obligations owed by the business that are due more than one year out from the current date.
 - Long term debt e.g. Mortgage note payable: The balance of a mortgage that extends beyond the current year. For example, if you paid off three years of a fifteen-year mortgage note, then the remaining eleven years (excluding the current year) are considered long term debt.

- Deferred revenue (noncurrent)
- Long-term lease obligations
- Other noncurrent liabilities

3. **Owners' equity:** Sometimes this is referred to as stockholders' equity. Owners' equity is made up of the initial investment in the business as well as any retained earnings that are reinvested in the business. Remember, total liabilities, including owners' equity, must equal the assets. The way you achieve balance is by totaling up all the assets of the business, and then you subtract all the liabilities except for owners' equity. The remaining amount is the owners' equity.

If a company or organization is privately held by a single owner, then shareholders' equity is generally straightforward. If the equity is publicly held, this calculation may become more complicated depending on the various types of stock issued. Common line items found in this section of the balance sheet include:

- **Common stock:** This is stock issued as part of the initial or later-stage investment in the business and represent ownership of a corporation. For a public company common stock are traded on a secondary market called the stock market. That makes them liquid as well as easy to price. As a result, they are excellent indicators of the underlying value of the assets. Common stocks allow stockholders to receive dividends based on the profitability of the company. Stockholders are also able to vote on corporate issues, such as the board of directors and accepting takeover bids. Most of the time, stockholders receive one vote per share. Stockholders also receive a copy of the corporation's annual financial report.
 - **Retained earnings:** These are earnings reinvested in the business after the deduction of any distributions to shareholders, such as dividend payments. Retained earnings are determined by subtracting common stock from the owners' equity.
 - **Preferred stock:** Preferred stock (also called preferred shares, preference shares or simply preferred) is a form of stock which may have any combination of features not possessed by common stock including properties of both an equity and a debt instrument, and is generally considered a hybrid instrument. Preferred stocks are senior (i.e., higher ranking) to common stock, but subordinate to bonds in terms of claim (or rights to their share of the assets of the company) and may have priority over common stock (ordinary shares) in the payment of dividends and upon liquidation. Terms of the preferred stock are described in the issuing company's articles of association or articles of incorporation. Like bonds, some preferred stocks are rated by the major credit rating agencies. The rating for preferred stocks is generally lower than for bonds because preferred dividends do not carry the same guarantees as interest payments from bonds and because preferred-stock holders' claims are junior to those of all creditors.
4. **Total liabilities and owners' equity:** Comprised of all debts and monies that are owed to outside creditors, vendors, or banks and the remaining monies that are owed to shareholders, including retained earnings reinvested in the business.

Table 3 - Balance Sheet for Simple Company - As of 12/31/20

ASSETS	
Current assets	
Cash	37,298
Accounts Receivable	201,382
Notes Receivable	19,432
Total Current Assets	\$ 258,112
Long-term assets	
Land	68,388
Buildings	418,367
Office Equipment	32,836
Machinery	173,839
Motor Vehicles	68,379
Total Long-Term Assets	\$ 761,809
Total assets	\$1,019,921
LIABILITIES & OWNER'S EQUITY	
Current liabilities	
Accounts Payable	123,738
Notes Payable	53,893
Accrued Payroll	23,837
Total Current Liabilities	\$ 201,468
Long-term liabilities	
Mortgage Note Payable	273,839
Total Long-Term Liabilities	\$ 273,839
Owner's equity	
Stock & Paid-In Capital	52,750
Retained Earnings	491,864
Total Owner's Equity	\$ 544,614
Total liabilities & owner's equity	\$1,019,921

1.3.3. Cash Flow

Cash flow statements are one of the most critical financial documents that an organization prepares, providing great insight into the financial condition of the business. Knowing how to read and understand a cash flow statement can enable you to extract important data about the financial health of a company.

1.3.3.1. *What is a Cash Flow Statement?*

The purpose of a cash flow statement is to provide a detailed picture of what happened to a business's cash during a specified period, known as the accounting period. It shows cash inflows and outflows and shows an organization's ability to operate in the short and long term, based on how much cash is flowing into and out of the business. The cash flow statement is typically broken into three sections: Operating activities; Investing activities; and Financing activities.

- **Operating activities** in the normal course of business, generated once the company delivers its regular goods or services and includes both revenue and expenses.
- **Investing activities** include cash flow from purchasing or selling fixed assets—think physical property, such as real estate or vehicles, and non-physical property, like patents—using free cash, not debt.
- **Financing activities** detail cash flow financing from issuing debt and equity securities coming from owners and lenders. Also includes dividend payments and principal repayments.

1.3.3.2. *What Is a Cash Flow Used For?*

Based on the cash flow statement, you can see how much cash different types of activities generate, then make business decisions based on your analysis of financial statements. Using the cash flow information, an investor might decide that a company with uneven cash flow is too risky to invest in; or might decide that a company with positive cash flow is primed for growth. Similarly, a department head might look at a cash flow statement to understand how their department is contributing to the health and wellbeing of the company and use that insight to adjust their department's activities. Cash flow might also impact internal decisions, such as budgeting, or the decision to hire (or fire) employees.

Cash flow is typically depicted as being positive (the business is taking in more cash than it is expending) or negative (the business is spending more cash than it is receiving). A positive cash flow speaks to a company's ability to remain solvent and grow its operations. It is important to note that cash flow is different from profit, which is why a cash flow statement is often interpreted together with other financial documents, such as a balance sheet and income statement.

Below are two common methods used to calculate and prepare the operating activities section of cash flow statements.

- **Operating Cash Flow Statement using Direct Method**

The first method used to calculate the operation section is called the direct method, which is based on the transactional information that impacted cash during the period. To calculate the operation section using the direct method, take all cash collections from customers and subtract all the cash disbursements from the operating activities – payments to suppliers, cash paid for wages.

- **Operating Cash Flow Statement using Indirect Method**

The second way to prepare the operating section of the statement of cash flows is called the indirect method. This method depends on the accrual accounting method in which the accountant records revenues and expenses at times other than when cash is paid or received—meaning that these accrual entries and adjustments cause the cash flow from operating activities to differ from net income.

Instead of organising transactional data like the direct method, the accountant starts with the net income number found from the income statement and adjusts for accruals that were made during the period. Essentially, the accountant will convert net income to actual cash flow by a process of identifying and removing accruals for non-cash expenses for the period from the income statement. The most common and consistent of these are depreciation - the reduction in the value of an asset over time, and amortization - the spreading of payments over multiple periods.

1.3.3.3. Positive Cash Flow

Positive cash flow indicates that a company has more money flowing into the business than out of it over a specified period. This is an ideal situation to be in because having an excess of cash allows the company to reinvest in the business, settle debts, pay dividends and find new ways to grow the business. Positive cash flow does not necessarily translate to profit, however a business can be profitable without being cash flow-positive and can have positive cash flow without a profit.

1.3.3.4. Negative Cash Flow

Having negative cash flow means your cash outflow is higher than your cash inflow during a period, but it does not necessarily mean profit is lost. Instead, negative cash flow may be caused by expenditure and income mismatch, which should be addressed as soon as possible.

Negative cash flow may also be caused by a company's decision to expand the business and invest in future growth, so it's important to analyse changes in cash flow from one period to another, which can indicate how a company is performing overall.

Working Example 4 - Preparing Operating Cash Flow Statement using Direct Method

Transactions	\$	Cash Flow Statement	\$
Farm supplies purchased for cash	20,000	Cash Flow from Operations:	
Supplies used up	6,000	Cash from Customers	36,000
Plants and cut flower sales	60,000	Cash paid for Farm Supplies	(20,000)
40% sales were on credit		Cash paid for interest	(2,000)
Cost of sales	28,000	Cash provided from Ops	14,000
Bank loan proceeds	200,000	Cash Flow from Investments	00
Interest on bank loan	2,000	Cash Flow from Financing:	
Equipment bought by issuing a Note		Bank Loan	200,000
Payable	100,000	Net Cash Flow	214,000
Depreciated equipment value	4,000		

Based on the assumption that the following data were provided from the firm's accrual-based accounting records:

- Year's Sales, all on credit \$3,000,000
- Accounts Receivable January 1 400,000
- Accounts Receivable December 31 450,000

Determine how much cash the firm received from customers.

i

CALCULATIONS

Process:

Cash Collections = Credit Sales – Accounts Receivable (AR) where
AR = Ending AR – Beginning AR = the change (ΔAR)

SOLUTION

Cash Collections = \$3,000,000 - \$50,000 = \$2,950,000.

Credit sales were \$3,000,000 but all but \$50,000 was collected in cash by year end.

Working Example 5 - Calculation of Cash Paid for Inventory Purchases

Similarly, it is possible to calculate the cash paid for inventory purchases usually bought on credit and recognised in the accrual accounting records as Accounts Payable (AP).

$AP = \text{Ending AP} - \text{Beginning AP} = \text{the change } (\Delta AP) \text{ and}$

$\text{Cash Payments} = \text{Inventory Purchases} - \Delta AP$

- Year's Sales, all on credit \$1,300,000
- Accounts payable January 1 280,000
- Accounts payable December 31 50,000

Determine how much cash the firm paid to suppliers.

CALCULATIONS

Beginning Inventory + Purchases – Cost of Goods Sold
= Ending Inventory

Beginning Accounts Payable + Purchases – Payments
= Ending Accounts Payable

SOLUTION

Cash Payments = \$1,300,000 – (ΔAP) = \$1,300,000 – (350,000 – 280,000)

Cash Payments = \$1,300,000 – 70,000 = 1,230,000.

Working Example 6 - Cash Flow Example

DIRECT METHOD EXAMPLE
ABC CO. BALANCE SHEET

Account	2000	1999
Cash	\$100,000	\$130,000
Accounts Receivable	420,000	460,000
Inventory	800,000	700,000
Prepaid Rent	70,000	50,000
PP & E	1,000,000	800,000
Total Assets	\$2,390,000	\$2,140,000

ABC CO'S. INCOME STATEMENT

	2000
Sales	\$5,000,000
Cost of Goods Sold	3,500,000
Gross Margin	\$1,500,000
Rent Expense	\$240,000
Wage Expense	800,000
Depreciation Expense	150,000
Net Income	\$310,000

Source

<https://darkwing.uoregon.edu>

ASSUMPTIONS

Assume that Accounts Payable was only used to purchase inventory.
Use the information in the table to compute the following cash flow information:



1. Cash Received from Customers
2. Cash Paid to Suppliers for Inventory
3. Cash Paid to Landlord
4. Cash Paid to Employees

CALCULATIONS – DIRECT METHOD

1. Cash Received from Customers
Sales – AR
 $5,000,000 - (-40,000) = 5,040,000$
2. Cash Paid to Suppliers for Inventory
COGS + inventory – AP
 $3,500,000 + 100,000 - (-60,000) = 3,660,000$
3. Cash Paid to Landlord
Rent Expense + Prepaid Rent
 $240,000 + 20,000 = 260,000$
4. Cash Paid to Employees
Wage Expense – Accrued wages
 $800,000 - 55,000 = 745,000$

	2000
Cash Received from Customers	\$5,040,000
Cash paid to suppliers	3,660,000
Cash paid to landlord	260,000
Cash paid to employees	745,000
Cash flow from operations	375,000

CALCULATIONS – INDIRECT METHOD

Statement of Cash Flow Indirect Method

The operating cash flow section of the Statement of Cash Flows using the indirect method has the following form:

$$\begin{aligned}
 &\text{Net Income} \\
 &+ \text{Depreciation Expense} \\
 &- \text{Current Assets (minus increase, plus decrease)} \\
 &+ \text{Current Liabilities (plus increase, plus decrease)} \\
 &= \text{Cash flows from operations}
 \end{aligned}$$

FOLLOWING THE PREVIOUS EXAMPLE, WE WOULD HAVE

	2000
Net Income	\$310,000
Depreciation Expense	150,000
• Accounts Receivable	40,000
• Inventory	(100,000)
- Prepaid Rent	(20,000)
+ Accounts Payable	(60,000)
+ Accrued Wages	55,000
Cash Flows from Operations	375,000

Note that you get the same cash flow from operations under both methods.
However, the information provided in the details is substantially different.

To complete the Cash Flow Statement the other cash flow components, need to be completed for funds from investing and financing. As provided earlier in this chapter, investing cash flows involves the purchase or disposal of long-term assets. Financing cash flows includes the proceeds from issuance or buy back of long-term debt or capital stock or dividend paid or received.

Working Example 7 - Comprehensive Problem



Sample Problem: Use the following data to construct two statements of cash flows, 1) using Direct method, and 2) using Indirect method.

CASH	2000	1999
Accounts receivable	\$4,000	\$14,000
Prepaid insurance	25,000	32,000
Inventory	5,000	7,000
Fixed assets	316,000	270,000
Accumulated Depreciation	(45,000)	(30,000)
Total assets	342,000	327,500
Accounts payable	\$18,000	\$16,000
Wages payable	4,000	7,000
Note payable	173,000	160,000
Capitol stock	88,000	84,000
Retained earning	59,000	60,500
Total Liabilities & Equity	342,000	327,500

	2000
Sales	\$200,000
Cost of goods sold	(123,000)
Depreciation expense	(15,000)
Insurance expense	(11,000)
Wages expense	(50,000)
Net Income	1,000

ASSUMPTIONS



During 2000 declared and paid dividends of \$2,500 During 2000, ABC paid \$46,000 in cash to acquire new fixed assets. The accounts payable was used only for inventory and no debt was retired during 2000

Solution 1: Using the Direct Method

DIRECT METHOD	
Cash Flows from Operations	
Cash from customers	207,500
Cash paid for inventory	-124,000
Cash paid for insurance	-9,000
Cash paid for wages	-53,000
Cash flow from operations	21,500
Cash Flows from Investments	
Cash paid for fixed assets	-46,000
Cash Flows from Finance Activities	
Cash dividend payment	-2,500
Proceeds from insurance note payable	13,000
Proceeds from insurance of stock	4,000
Cash Flows from Finance Activities	14,500
Net Cash Flow	-10,000
Beginning Cash Balance	14,000
Ending Cash Balance	4,000

Solution 2: Using the Indirect Method

Using the same information reworked below. Note that using either method the Ending Cash Balance remains unchanged at 4,000.

INDIRECT METHOD	
Cash Flows from Operations	
Net income	1,000
Depreciation expense	15,000
Accounts receivable	7,500
Prepaid insurance	2,000
Inventory	-3,000
Accounts payable	2,000
Wages payable	-3,000
Cash Flows from Operations	21,5000
Cash Flows from Investments	
Cash paid for fixed asset	-46,000
Cash Flows from Finance Activities	
Cash dividend payment	-2,500
Proceeds from insurance note payable	13,000
Proceeds from insurance of stock	4,000
Cash Flows from Finance Activities	14,500
Net Cash Flow	-10,000
Beginning Cash Balance	14,000
Ending Cash Balance	4,000



Chapter 2

Finance and Accountability Principles

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2.1. FINANCIAL ORGANISATION OF A COMPANY

Organizational structure is simply the framework within which tasks are coordinated and allocated. An organizational structure is the very foundation of a company, defining operational procedures. There are three (3) key forms of business organisational structures, each with characteristics providing pros and cons related to possible funding options to acquire the assets and operate. Ultimately the type of business organization selected comes down to the owners' and investors' level of concern over management control, liability exposure, tax issues, and business transfer issues.

2.1.1. Sole Proprietorships

- Sole Proprietorships are the simplest form of business ownership for any sole owner.
- Easy to set up and requires no formal procedures. Unless a special license is required.
- Usually only a tax identification number is required for the founder as the sole proprietorship is not recognised as a legal entity different from the owner.
- Many new businesses start out as sole proprietorships but as the business grows and becomes more complex then this form of structure limits access to funding for expansion as the unlimited company continues to rely on the credit worthiness of the owner who is named as the responsible party for any credit facilities and with unlimited liability.
- No legal requirement to produce accounting information for the business, unless required under the terms of a bank loan.

2.1.2. Partnerships

2.1.2.1. General Partnerships

- Partnerships are comprised of at least two persons, intent on doing business for profit together, and equally share management duties and profits or losses.
- Sometimes called a General Partnership, the partners manage and control the business and share the burden of ownership.
- All revenues from the business flow directly through to the partners.
- Partners are personally liable for all debts and any liabilities that result from the operation of the business, meaning liabilities are not capped and can be paid through the seizure of an owner's assets.
- Any partner may be sued for the business's debts.
- Each partner is responsible for their personal taxes. The owners file their own individual tax returns based on the revenue that flows to them from the business. The information return shows how much revenue was paid to each partner and financial risks are usually shared as per partnership agreement.

- There is no need for a partnership agreement to be in writing as the partners may operate in a manner suitable to them. This however exposes the partners to additional risk, especially if any partner turns out to be untrustworthy.
- A written partnership agreement or articles of partnership details each partner's rights and duties and helps avoid future litigation between the partners. Some jurisdictions require the filing of a certificate of partnership to evidence the existence of a general partnership.
- A key characteristic of a general partnership is the equal right of each partner to manage the business enterprise and each partner has the agency to unilaterally enter into binding agreements, contracts, or business deals, and all other partners are consequently obligated to adhere to those terms. Not surprisingly, such activities may lead to disagreements.
- Many successful general partnerships build conflict resolution mechanisms into their partnership agreements.

2.1.2.2. *Limited Partnership or LLC*

- The Limited Partnership or LLC that combines positive features of both partnerships and corporations.
- Limited partnerships are made up of at least one general partner who finances and manages the for-profit business as well as one or more limited partners who provide only capital to that partnership entity.
- In a limited partnership with two or more general partners, the management framework amongst the general partners is often like general partnerships.
- Many state laws have adopted all or part of uniform laws that help govern both general partnerships and LLCs.
- As a single-member LLC, the single owner will also manage, and operate the business strategies and policies without having to consult or seek approval from others.
- If there are two or more members, then the LLC's operating agreement may be used to structure management roles and decision-making authority in a way that best suits the business. All members can manage the LLC or designated members and delegated the management and decision-making powers.
- Each general partner has one vote in any key partnership decisions regardless of the amount of their individual capital contribution. Simple majorities normally determine the outcome of key business determinations.
- When one partner leaves the business, it is dissolved unless there is an agreement in place that allows it to continue. A business continuation agreement typically stipulates the terms under which a partner can transfer a share of the business for some financial consideration. The same agreement could also provide for the transfer of a deceased partner's share so that the surviving family members receive fair compensation from the remaining partners.

- Like a sole proprietorship, the partnership is not recognised as a legal body and so the partners must sign their names to any agreements with third parties on behalf of the business.
- The partners receive their limited liability by State registration.

2.1.3. Corporations/Limited Liability Company

- A company which is incorporated is limited by shares, which separates the ownership from the company.
- The shareholders have no personal liability for debts incurred by the business and the structure is **designed to separate the business assets of the company from the personal assets of the owners**.
- In case of a default, owners as shareholders have their exposure in the company, limited to the extent of their investment in the company.
- Shareholders are insulated from personal responsibility for the debts and liabilities of the company.
- A Limited Liability Company which is limited by shares, should not be confused with a Limited Partnerships (LLC) discussed above.
- The start up for a limited company can be an expensive process with incorporation documents being prepared and the company's objectives clearly stated in writing.
- There is a regulatory framework in place setting out certain obligations about how the company's affairs should be conducted. This regime includes:
 - the requirement for annual accounts to be prepared and presented at an Annual General Meeting of the shareholders to approve the financial and other reports.
 - Copies of the Annual reports must be filed with the Registrar of Companies to be available to the public.
 - Except for small companies, the financials of companies must be audited annually by an independent firm of accountants to attest to their compliance with the laws and regulations and that the financials provide a true and fair view of company's financial health.
 - The company is controlled by a Board of Directors answerable to the shareholders. The Board hires the senior management team.
- Business assets and liabilities belong to the company, and the sale or transfer of interests can be achieved by the sale of shares.
- In terms of the sale or transfer of the business, a business continuation agreement is recommended to ensure the smooth transfer of interests when someone with controlling interest dies. Otherwise, the shares become part of the estate of the deceased.

2.2. STANDARDISATION OF FINANCIAL ACCOUNTING AND ACCOUNTING PRINCIPLES

Most MSMEs do not have in-house resources to ensure that their financial statements are prepared in compliance with International Financial Reporting Standards (IFRS). (IFRS is described more fully in 2.2.1 below). It is important for business owners and entrepreneurs to know their options and responsibilities regarding provision of financial reports for the benefit of potential users. The financial structure of a company, also called the capital structure, is essentially the mix between debt and equity funding to establish a business and provide operational cash flow. The determination of this debt to equity mix will depend on whether the business is established as a private or public, as the funding opportunities that come with each option is quite different and brings different risks to the business.

2.2.1. Standardisation of Financial Accounting

International Financial Reporting Standards (IFRS) and successor to the International Accounting Standards Board (IASB), is the independent international standard-setting body based in London. The European Union (EU) agreed that their standards would apply for the consolidated accounts of the EU's listed companies and other countries followed the EU's lead. These recommendations are principles-based to have relevance to various countries with different jurisdictions. In the United States, the Financial Accounting Standards Board (FASB) is the body supporting US GAAP required for any company wanting to sell securities in the United States.

These bodies continue to collaborate to harmonise their policies with an objective of the standardisation of disclosure requirements to facilitate the comparability and improved reliability of financial reports. Their policies cover aspects such as recognition, presentation, measurement and disclosure of accounting transactions and events reported in financial statements.

2.2.2. Core Accounting Principles

Every business needs to maintain accurate accounting and financial records so that all stakeholders – Owners, managers, investors, government, and creditors, can make informed decisions. Users can evaluate the nature and financial impacts of business activities. This is the purpose for which financial records are intended. The core accounting principles of relevance to MSMEs include:

2.2.2.1. Comparability and Relevance

Comparative information in respect of the previous period. Narrative and descriptive information is required when it is relevant to the understanding of the current period's financial statements.

2.2.2.2. Understandability

Standards applicable for items in the financial statements should be applied. For example, the recognition of property, plant and equipment (PPE) is initially

measured at costs and subsequently, the entity could use the costs module or revaluation module to measure. This is a benefit to accountants and other related stakeholders who use the financial statements since the financial transactions are records that identify costs and verifiable evidence. For example, the costs of fixed assets could be verified with the suppliers' purchase invoices.

2.2.2.3. Accrual basis of accounting

Except for cash flow information, use the accrual basis of accounting. The concept has required the revenues and expenses to be recorded and recognized in the entity's financial statements when they are incurred rather than when cash is paid or received. This principle helps the users of financial statements to get the financial information that reflects the current financial status.

Based on accrual accounting principle, sales revenues from selling cut flowers are recognized where the right and obligation are transferred from seller to buyer, even if seller may not yet have received payment from buyer. Common examples of accruals include purchases and sales of goods or services on credit, interest, rent (unpaid), wages and salaries, taxes. All expenses and incomes relating to the accounting period whether actual cash has been disbursed or received or not, are recorded.

2.2.2.4. Comparability & Frequency of reporting

An entity is required to produce a set of financial statements at least annually. If the period is longer or shorter than a year, disclosure is required as to the length of the period, the reason for using that period, and the fact that comparative figures for the previous period may not be comparable.

2.2.2.5. Consistency of presentation

Entities should retain the presentation and classification from one period to the next. The entity is to apply the same accounting method, policies, and standard for reporting its financial statements. Material changes, if any, should be disclosed even for improvement in technique. Only when the accounting procedures are adhered to consistently from year to year will the results disclosed in the financial statements be uniform and comparable. For example, depreciation rate and methods should be applied consistently from one accounting period to the next period for the same fixed assets. If there is any change in accounting policies, the impact should be disclosed in notes to the accounts. Another example is the use of the First in First out method to value inventories. Narrative and descriptive information is required when it is relevant to the understanding the current period's financial statements.

2.2.2.6. Monetary Unit Principle

Accounting and financial transactions must be quantifiable in monetary terms and are reflected in the local currency in financial reports. This is also called the Measurability Concept. For example, should a high performing employee fall ill on the job and is unable to perform their duties the expenses in relation to making payment for medical treatment is quantifiable in the local currency and recorded in the Income Statement. However, the cost to the business in reduced customer relations and revenue would not be recorded as these expenses are not quantifiable.

2.2.3. The Presentation of the Income Statement

We introduced the Income Statement in Chapter 1 (also known as Profit and Loss statement [P&L]), revenue statement, a statement of financial performance, an earnings statement, an operating statement, or statement of operations). We will now introduce the two basic methods used for presenting data in a company's Income Statement. Recall that the Income Statement is a company's financial report that shows how the revenue is received and after taking account for expenses, what remains as net income or profit.

FIRST PRESENTATION METHOD: THE SINGLE STEP INCOME STATEMENT

This is a simple approach, total revenues and subtract total expenses, to find the bottom line.



Example 1 - Format of a Single Step Income Statement

COMPANY A INCOME STATEMENT FOR THE MONTH ENDED DECEMBER 31, 2020		
Revenues		
Sales Revenues	\$64,510	
Interest Revenues	1,650	
Gain on Sale of Investments	5,000	
Total Revenues		\$71,160
Expenses		
Cost of Goods Sold	\$31,400	
Depreciation Expense	7,980	
Rent Expense	8,000	
Advertising Expense	1,000	
Salaries Expense	13,500	
Utilities Expense	1,360	
Loss due to Theft	300	
Total Expenses		−63,540
Net Income		\$7,620

The single-step income statement does not calculate the gross profit of the business. For this reason, most businesses use the multi-step income statement format which follows.

SECOND PRESENTATION METHOD: THE MULTI-STEP INCOME STATEMENT



The Multi-Step income statement shows several steps to the bottom line, starting with the gross profit from which operating expenses are deducted to yield income from operations. Added to the net income from other revenues and other expenses provides income before taxes. The final step is to deduct taxes, which produces net income for the period under review.

Example 2 - Sample Income Statement

INCOME STATEMENT		
Sales Revenue		
Total Sales	\$137,460	
– Sales Returns	–2,060	
– Sales Discounts	–5,190	
Net Sales Revenue		\$130,210
Less: Cost of Goods Sold		
Beginning Stock	\$12,300	
+ Purchases	67,310	
+ Freight-In	4,450	
– Purchase Discounts	–3,900	
– Purchase Returns	–1,000	
– Ending Stock	–16,170	
Cost of Goods Sold		–62,990
Gross Profit		\$67,220

Operating Expenses		
Selling Expenses		
Freight-Out	\$6,150	
Advertising Expense	5,790	
Sales Commissions Expense	3,470	
Administrative Expenses		
Office Salaries Expense	18,510	
Office Rent Expense	14,000	
Office Supplies Expense	5,330	
Total Operating Expenses		–53,250
Operating Income		\$13,970
Other Incomes and Expenses		
Gains on Sale Equipment	\$2,430	
– Loss on Sales of Investments	–1,640	
– Interest Expense	–930	
Net Other Income and Expenses		–140
Net Income		\$13,830

Source: <https://xplained.com/438413/multi-step-income-statement>

2.2.4. GAAP Principles

The objective of these GAAP principles is to improve transparency. However, there is no guarantee that the financial statements of the companies following these principles are free from errors and omissions (both intentional and unintentional).



Figure 1 - GAAP Principles

Source: <https://efinancemanagement.com/financial-accounting/all-10-gaap-principles>

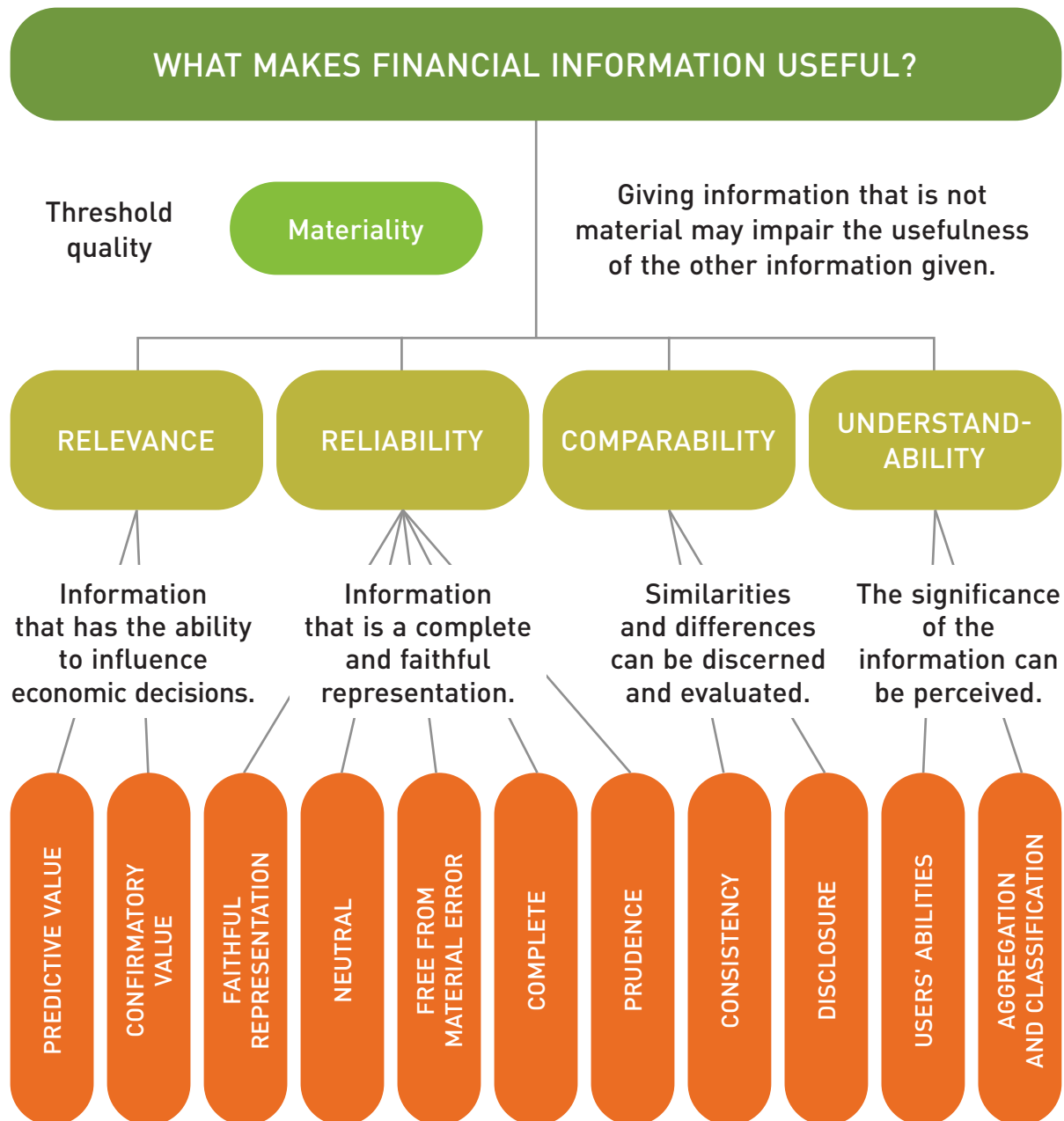


Figure 2 - What Makes Financial Information Useful

Source: Elliott: Barry and Jamie Elliott, Financial Accounting and Reporting, Chap. 7, Conceptual Framework, Pg.167, 12th Edition, Prentice Hall Financial Times

2.2.5. Core Corporate Finance Principles

Corporate Finance is primarily focused on maximizing shareholder value while minimizing risk. The decisions involve identifying the sources of capital, determining the most efficient use of the company's funds and the best way to reward owners and investors.

2.2.5.1. *Investment Principle*

This principle involves the most efficient use of funds and making investments that return the minimum tolerable hurdle rate and provide the best decision for the company's long-term benefit. The investment decisions should result in revenue opportunities and savings for the future.

2.2.5.2. *Financing Principle*

The Financing principle is concerned with achieving the right mix of debt, equity capital.

2.2.5.3. *Dividend Principle*

As businesses generate excess returns the company needs to determine ways of rewarding owners. This entails determining the appropriate allocation between payout rate to the investors and how much to reinvest in the business.

2.3. CONSOLIDATION METHODS

Many corporations are comprised of several separate companies and are therefore required to prepare consolidated financial statements. Consolidation is required when a corporation owns and controls a majority or 50% interest another corporation's outstanding common stock. The accounting principles applied in the preparation of the consolidated financial statements are the same accounting principles applied in preparing separate-company financial statements. Each individual company maintains its own accounting records, but consolidated financial statements are needed to present the companies together as a single economic entity for general-purpose financial reporting.

The traditional view of control includes both direct and indirect control.

- **Direct control** typically occurs when one company owns a majority of another company's common stock.
- **Indirect control** occurs when a company's common stock is owned by one or more other companies that are all under common control.

The consolidation process adds together the financial statements of two or more legally separate companies, creating a single set of financial statements. There are primarily three ways to report ownership interest between companies. Consolidated subsidiary financial statements, the cost method, and the equity method. If a company owns less than 20% of another company's stock, it will usually use the cost method of financial reporting. If a company owns more than 20% but less than 50%, a company will usually use the equity method.

To consolidate financial statements, adjustments need to be made. They are:

- Intercompany stockholdings; and
- Intercompany receivables and payables.

2.3.1. Eliminations

A single company cannot owe itself money, that is, a company cannot report a receivable to itself or a payable to itself intercompany receivables and payables between the parent and the subsidiary must be eliminated: Debit to Consolidated Accounts Payable at Book Value and Credit to Consolidated Accounts Receivable at Book Value.

In some cases, less than 50% ownership may be allowed if the parent company shows that it controls the subsidiary's management or the decision-making process. The parent company holds a controlling interest in the subsidiary company, meaning it has or controls more than half of its stock. In cases where a subsidiary is 100% owned by another firm, the subsidiary is referred to as a wholly owned subsidiary.

2.3.2. Benefits and Drawbacks to Subsidiaries

Pros:

- Subsidiaries can contain and limit problems for a parent company.
- Potential losses to the parent company can be limited by using the subsidiary as a kind of liability shield against financial losses or lawsuits. Entertainment companies often set individual movies, or TV shows up as separate subsidiaries for this reason.
- The subsidiary structure can also offer tax advantages: They may only be subject to taxes in their state or country, versus having to pay for all the parent's profits.
- Subsidiaries can be the experimental ground for different organizational structures, manufacturing techniques, and types of products. Fashion-industry companies often have a variety of brands or labels, each set up as a subsidiary.
- Easier to establish and dispose.
- Because the parent company and its subsidiaries form one economic entity, investors, regulators, and customers find consolidated financial statements assist in providing oversight of the entire entity.

Cons:

- Extra legal, accounting work
- Greater bureaucracy
- Aggregating and consolidating a subsidiary's financials make a parent's accounting more complicated and complex. Companies who choose to create consolidated financial statements with subsidiaries often require a significant investment in financial accounting infrastructure due to the accounting integrations needed to prepare final consolidated financial reports.
- Since subsidiaries must remain independent to some degree, transactions with the parent should be "at arm's length," and the parent may not have all the control it wishes.
- The parent may be liable for criminal actions or corporate malfeasance by the subsidiary. It may have to guarantee the subsidiary's loans, leaving it exposed to financial losses.

Private companies have very few requirements for financial statement reporting.

Public companies must report financials in line with the Financial Accounting Standards Board's Generally Accepted Accounting Principles (GAAP). If a company reports internationally it must also work within the guidelines laid out by the International Accounting Standards Board's International Financial Reporting Standards (IFRS). Both GAAP and IFRS have some specific guidelines for entities who choose to report consolidated financial statements with subsidiaries.

Generally, a parent company and its subsidiaries will use the same financial accounting framework for preparing both separate and consolidated financial statements. The main mandates include, that the parent company or any of its subsidiaries cannot transfer cash, revenue, assets, or liabilities among companies to unfairly improve results or decrease taxes owed.

A minority interest is the proportion of a subsidiary company's stock not owned by its parent company. This is sometimes called a noncontrolling interest. The amount of interest held in the subsidiary is typically less than 50%.

2.3.3. Ownership Accounting: Cost and Equity Methods

The cost and equity methods are two additional ways companies may account for ownership interests in their financial reporting.

The cost method is designed for situations when the investing company only has a minority interest and exerts little or no significant influence in the other company's affairs. This is true for investing companies that own 20% or less of the investment, but a company that has less than 20% and still exerts significant influence would need to use the equity method (covered below).

Under this scenario, the investing company would not be able to report its share of earnings from the investment, except for the income from any dividends it received on the stock. The asset value of the investment would be reported at the lower of cost or market value on the balance sheet. This means that, if the investment in shares created a minority it would record any dividends received on its income statement and on the company's balance sheet, it would record the cost of the investment.

Equity method is usually based on the total amount of equity owned. If a company owns more than 20% but less than 50%, a company will usually use the equity method. In this case, the terminology of "parent" and "subsidiary" are not used, unlike in the consolidation method where the investor exerts full control over its investee. Instead, in instances where it is appropriate to use the equity method of accounting, the investee is often referred to as an "associate" or "affiliate".

Unlike with the consolidation method, in using the equity method there is no consolidation and elimination process. Instead, the investor will report its proportionate share of the investee's equity as an investment (at cost). Profit and loss from the investee increase the investment account by an amount proportionate to the investor's shares in the investee. This is known as the "equity pick-up." Dividends paid out by the investee are deducted from this account.

Example 3 - Accounting for Owner Interests by the Equity Method

Lion Inc. purchases 30% of Zombie Corp for \$500,000. At the end of the year, Zombie Corp reports a net income of \$100,000 and a dividend of \$50,000 to its shareholders. When Lion makes the purchase, it records its investment under “Investments in Associates/Affiliates”, a long-term asset account. The transaction is recorded at cost.

Dr.	Investments in Associates	500,000
Cr.	Cash	500,000

Lion receives dividends of \$15,000, which is 30% of \$50,000, and records a reduction in their investment account.

The reason for this is that they have received money from their investee. In other words, there is an outflow of cash from the investee, as reflected in the reduced investment account.

Dr.	Cash	15,000
Cr.	Investments in Associates	15,000

Finally, Lion records the net income from Zombie as an increase to its Investment account.

Dr.	Investments in Associates	30,000
Cr.	Investment Revenue	30,000

The ending balance in their “Investments in Associates” account at year-end is \$515,000. This represents a \$15,000 increase from their investment cost.



This reconciles with their portion of Zombie’s retained earnings. Zombie has Net Income of \$100,000, which is reduced by the \$50,000 dividend. Thus, Zombie’s retained earnings for the year are \$50,000. portion of this \$50,000 is \$15,000.

Corporate Examples include Berkshire Hathaway Inc. (BRK.A, BRK.B) and Coca-Cola (KO). Berkshire Hathaway is a holding company with ownership interests in many different companies. Berkshire Hathaway uses a hybrid consolidated financial statements approach which can be seen from its financials. In its consolidated financial statement, it breaks out its businesses by Insurance and Other, and then Railroad, Utilities, and Energy. Its ownership stake in publicly traded company Kraft Heinz (KHC) is accounted for through the equity method.

Coca-Cola is a global company with many subsidiaries. It has subsidiaries around the world that help it to support its global presence in many ways. Each of its subsidiaries contributes to its food retail goals with subsidiaries in the areas of bottling, beverages, brands, and more.



Chapter 3

Financial Analysis

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The financial diagnosis of companies is important to all stakeholders whether internal or external to the company and each stakeholder comes with a different perspective. Internal financial diagnosis will detect the need for new policies or identify the root cause for any concern or disequilibrium, which will have to be resolved or addressed.

Persons external to the company will also be interested in the financial well-being of the organisation. The objective is to track a company's financial capacity to generate profit and its capacity to honour long and short-term obligations when they fall due. Oftentimes, the need to make comparisons with other similar businesses and the respective industry, aids in contextualizing the financial findings in relative terms. Ratio analysis makes it possible for more meaningful analysis as current ratios are compared with those of past periods to identify trends.

The more commonly used financial ratios fall into the following five categories:

- Treasury or Activity,
- Market ratios,
- Profitability,
- Liquidity,
- Solvency or Debt.

Each of these categories speaks to the area of focus for the review.

3.1. TREASURY OR ACTIVITY RATIOS

These measure treasury management and how a firm manages its assets in their conversion of purchases and raw material into sales and cash and how it manages the accounts payable.

Inventory turnover measures how quickly a firm sells its products.

$$\text{INVENTORY TURNOVER} = \frac{\text{COST OF GOODS SOLD}}{\text{INVENTORY}}$$

Cost of Goods Sold (CGS) has been used to represent Sales in the numerator as inventory is valued at cost on the balance sheet. The Inventory amount used to calculate the ratio may be the closing balance. If there is movement in the inventory amount over the period or average annual inventory balance. The result indicates how many times the inventory turns or sells out. This may be converted into days, by dividing the days in a year or period, by the turnover figure.

For example, if cost of goods sold = \$8,519 and inventory = \$615, then $8519/615 = 13.85$ times each year. The turn in days = $365/13.85 =$ every 26.4 days the inventory turns over. The rate of turnover varies from one industry to another and the result is more meaningful when compared with the norms of the particular industry.

The Average Collection Period is used to evaluate credit and collection policies. A firm's average daily sales are divided into Accounts Receivable to determine what is the collection rate. For example, if Annual Sales = \$12,843 then average daily sales = $\$12,843/365 = \35.19 . If Accounts Receivable = \$1,619 then the Average Collection period = $\$1,619/\$35.19 = 46$ days. We are now able to compare the actual collection period with the firm's credit policy to see if they are achieving the collections as intended. The average collection period tells the business owner the liquidity of the firm's accounts receivable and the management's effectiveness.

The Average Payment Period is a measure of the average length of time a firm takes to pay suppliers and is considered a solvency ratio. *The Average Payment Period = Accounts Payable balance divided by Average daily purchases.* The Average daily purchases are not reported in the financial statements. Analysts estimate the average daily purchases by assuming a percentage of the Cost of Goods Sold (CGS) amount which varies depending on the industry. For persons external to the firm, a reasonable rule of thumb is 70% for the purpose of analysis. CGS includes raw material and direct labour to make the product available for sale.

$$\text{Average Payment Period} = \frac{\text{Average Accounts Payable}}{(\text{Total Credit Purchases} / \text{Days})}$$

TO CALCULATE

first determine the average accounts payable by dividing the sum of beginning and ending accounts payable balances by two.

Next, we need the Denominator which is the *Total Credit Purchases/Days in the period*:

$$\text{CGS} + \text{ENDING INVENTORY} - \text{STARTING INVENTORY.}$$

Many businesses use creditors to fund their working capital without recognizing that the delay in making payments when they are lacking cash, is considered as an indication of the undercapitalization of their businesses. Average payment period is the average amount of time it takes a company to pay off accounts payable. Many times, when a business makes a purchase at wholesale or for basic materials, credit arrangements are used for payment to give the buyer time to pay for the purchase.

Example 1 - Average Payment Period

The ABC Company makes most of its purchases on credit.
The extracted data for the year 2012 is given below:

- Total purchases: \$570,000
- Cash purchases: \$150,000
- Accounts payable at the start of the year: \$65,000
- Accounts payable at the end of the year: \$40,000
- Notes payable at the start of the year: \$20,000
- Notes payable at the end of the year: \$15,000

Required: Calculate ABC's average payment period from the above data assuming 360 days in a year.

SOLUTION: AVERAGE PAYMENT PERIOD

When complete information about credit purchases and opening and closing balances of accounts payable is given, the proper method to compute average payment period is to:

1. compute accounts payable turnover ratio
2. divide the accounts payable turnover ratio by the number of working days in a year.

$$= \$420,000^* / \$70,000^{**} = 6 \text{ times}$$

$$\text{Average payment period} = 360 \text{ days} / 6 \text{ times} = 60 \text{ days}$$

*Computation of net credit purchases:

$$= \$570,000 - \$150,000 = \$420,000$$

**Computation of average accounts payable:

$$\begin{aligned} &= [(A/P \text{ opening} + N/P \text{ opening}) + (A/P \text{ closing} + N/P \text{ closing})] / 2 \\ &= [(\$65,000 + \$20,000) + (\$40,000 + \$15,000)] / 2 \\ &= \$70,000 \end{aligned}$$

The average payment period for the company is 60 days.
It means, on average, the company takes 60 days to pay its creditors.

Source

<https://www.accountingformanagement.org/average-payment-period/>

A short payment period indicates prompt payments to creditors. Like accounts payable turnover ratio, and the creditworthiness of the company. A noticeably short payment period could also be an indication that the company is not taking full advantage of the credit terms allowed by suppliers. Managers try to make payments promptly to avail the discount offered by suppliers. Where the discount is available for early payment, the amount of discount should be compared with the benefit of the length of the credit period allowed by suppliers.

3.2. MARKET RATIOS

Market value ratios are used to evaluate the publicly traded companies and identify attractive, undervalued stocks and those that may be overvalued to be avoided or sold. The more popular ratios include earnings per share, book value per share, and the price-earnings ratio. Others include dividend yield ratio. Each has its application, but together will paint a picture of the financial health of the company using the market information.

The market value ratios are important for the investors as these ratios are used to decide the prices of the shares, whether overpriced or undervalued or at par with the market. These ratios are used for making share investment decisions.

MARKET VALUE RATIOS

PRICE/ EARNINGS OR PE RATIO

It is used to check whether the shares are over or underpriced. It is measured as the price of the share in the current time against the earnings the company has reported for the financial period on per share basis.

Formula: Price/Earnings or PE Ratio =
Price per share / Earnings per share (EPS)

EARNINGS PER SHARE

This ratio shows the earnings of the company earned in a particular time period against the number of the company's shares which are outstanding.

Formula: Earnings per Share (EPS) =
Net Profit (Earnings) / total number of shares outstanding in the market

BOOK VALUE PER SHARE

This ratio shows the relation between the book value of the company and the outstanding shares in the market.

Formula: Book Value per Share =
(Shareholder's Equity- Preference stock) /
Outstanding numbers of shares.

MARKET VALUE PER SHARE

This is the ratio which is obtained by dividing the total market value of the shares of the company by the number of the shares which are outstanding.

Formula: Market Value per Share =
Market Capitalization / Outstanding shares in the market.

DIVIDEND YIELD

Investors check both the price and dividend earnings from a share so, this ratio helps in measuring the amount of dividend distributed in a year against the number of shares outstanding.

Formula: Dividend Yield =
Total dividend paid in a year / Number of shares outstanding.

MARKET TO BOOK RATIO

This is the ratio which shows the relation between the market value of a share to its book value and thus one can easily figure out the difference between the two to evaluate whether the prices are under or overvalued for the shares

Formula: Market to Book Ratio =
Price of one share / Book value of one share.

Figure 1 - Use of the Market Value Ratios

Dividend Yield ratio is the ratio between the current dividend of the company and the company's current share price. This is the amount a company pays out in dividends each year in relation to its market share price. This yield is the potential return on investment for a given security as well as the total annual dividend payments divided by the stock's market capitalization. If a company pays no dividends, then the dividend yield is 0%. Dividend Yield ratio:

$$\text{DIVIDEND YIELD RATIO} = \frac{\text{ANNUAL DIVIDENDS PER SHARE}}{\text{MARKET PRICE PER SHARE}}$$

Example 2 - Dividend Yield Ratio Calculation

Joe's Flower Farm Ltd. is listed and the current market price per share is \$36. As of the previous year, Joe's Flower Farm Ltd paid \$18,000 in dividends with 1,000 shares outstanding.



THUS, THE YIELD CALCULATED IS

$$\begin{aligned} \text{Dividend Per Share} &= \\ \$18,000 / 1000 &= \$18.0 \end{aligned}$$

$$\begin{aligned} \text{Dividend Yield Ratio Formula} &= \\ \text{Annual Dividend Per Share} / \text{Price Per Share} &= \\ = \$18 / \$36 &= 50\%. \end{aligned}$$

This means that the investors in the Farm's stock are getting a 50% return on their investment every year.

3.2.1. Compound Annual Growth Rate (CAGR)

The CAGR is the mean annual growth rate of an investment over a specified investment period, longer than one year. This is the rate of growth that would apply if an investment were to grow evenly from its beginning balance to its ending balance, assuming the profits were reinvested at the end of each year of the investment period. Although the growth rate is not smooth, this smoothing of investment returns serves for the purpose of comparison.

Table 1

Year	Amount	Return
0	\$1,000.00	-
1	\$1,250.00	25%
2	\$937.50	-25%

As shown in Chapter 3 – Table 1 the investment gave a 25% return in the first year, raising the value from \$1,000 to \$1,250. If all capital were reinvested in the same investment vehicle for the second year, which yielded a –25% return, the value of the investment would fall to \$937.50, which is less than the initial investment amount. Although it is clearly shown that the investment generated losses over a two-year horizon, averaging returns indicates that there was no change in returns over the two years.

Table 2

Average Returns	0%
CAGR	-3%

In contrast, the CAGR shows in Chapter 3 – Table 2, that the investment generated only negative returns over the investment period. The smoothing mechanism may yield results that differ from the actual situation when the growth rate is volatile. CAGR correctly shows the ending value of the investment if a negative 3% CAGR (-3%) was applied over a two-year compounding period. However, the Compound Annual Growth Rate assumes that the investment falls at a constant 3%, when, in fact, it grew by 25% in the first year.

Example 3

Investopedia provided the following example:

For example, assume you invested \$1,000 at the beginning of 2016 and by year-end your investment was worth \$3,000, a 200 percent return. The next year, the market corrected, and you lost 50 percent - ending up with \$1,500 at the end of 2017.



What was the return on your investment for the period?

SOLUTION

The average annual return on this investment was 75% (the average of a 200%, gain and 50% loss), but in this two-year period, the result was, \$1,500 not \$3,065 (\$1,000 for two years, at an annual rate of 75 percent).

To determine what your annual return was, for the period, you need to calculate the CAGR.

3.2.2. How CAGR Works

To calculate the CAGR you take the nth root of the total return, where n is the number of years you held the investment. In this example, you take the square root (because your investment was for two years) of 50 percent (the total return for the period) and obtain a CAGR of 22.5 percent.

3.2.3. Earnings per share (EPS)

EPS is a company's profit divided by the outstanding shares of its common stock. The resulting number serves as an indicator of a company's profitability. It is common for a company to report EPS that is adjusted for extraordinary items and potential share dilution. The higher a company's EPS, the more profitable it is considered.

$$\text{EARNINGS PER SHARE} = \frac{(\text{NET INCOME} - \text{PREFERRED DIVIDENDS})}{\text{NUMBER OF COMMON SHARES OUTSTANDING}}$$

This represents the amount earned on behalf of each outstanding common stock. By dividing a company's share price by its earnings per share, an investor can see the value of a stock in terms of how much the market is willing to pay for each dollar of earnings. EPS is one of the many indicators you could use to pick stocks. If you have an interest in stock trading or investing, your next step is to choose a broker that works for your investment style. While EPS is widely used to track a company's performance, shareholders do not have direct access to these profits. A portion of the earnings may be distributed as a dividend, but all or a portion of the EPS will be retained by the company. Shareholders, through their representatives on the board of directors, determine how much of the EPS is available to common stockholders.

3.2.4. Return on Total Assets

Coverage Ratio is a group of measures of a company's ability to service its debt and meet its financial obligations such as interest payments, or dividends. The higher the coverage ratio, the easier it should be to make interest payments on its debt or pay dividends. The trend of coverage ratios over time is also studied by analysts and investors to understand the trend in a company's financial position. Coverage ratios come in several forms and can be used to help identify companies in a potentially troubled financial situation. However, low ratios are not necessarily an indication that a company is in financial difficulty as many factors go into determining these ratios. To ascertain whether the company is still a going concern, one should look at liquidity and solvency ratios, which assess a company's ability to convert assets into cash to pay short-term debt.

Investors can use coverage ratios in one of two ways:

1. To track changes in the company's debt situation over time. If the ratio has been gradually declining, it may only be a matter of time before it falls below the recommended figure.
2. When looking at a company in relation to its competitors. Evaluating similar businesses is imperative and it is a 'red flag' if the business seems out of step with major competitors.

3.3. LIQUIDITY

This is the measure of a firm's ability to meet short-term obligations as they come due. This is a leading indicator of cash flow problems and insolvency. The basic measures of liquidity are the Current Ratio and the Quick or Acid Test Ratio.

The Current Ratio is Current Assets divided by current liabilities.

$$\text{CURRENT RATIO} = \frac{\text{CURRENT ASSETS}}{\text{CURRENT LIABILITIES}}$$

This is Net Working Capital in ratio form and a satisfactory result differs depending on the business. However, this is intended to be greater than 1 to signify that the business is to be able to meet short term obligations.

A company's cash is usually tied up in the finished goods, the raw materials, and trade debtors. It is not until the inventory is sold, sales invoices raised, and the debtors' make payments that the company receives cash. The cash tied up in the cash cycle is known as working capital, and liquidity ratios try to measure the balance between current assets and current liabilities.

Some analysts consider only cash and cash equivalents as relevant assets because they are most likely to be used to meet short term liabilities in an emergency. Some analysts also consider the debtors and trade receivables as relevant assets in addition to cash and cash equivalents and others also treat with the inventory.

The Quick or Acid Test Ratio measures a company's ability to meet its short-term obligations using most liquid assets (near cash or quick assets). The ratio tells creditors how much of the company's short-term debt can be met by selling all the company's liquid assets at short notice. The quick ratio is calculated by dividing liquid assets by current liabilities:

$$\text{QUICK RATIO} = \frac{(\text{CASH AND CASH EQUIVALENTS} + \text{MARKETABLE SECURITIES} + \text{ACCOUNTS RECEIVABLE})}{\text{CURRENT LIABILITIES}}$$

The higher the Quick ratio, the better the position of the company. The ability to convert inventories and receivables into cash quickly and at what conversion level may be questionable. Also, some inventory could include unfinished goods not readily saleable. The commonly acceptable current ratio is 1 but may vary from industry to industry. A company with a Quick ratio of less than 1 is unable to repay its current liabilities.

Debt Service Ratio or Times Interest Earned Ratio is another Working Capital ratio which measures a company's ability to meet its interest payments. Interest coverage ratio is equal to earnings before interest and taxes (EBIT) for a period, often one year, divided by interest expenses for the same period. This is a measure of the number of times a company could make the interest payments on its debt with its EBIT. It determines how easily a company can pay interest expenses on outstanding debt.

Interest coverage ratio (ICR) is also known as interest coverage or debt service coverage ratio. The interest coverage ratio is calculated by dividing a company's earnings before interest and taxes (EBIT) by the company's interest expenses for the same period.

$$\text{INTEREST COVERAGE RATIO} = \text{EBIT} / \text{INTEREST EXPENSES}$$

This is the company's ability to earn enough to meet interest payments.

e.g. If EBIT = \$1671 and Interest Expense = \$123

Then Interest Coverage Ratio = $\$1671 / \$123 = 13.59$

This means that the company could experience substantial decline in earnings and still meet interest payments.

The lower the interest coverage ratio, the higher the company's debt burden and the greater the possibility of bankruptcy or default. A lower ICR means less earnings are available to meet interest payments and that the business is more vulnerable to increases in interest rates. When a company's interest coverage ratio is only 1.5 or lower, its ability to meet interest expenses may be questionable. An interest coverage ratio below 1.0 indicates that interest payments exceed earnings (EBIT) and the business is having difficulties generating the cash necessary to pay its interest on debt obligations.

A higher ratio indicates a better financial health as it means that the company is more capable to meeting its interest obligations from operating earnings. On the other hand, a high ICR may suggest a company is "too safe" and is neglecting opportunities to increase its earnings through additional leverage.

3.4. SOLVENCY

Solvency or leverage ratios measure going concerns by the extent of the firm's assets coverage of commitments for future payments to creditors, bondholders, and banks – Debt to Equity ratios, Equity Ratio and Debt Ratio and Debt Service Coverage ratio. These measure the extent to which a firm uses credit rather than stockholder's equity to finance operations. The higher the leverage the higher the risk of default on debt repayment. The riskier the company then the higher the return investors will require on the company's securities. These ratios use book values for the debt, equity, and assets and not market values.

One type of Debt ratio is a balance sheet measure of debt Vs. other sources of financing; and income statement or Coverage ratios.

Debt Ratio is the proportion of assets financed with debt. The portion that is not funded by equity is naturally the portion funded by debt.

Example 4 - Total Liabilities/Total Assets

THE FOLLOWING FIGURES HAVE BEEN OBTAINED
FROM THE BALANCE SHEET OF XYZ COMPANY

• Current assets	\$3,500,000
• Non-current assets	\$12,100,000
• Total assets	\$15,600,000
• Total liabilities	\$11,480,000
• Stockholders' equity	\$4,120,000
• Total liabilities and equity	\$15,600,000

i

THE ABOVE FIGURES WILL PROVIDE US WITH
A DEBT RATIO OF 73.59%, COMPUTED AS FOLLOWS

$$\begin{aligned}\text{Debt ratio} &= \text{Debt} / \text{Assets} \\ &= 11,480 / 15,600 \\ &= 73.59\%\end{aligned}$$

Alternatively, if we know the equity ratio, we can easily compute for the debt ratio by subtracting it from 1 or 100%. Equity ratio is equal to 26.41% (equity of 4,120 divided by assets of 15,600). Using the equity ratio, we can compute for the company's debt ratio.

$$\begin{aligned}\text{Debt ratio} &= 1 - \text{Equity ratio} = 1 - .2641 \\ &= .7359 \text{ or } 73.59\%\end{aligned}$$

The debt ratio is a measure of financial leverage. A company that has a debt ratio of more than 50% is known as a “leveraged” company. Its debt ratio is higher than its equity ratio. It means that the business uses more of debt to fuel its funding. In other words, it leverages on outside sources of financing. In the above example, XYZ is a leveraged company.

Companies with lower debt ratios and higher equity ratios are known as “conservative” companies.

THE ASSETS TO EQUITY RATIO

sometimes called the equity multiplier

$$= \text{TOTAL ASSETS} / \text{COMMON STOCK EQUITY}$$

This is the total assets divided by common stock equity. A high equity multiplier indicates high debt to low equity, while a low equity multiplier indicates low debt and high equity.

DEBT TO EQUITY RATIO =

**LONG TERM DEBT / STOCKHOLDERS' EQUITY
WHICH MEASURES THE FIRM'S LEVERAGE.**

Proportion of Debt (Balance Sheet) Ratios: Indicate what proportion of the firm's capital is derived from debt compared to other sources of capital, such as preferred stock, common stock, and retained earnings.

3.4.1. Optimal Financial Structure

3.4.1.1. Ratios Applied to Capital Structure

In general, analysts use three ratios to assess the strength of a company's capitalization or financial structure. The first two are popular metrics:

1. debt ratio (total debt to total assets) and
2. debt-to-equity (D/E) ratio (total debt to total shareholders' equity).
3. Capitalization Ratio that delivers key insights into a company's capital position —long-term debt divided by (long-term debt plus shareholders' equity).

With the debt ratio, more liabilities mean less equity and therefore indicate a more leveraged position. The problem with this measurement is that it is broad in scope and gives equal weight to operational liabilities and debt liabilities. The same criticism applies to the debt-to-equity ratio. Current and non-current operational liabilities, especially the latter, represent obligations that will be with the company forever. Also, unlike debt, there are no fixed payments of principal or interest attached to operational liabilities.

3.4.1.2. Optimal Relationship Between Debt and Equity

There is no magic ratio of debt to equity to use as guidance. What defines a healthy blend of debt and equity varies according to the industries involved, line of business, and a firm's stage of development. Because investors are better off putting their money into companies with strong balance sheets, it makes sense that the optimal balance generally should reflect lower levels of debt and higher levels of equity.

3.4.1.3. About Leverage

With leverage, the assumption is that management can earn more on borrowed funds than what it would cost to pay interest expense and fees on these funds. However, to carry a large amount of debt successfully, a company must maintain a solid record of complying with its various borrowing commitments.

A highly leveraged company might find that eventually, its creditors restrict its freedom of action; or it could experience diminished profitability because of paying steep interest costs. In addition, a firm could have trouble meeting its operating and debt liabilities during periods of adverse economic conditions. If the business sector is extremely competitive, then competing companies could (and do) take advantage of debt-laden firms by swooping in to grab more market share. Of course, a worst-case scenario might be a firm needing to declare bankruptcy. The most suitable organizational structure for a business is derived from the strategic plans with focus on the most efficient way to operate the business. The desirable structure will change over time as the firm grows.

3.5. OVERALL VIABILITY

Overall Viability is the sizing up of a business' ability to start, grow and survive. Whether the business is established, or an entrepreneur has the intention to establish a business, it is prudent to take stock of the strategic objectives and review factors such as the target markets, competition, sourcing and overall financial potential.

Especially when environmental conditions change, such as the Covid 19 Pandemic at time of writing, many assumptions become suddenly redundant and plans must be validated. Viability is linked to profitability and sustainability over the long term. Use of liquidity, solvency, profit, and operational data, as applies, are useful to assess the overall viability of a business after comparing to prior performance and benchmarking to other similar companies and industry trends. The process involves the same steps taken to create a comprehensive strategic and business plan.

The Balance Small Business site¹ describes viability as “a two-part process. First, it means creating a marketing strategy by knowing who you are, who you are selling to, and who else is selling to them. Second, it means having your business financial house in order”. This requires research and analyses, and desk, secondary research, and empirical research, to determine and answer strategic questions related to: Market Selection and Segmentation, Distribution Channel Selection, Product Development, New Product Launch/Test market, the Pricing Policy, Competitor Analysis, Promotional Plan and Logistics.

Primary/Field Research in the marketplace to get original information relevant to validation of the business or proposed business from the market by means of interviews, questionnaires, etc. Among the questions to be answered are:

- Why do people buy the product?
- How much would they pay for a new product?
- What are competitors' strengths & weaknesses?
- How do people buy the product?
- How often do people use the product?
- Who would be the customers for this product?

To gather primary data:

- Clarify questions to be asked
- Draw up list of contacts
- Make initial approach to contacts
- Arrange interviews and itineraries
- Carry out visits, if required
- Record and analyse results

1

<https://www.thebalancesmb.com/what-is-business-viability-3884327>.

RESEARCH TO UNDERSTAND THE BUSINESS ENVIRONMENT

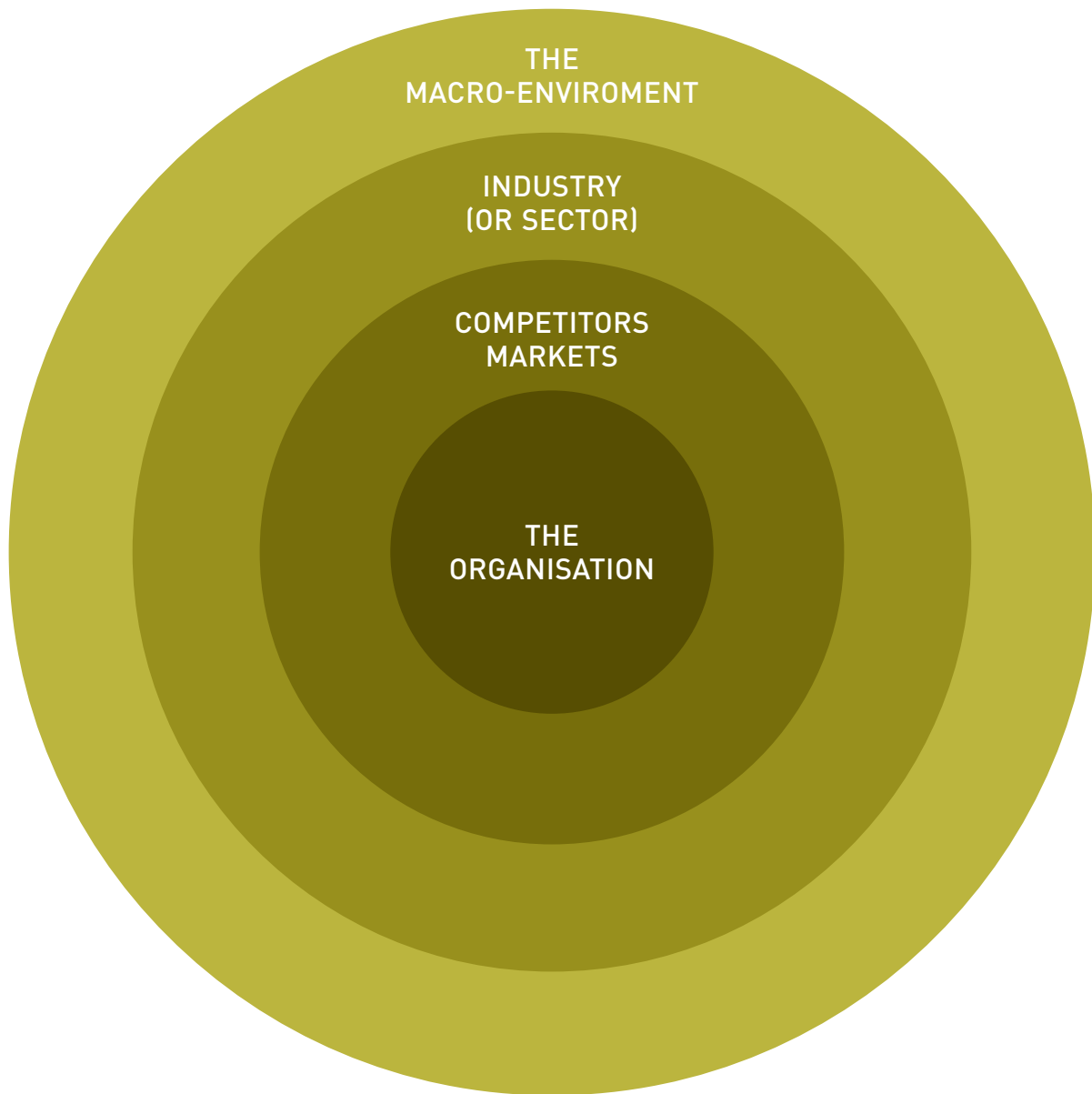


Figure 2 - Sectors of the Marketplace for Primary/Field Research Focus

The tools and questions will vary depending on the information being sought. As shown in Chapter 3 – Figure 1, the concentric circles around the company depict its relationship with the different sectors of the economy with which it must interact and understand. How each will impact or influence the business and the trends occurring in each sector and the industry needs to be well understood. The macro-economic condition prevailing in the home country and the export market will also need to be analysed. Interest in exporting product will require focus on the external factors that favour or are unfavourable to the business. This process for analysing the impact to inform the strategy to be employed, will be required and all put together in a business plan. The qualitative and quantitative information will be needed to prepare the financial evidence of profitability and sustainability.

3.5.1. What is the value proposition?

The value proposition is that compelling reason why a product or service is purchased. There must be a need or pain that is eased or addressed using the product. The value proposition is what keeps the product top of mind by the customer. The product or service must have a competitive advantage to keep competitors at bay. Being unique keeps your product out in front of the competition and is the number one reason why a product or service is best suited for a customer segment. Therefore, it should always be displayed prominently on a company's website and in other consumer touch points.

3.5.2. Who is the customer/market?

Having a product or service with a competitive advantage is only the first step. To become or remain viable, it is crucial to know who the customer is, what is the market for the product. It is important to understand how the buying decision is made, consumer preferences, and what drives the behavior. This requires research to determine whether there is need to calibrate any aspect of the product or the marketing strategy using the feedback received from the marketplace. This may be achieved using samples, test marketing, trial samples and trial sales. This will help you validate that your product will be attractive to the larger community.

Armed with this information the company will be able to focus the messaging, the pricing and distribution strategy and the product packaging. A communications strategy can then focus on addressing why a product or service is best suited for the customer. The value proposition should be communicated to customers directly, either via the company's web site or other marketing or advertising.

3.5.3. Who is the Competition?

Even with a product with a Competitive Advantage, it is important to determine how sustaining is this advantage and the capacity of the competition to erode that entry barrier. Research who is the competition and who might sell similar products or substitutes or develop new competitive products. This information will enable the creation of a marketing strategy to keep the competitive advantage. It would be instructive if no barrier or competitive advantage could be assured as this would eliminate any start-up period, making it difficult to gain stability.

3.5.4. Sustainability and Profitability

Probably the most important factor that makes a business viable, in addition to the marketing strategy, is a continuing focus on the financial status of the business. This is necessary to have a viable business, with assets and positive cash flows. Having enough cash or other easily liquidated assets means being able to fund the operations and meet obligations as they fall due such as paying immediate bills or pay employees. Getting to cash stability will take time and during the start-up period, being frugal, not over-spending in anticipation of sales, and not taking too much out of the business are key strategies for sustainability.

Cash Flow and pro forma financial statements are required to be prepared from the research data. Having a viable business means having the information to know where your business is financially. Get good financial software, input all your business information regularly, and analyze it against goals for cash stability and other factors. Use the business check-up ratios to measure the health of the business.

Solvency is measured as a “current ratio,” which is usually 2:1 to be solvent and cover liabilities, which means that it has twice as many current assets as it has current liabilities. This ratio recognizes that selling assets to raise cash may result in losses so more assets are necessary. A business is solvent and not likely to declare bankruptcy if its current ratio is over 2:1.

Additionally, liquidity is a short-term measure which refers to the ability of a business to quickly turn assets into cash without loss. If your business needs money, you may have to sell assets. Unless the asset is cash, the most liquid asset of all, you may lose money by selling. For example, you may not get full value if you sell receivables. And if you try to sell equipment, you will probably take a loss because the equipment has most likely depreciated. Creating a business that is solvent, liquid, and viable is a continuing effort. But it is worth it because a sustainable and profitable business will be creating a tremendous asset and building a business for the long term.

Example 5

ABC Company calculates that its fixed costs consist of executives' salaries, depreciation of its assets, property taxes and its lease. The company's fixed costs of production of its main product, the widget, adds up to \$60,000. There are also variable costs involved in the production of the widget, including factory labor, raw materials and sales commissions. The company calculates that these variable costs add up to 80 cents per widget. Each unit is sold at \$2.



With this information at hand, it is possible to calculate the break-even point for production and sale of ABC Company's widget by using the formula below:

$$\$60,000 / (\$2 - \$0.80) = 50,000 \text{ units}$$

The figure calculated above simply means that ABC Company has to manufacture and sell 50,000 of its widgets to cover all their fixed and variable expenses. By making this number of sales, the company makes no profit. It just breaks even.



For example, if a product sells for \$100 and its variable cost is \$35, then the product's contribution margin is \$65. To generate this as a contribution margin ratio, simply take the contribution margin and divide it by the net sales. In the example above, the contribution margin ratio is 65%. Contribution margin is a great measure for adding or keeping products in your product portfolio. Any existing products with a positive contribution margin should remain in your portfolio. Also, estimating the contribution margin for new products, provides an accurate estimate of how the product will contribute to the business' profitability.

Fixed costs are constant business expenses that do not vary regardless of expanding production quantities. Fixed costs include rents and administrative salaries. Variable costs change as you adjust your production quantities. These include materials for producing the products as well as any commission or incentives you place on selling products.

Break-even analysis builds off the contribution margin to determine the amount of sales needed for a company to break even between expenses and profits. Every product has a break-even point where it becomes profitable after a certain number of units sold. If the business had zero fixed costs and a positive contribution margin, then the break-even point would be achieved from the first sale. To calculate a break-even point, calculate the contribution margin for a product and then divide the fixed cost expenses by the result contribution margin. The results will show how many units of the product must be sold to break even.

THE BREAK-EVEN POINT

A company or project's break-even point is a valuable benchmark that helps to develop long-term business plans. Knowing your break-even points for key areas like sales, investment repayments, production and operations helps you determine pricing of products, debt servicing and other operational aspects of your business. If you know your break-even points, it is easy to see the effect of different business strategies.

Calculating breakeven allows you to determine whether:

- The business is making a profit or loss
- Sales revenue is above or below breakeven point
- The business is Breaking even
- The breakeven sales are achievable



Potential investors in a business not only want to know the return to expect on their investments but also the point when they will realize this return. This is because some companies may take years before turning a profit, often losing money in the first few months or years before breaking even. For this reason, break-even points are an important part of any business plan presented to a potential investor.

Example 6 - To Calculate the Breakeven point



- Selling price 2.00
- Variable costs -0.80
- Gross margin 1.20
- Gross margin % 60.0%

BREAKEVEN CALCULATION

Fixed costs / gross margin percentage x 100

$\$60,000 / 60.0 \times 100 = \$100,000 = \text{B/E Sales}$

Breakeven in units = $\$100,000 / 2.00 = 50,000$

Source: <https://www.bankrate.com/glossary/b/break-even-point/>

Doing a sensitivity analysis of the Gross Margin at different levels will indicate the breakeven dollar sales. The B/E in quantity is the amount divided by the per unit selling price. Reducing direct expenses to produce the product will reduce the breakeven relative to sales and improve the gross profit %. Otherwise, consider increase prices or review the product mix by placing more emphasis on high margin products.

Caution about increasing sales as this could lead to the breakeven rising faster than revenue. It is prudent to monitor break-even on a regular basis: monthly, six-monthly or as you consider appropriate.

Among the options to reduce losses and increase profits are:

- Reducing breakeven sales point while keeping actual sales the same or increasing them
- Increasing sales while keeping your breakeven point the same
- By improving the gross margin
- By reducing fixed costs/cutting overheads.

3.6. UNDERSTANDING AND INTERPRETATION OF FINANCIAL REPORTS

Having reviewed what goes into the building of financial reports and introduced to the various ratios and what they are intended to indicate, we will now put these two elements together to **analyse the financial reports**. Each user of financial statements has a focus area of interest for the analysis, whether an existing or potential investor, creditor, supplier, or employee. Also, the nature and range of information to be derived from a set of financial statements will depend on the nature of the business, the level of detail available in the financials to complete an analysis and the characteristics of the industry of which the business is a part.

Financial statement analysis informs of the financial position, operating results, and cash flow. This allows the user to determine the capital structure, “solvency analysis, profitability analysis and operational capability analysis that we need to do constitute the general framework for financial statement analysis”². In Chapter 3 - Table 3 below, is a reference scheme of some of the analytic information to be derived from financial reports.

2

<https://towardsdatascience.com/guide-to-financial-statement-analysis-for-beginners-835d551b8e29>.

Table 3 - Comprehensive Financial Analysis

COMPREHENSIVE FINANCIAL ANALYSIS			
SOLVENCY	PROFITABILITY	OPERATIONAL CAPABILITY	CAPITAL STRUCTURE
Current ratio	ROA	Business cycle	Total debt equity ratio
Quick ratio	Sales margin	Accounts receivable turnover days	Long-term debt-to-equity ratio
Net working capital turnover	Rate of sales cost	Accounts receivable turnover rate	
Asset-liability ratio	Sales expense ratio	Inventory turnover days	
Property ratio	ROE	Inventory turnover	
Cash ratio	Net profit margin	Working capital turnover days	
Interest coverage ratio	Return on total worth capital	Accounts receivable turnover rate	
Net cash flow to matured debts ratio	Return on total worth capital		
Net cash flow to current liabilities ratio			
Net cash flow to total debt ratio			

Source: <https://towardsdatascience.com/guide-to-financial-statement-analysis-for-beginners-835d551b8e29>

Financial statements for publicly traded companies are required to be prepared in accordance with International Accounting Standards. There are several types of Generally Accepted Accounting Principles (GAAP), for example the French GAAP and depending on where companies do business their financial statements must also comply with the GAAP.

3.6.1. Understanding and Interpretation of a Balance Sheet

Balance Sheets, also called Statement of Financial Position, present the financial position of a company at a point in time. The required format separates Assets from Liabilities and Stockholders' equity. From Balance Sheet data, you can evaluate whether the business is able to meet financial obligations and the level of indebtedness.

The prior year or period comparative is also provided. By comparing the current reporting period, with preceding ones, the user can determine trends – positive or potential financial problems on the horizon, which are the basis for decision-making. Balance Sheet analysis of a company, combined with data from other related financial statements, provide a comprehensive basis for strategy formulation and action.

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



Figure 3

The Balance Sheet review begins with being satisfied with the accuracy of the report, including whether it is a qualified report, if audited, which would indicate that the going concern concept is in question. Confirm that the report is in balance (Chapter 4 – Figure 1). Then review the numbers as compared with the comparative period to see if there has been any significant change and analyse the reasons for the movement. Assets and liabilities are normally categorized as current or non-current and in vertical layout, assets are at the top. The main conventions relating to the balance sheet include business entity, historic cost, prudence, going concern and double entry accounting.

3.6.2. Components of a Balance Sheet

3.6.2.1. *Non-Current Assets*

Property, Plant and Equipment are the fixed assets owned by the company. They are recorded at Book Value, which is the acquisition cost and the plant (factory buildings), motor vehicles and equipment are depreciated over their estimated useful life. Land is not depreciated. It is possible for the depreciation rate that applies for income tax purposes to differ from that reflected on the Balance Sheet due to incentives and unique taxation arrangements. The depreciation is a policy of the company representing asset wear and tear and is usually set out in notes to the financial statements.

Example 7 - Components of the Balance Sheet

AMAZON.COM, INC.
CONSOLIDATED BALANCE SHEETS
(in millions, except per share data)

	December 31,	
	2016	2017
<u>ASSETS</u>		
Current assets:		
Cash and cash equivalents	\$ 19,334	\$ 20,522
Marketable securities	6,647	10,464
Inventories	11,461	16,047
Accounts receivable, net and other	8,339	13,164
Total current assets	45,781	60,197
Property and equipment, net	29,114	48,866
Goodwill	3,784	13,350
Other assets	4,723	8,897
Total assets	<u>\$ 83,402</u>	<u>\$ 131,310</u>
<u>LIABILITIES AND STOCKHOLDERS' EQUITY</u>		
Current liabilities:		
Accounts payable	\$ 25,309	\$ 34,616
Accrued expenses and other	13,739	18,170
Unearned revenue	4,768	5,097
Total current liabilities	43,816	57,883
Long-term debt	7,694	24,743
Other long-term liabilities	12,607	20,975
Commitments and contingencies (Note 7)		
Stockholders' equity:		
Preferred stock, \$0.01 par value:		
Authorized shares — 500		
Issued and outstanding shares — none	—	—
Common stock, \$0.01 par value:		
Authorized shares — 5,000		
Issued shares — 500 and 507		
Outstanding shares — 477 and 484	5	5
Treasury stock, at cost	(1,837)	(1,837)
Additional paid-in capital	17,186	21,389
Accumulated other comprehensive loss	(985)	(484)
Retained earnings	4,916	8,636
Total stockholders' equity	19,285	27,709
Total liabilities and stockholders' equity	<u>\$ 83,402</u>	<u>\$ 131,310</u>

Example: amazon.com's balance sheet. View Amazon's investor relations website to see the full balance sheet and annual report.

Source: <https://corporatefinanceinstitute.com/resources/knowledge/accounting/balancesheet/>

Intangible Assets include assets such as goodwill, computer software and patents. They only appear on the Balance Sheet if they have been acquired through a merger or outright purchase. Goodwill is created when a company is acquired for a price above the book value of assets. The premium paid reflects the value of the acquisition to the acquiring company. The intangible assets are written off or amortised over several years or as assessed each year for impairment. The treatment would also be set out in notes to the financial statement.

3.6.2.2. *Current Assets*

Cash and Cash Equivalents including cash in bank accounts and short-term investments such as Certificates of deposit are intended for use during the normal course of business or for trading.

Marketable securities are short-term investments in Government securities and Treasury Bills.

Accounts Receivable and Prepaid Expenses include trade receivables for sales made to customers on credit. This is reduced by Allowance for Doubtful Debts. Prepayments are payments made in advance for future use such as insurance premiums.

Inventories include finished goods or goods available for sale, work-in-progress and raw materials used to produce goods available for sale. Inventory may be valued in one of three ways—FIFO, LIFO, and Weighted Average.

FIFO is First in first out, which means that the oldest cost of an item in an inventory will be removed first when one of those items is sold. This oldest cost will then be reported on the income statement as part of the cost of goods sold. Inventory on the Balance Sheet will reflect current prices even if early purchases are still in hand. This transfers lower costs to the Cost of Goods Sold on the Income Statement. FIFO is preferable in times of rising prices, so that the costs recorded are low, and income is higher.

LIFO is Last in First Out, which assumes that the latest items bought are the first items to be sold. With this accounting technique, the costs of the oldest products will be reported as inventory. Although LIFO matches the most recent costs with sales on the income statement, the flow of costs does not necessarily have to match the actual flow of the physical units. LIFO is preferable when tax rates are high because the costs assigned will be higher and income reported will be lower.

Weighted average model, is easier to track than either LIFO or FIFO methods. The cost of the goods that are available for sale is divided by the number of units available for sale to arrive at the weighted average cost per unit—a figure that can then be used to assign a cost to both ending inventory and the cost of goods sold. This is frequently the case when the inventory items in question are identical to one another.

Example 8 - FIFO, LIFO, and Weighted Average Computations

Consider this example: A furniture store purchases 200 chairs for \$10/unit. The next month, you buy another 300 chairs for \$20 each. At the end of an accounting period, 100 chairs are sold.

The weighted average costs, using both FIFO and LIFO considerations are as follows:

Example: 200 chairs @ \$10 = \$2,000. 300 chairs @ \$20 = \$6,000.

Total number of chairs = 500



WEIGHTED AVERAGE COST

Cost of a chair: \$8,000 divided by 500 = \$16/chair.

Cost of Goods Sold: \$16 x 100 = \$1,600.

Remaining Inventory: \$16 x 400 = **\$6,400**

FIFO

Cost of goods sold: 100 chairs sold x \$10 = \$1,000.

Remaining Inventory: (100 chairs x \$10) + (300 chairs x \$20) = **\$7,000**

LIFO

Cost of goods sold: 100 chairs sold x \$20 = \$2,000.

Remaining Inventory: (200 chairs x \$10) + (200 chairs x \$20) = **\$6,000**

Source: <https://www.investopedia.com/ask/answers/09/weighted-average-fifo-lifo-accounting.asp>

The value of inventories can be impacted negatively by “reduced selling prices, obsolescence, deterioration, damage” and theft, resulting in impairment.

3.6.2.3. *Liabilities and Equities:*

Liabilities are comprised of:

- **Borrowings and Loans** include loans repayable in less than one year.
- **Accounts Payable and Accrued expenses** are claims against the company for goods and services provided such as raw material and supplies. Accruals represent amounts owed for benefits and goods received for which an invoice has been received as at the Balance Sheet date, such as commissions, interest and payroll and payroll taxes.
- **Current maturities of long-term debt** are amounts payable on long term debt within a year.

- **Income Taxes Payable** is a current liability compiled of taxes due to the government which will be resolved within one year, otherwise it would be classified as a long-term liability. The taxable rate is according to the corporate tax rate. Any payroll taxes, property taxes, and sales taxes payable are shown as separate liabilities.
- **Deferred Tax Liability** represents the reconciliation between the company's tax accounting and financial reporting. For instance, a company may use straight line depreciation for financial reporting and accelerated depreciation for tax purposes. The difference between the two methods is reflected in the deferred tax liability account.
- **Preference Shares Accrual** is required to be classified as a liability by International Financial Reporting Standards ("IFRS") when preference shares terms of issue provide for a fixed rate of dividend and/or for mandatory redemption by the issuer for a fixed or determinable amount at a fixed or determinable future date, or gives the holder the right to require the issuer to redeem the shares at or after a particular date, for a fixed or determinable amount. The preference shares are, therefore, classified as a non-current liability and the related preference dividends are treated as interest and included in finance costs.

Shareholders' Equity comprises:

- **Common Stock** in the value of voting stock that has been sold and issued to the public. The stock is either recorded at *par* or a stated value when issued. *Par* is an arbitrary amount designated by the company.
- **Preferred Stock** is non-voting capital stock entitled to receive a fixed dividend before common stockholders and have priority in case of liquidation.
- **Share Premium or Surplus** is the additional paid-in amount received, from sale of capital stock, over par.
- **Retained earnings** is the net income reinvested in the company.
- **Reserves** include Investment revaluation reserve representing unrealised gains/(losses), net of taxation, on the revaluation of available- for-sale investment securities. Unrealized gain is a potential profit that exists on paper, resulting from an investment. It is an increase in the value of an asset that has yet to be sold for cash, such as a stock position that has increased in value. A gain becomes realized once the position is sold for a profit.

Balance sheet ratios include:

- **Liquidity** – Movement in cash and cash equivalents - current ratio (Current Assets/Current Liabilities); Acid Test; liabilities/total assets.
- **Leverage** – long-term debt/equity; equity multiplier (total assets/common stock equity).
- **Book value** – Book Value (Assets-Liabilities)/Common Stock units

For a more comprehensive review of a company's performance the Balance Sheet will need to be looked at in conjunction with ratios using information provided on other financial statements. The Balance Sheet is just a snapshot in time, while the Income Statement provides the transactional and operational process for conversion of the assets into income and profits to build on the shareholders' equity. Undistributed profits are reflected on the Balance Sheet as Retained Earnings and considered as part of shareholders' equity.

3.6.3. Understanding and interpretation of an Income Statement

The Income Statement also called Statement of Profit or Loss, mainly tells us what the revenue was for the period and the expenses incurred. The profit or loss of the company is what is left over after all expenses. Profit or Loss for the period = Total Revenue for the period less Total Expenses incurred in generating the Revenue.

Example 9 - Components of the Income Statement

AMAZON.COM, INC.			
CONSOLIDATED STATEMENTS OF OPERATIONS			
(in millions, except per share data)			
	Year Ended December 31,		
	2015	2016	2017
Net product sales	\$ 79,268	\$ 94,665	\$ 118,573
Net service sales	27,738	41,322	59,293
Total net sales	107,006	135,987	177,866
Operating expenses:			
Cost of sales	71,651	88,265	111,934
Fulfillment	13,410	17,619	25,249
Marketing	5,254	7,233	10,069
Technology and content	12,540	16,085	22,620
General and administrative	1,747	2,432	3,674
Other operating expense, net	171	167	214
Total operating expenses	104,773	131,801	173,760
Operating income	2,233	4,186	4,106
Interest income	50	100	202
Interest expense	(459)	(484)	(848)
Other income (expense), net	(256)	90	346
Total non-operating income (expense)	(665)	(294)	(300)
Income before income taxes	1,568	3,892	3,806
Provision for income taxes	(950)	(1,425)	(769)
Equity-method investment activity, net of tax	(22)	(96)	(4)
Net income	\$ 596	\$ 2,371	\$ 3,033
Basic earnings per share	\$ 1.28	\$ 5.01	\$ 6.32
Diluted earnings per share	\$ 1.25	\$ 4.90	\$ 6.15
Weighted-average shares used in computation of earnings per share:			
Basic	467	474	480
Diluted	477	484	493

See accompanying notes to consolidated financial statements.

Comments:

- Starting at the top we see that Amazon has two different revenue streams – products and services – which combine to form total revenue.
- There is no gross profit subtotal, as the cost of sales is grouped with all other expenses, which include fulfillment, marketing, technology, content, general and administration (G&A), and other expenses.
- After deducting all the above expenses, we finally arrive at the first subtotal on the income statement, Operating Income (also known as EBIT or Earnings Before Interest and Taxes).
- Everything below Operating Income is not related to the ongoing operation of the business – such as non-operating expenses, provision for income taxes (i.e., future taxes), and equity-method investment activity (profits or losses from minority investments), net of tax.
- Next, we arrive at the net income (or net loss), which is then divided by the weighted average shares outstanding to determine the Earnings Per Share (EPS).
- The Diluted Earnings per Share is more detailed than EPS as it portrays the true shareholder value. To calculate the diluted EPS, we need to know the net income divided by the shares representing the dilution caused by convertible securities. Compared to the EPS, the diluted EPS is always lower. Note that Dilutive securities are not current outstanding shares, but they do have the possibility of becoming outstanding shares. Although it is unlikely that all the dilutive securities would be called at once, it would drastically reduce the basic earnings per share because the number of outstanding shares would increase.

Source: <https://corporatefinanceinstitute.com/resources/knowledge/accounting/income-statement/>

3.6.4. Components of Income Statements

3.6.4.1. Revenues

Sales: include revenue streams depending on the nature of the company's businesses. Revenue streams categorize the earnings a business generates from certain pricing mechanisms and channels. To describe it simply, a revenue stream can take the form of one of these revenue models:

- **Service revenue:** Revenues are generated by providing service to customers and are calculated based on time. For example, the number of hours of consulting services provided.
- **Project revenue:** Revenues earned through one-time projects with existing or new customers.
- **Recurring revenue:** Earnings from ongoing payments for continuing services or after-sale services to customers. The recurring revenue model is the model most used by businesses because it is predictable, and it assures the company's source of revenue as ongoing. Possible recurring revenue streams include Subscription fees (e.g., Cable Fees), Renting and Brokerage fees.

- **Cost of Goods Sold (COGS)** aggregates the direct costs associated with selling products to generate revenue. This line item can also be called Cost of Sales if the company is a service business. Direct costs can include labor, parts, materials, and an allocation of other expenses such as depreciation. COGS is often the second line item appearing on the income statement, coming right after sales revenue. **COGS is deducted from revenue to find gross profit.**

These costs may include the variable costs involved in manufacturing products, such as raw materials and labor. They may also include fixed costs, such as factory overhead, storage costs, and depending on the relevant accounting policies, sometimes depreciation expense. COGS do not include general selling expenses, such as management salaries and advertising expense. These costs will fall below the gross profit line under the selling, general and administrative (SG&A) expense section.

The four main types of cost of goods sold classifications are First-in-first-out (FIFO), Last-in-first-out (LIFO), Weighted average and Specific identification. The latter is self-explanatory and the other three were handled in Section 3.6.1 above, under topic *Inventories*.

Gross profit is calculated by subtracting Cost of Goods Sold (or Cost of Sales) from Sales Revenue.

$$\text{GROSS PROFIT} = \text{SALES REVENUE} - \text{COST OF GOODS SOLD}$$

Expressed as a percentage, it shows how well sales cover the direct costs related to the production of the product for sale.

$$\text{GROSS MARGIN} = \frac{\text{GROSS PROFIT}}{\text{TOTAL REVENUE}} \times 100$$

Example 10 - Gross margin is expressed as a percentage

For example, a company has revenue of \$500 million and cost of goods sold of \$400 million, therefore their gross profit is \$100 million. To get the gross margin, divide \$100 million by \$500 million, which results in an answer of 20%.

Marketing, Advertising, and Promotion Expenses include expenses related to selling goods and/or services. Marketing, advertising, and promotion expenses are often grouped together as they are related to selling.

General and Administrative (G&A) Expenses include the indirect costs associated with running the business, such as selling, general, and administrative expenses. This includes salaries and wages, rent and office expenses, insurance, travel expenses, and sometimes depreciation and amortization, along with other operational expenses.

EBITDA (Earnings Before Income Taxes, Depreciation and Amortisation) is calculated by subtracting SG&A expenses (excluding amortization and depreciation) from gross profit.

Depreciation & Amortization Expense are non-cash expenses that are created by accountants to spread out the cost of capital assets such as Property, Plant, and Equipment (PP&E).

Operating Income (or EBIT) represents profit earned before any non-operating income, non-operating expenses, interest, or taxes are subtracted from revenues. EBIT is a term commonly used in finance and stands for Earnings Before Interest and Taxes.

Interest Expense which is shown separate from Interest Income to reconcile the difference between EBIT and EBT.

Other Expenses are the other expenses that are unique to the industry. These may include technology, research, and development (R&D), stock-based compensation (SBC), impairment charges, gains/losses on the sale of investments, and many other expenses that are industry or company-specific.

EBT (Pre-Tax Income) Earnings Before Tax, is the final subtotal before arriving at net income.

Income Taxes due on pre-tax income after tax schedules are prepared. The figure could be a place holder pending finalization.

Net Income is what remains after deducting income taxes from pre-tax income. This is the amount that flows into Retained Earnings on the Balance Sheet, after deduction for any dividends.

3.6.5. Understanding and interpretation of Cash Flows and Working Capital

The change in Working Capital signals the positive or negative implications for a business as it shows short term funding position for the business. Focus is on conversion of company assets into cash flows to meet obligations as they fall due. Working Capital is a snapshot of the current assets less current liabilities of the company. It is also the capital necessary for the company to operate, as it requires a certain amount of cash on hand to cover unexpected costs, make regular payments and buy raw materials used in production. Working capital reflects various company activities, such as current liabilities and current portion of long-term liabilities, revenue collection, payments to suppliers and inventory management. These are the activities reflected in working capital, as it includes not only cash but also accounts payable (AP) and accounts receivable (AR), inventory, portions of debt due within one year and some other short-term accounts. Cash is important as all claims must be settled with cash.

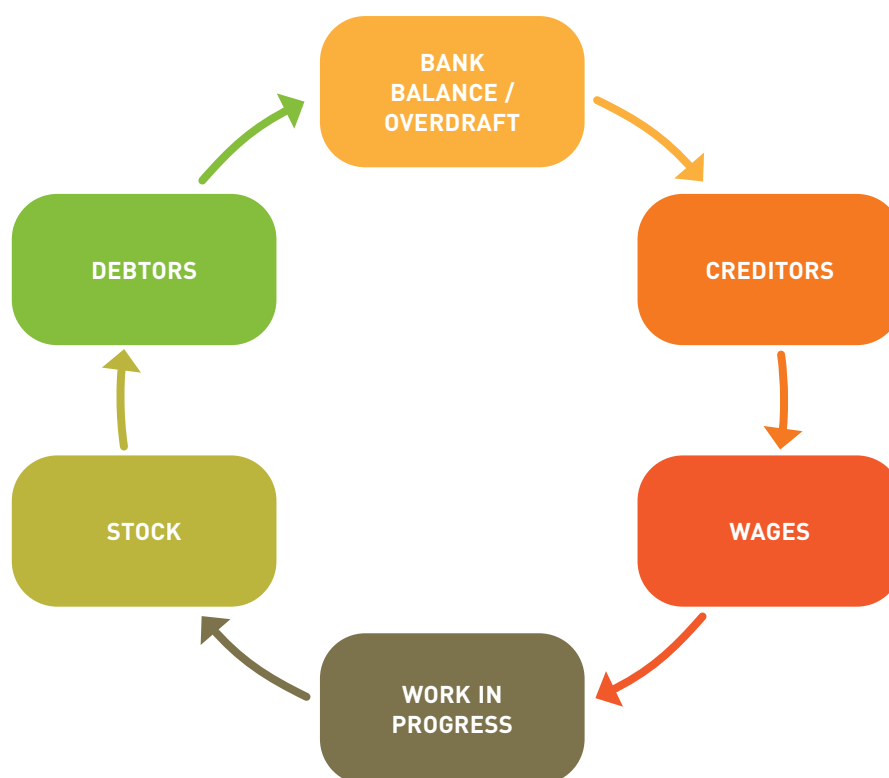


Figure 4 - Working Capital Activities

Source: Working Capital Cycle, Training Manual, Strengthening and Promoting Women Entrepreneurs in Jamaica, IDB/MIF Technical Cooperation No: ATN/ME-12117-JA

As the working capital cycle shows, the company needs to convert product sold, mostly for credit into cash to meet its obligations and make a profit. Funds sourced from bank loans are used to pay creditors from which raw material and supplies are purchased on credit. This raw material is converted into finished product paying wages, utilities, commissions, rent, insurance and other input required to transform this raw material into finished goods or stock in trade. The finished product is sold to customers, primarily on credit. The company must manage debtors and collect receivables to pay creditors. And the cycle continues.

The length of the Working Capital Cycle is the time it takes to convert the total net working capital (current assets less current liabilities) into cash. Businesses typically try to manage this cycle by selling inventory quickly, collecting revenue from customers quickly, and paying bills slowly to optimize cash flow.

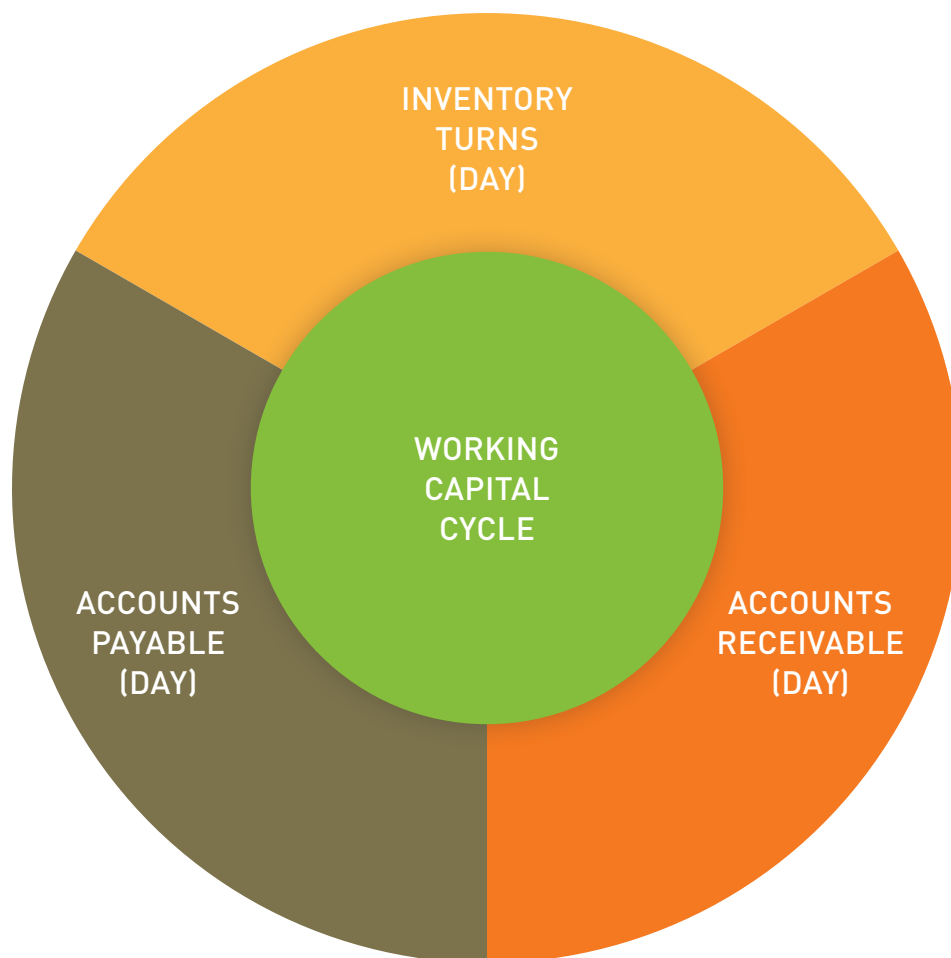


Figure 5 - Working Capital Cycle

Example 11 - Working Capital Cycle Calculation

Most companies purchase raw material and supplies on credit, materials to manufacture a product (for example, they have 90 days to pay for the raw materials). The company sells its inventory in 85 days, on average. (days payable outstanding) The company receives payment from customers for the products sold in 20 days, on average.

In the first step of the process, the company gets the materials it needs to produce inventory but initially does not pay cash (purchased on credit under accounts payable). In 90 days, the company will have to pay for those materials. Eighty-five (85) days after buying the materials, the finished goods are sold, but the company does not receive cash immediately, as they are sold on credit (recorded under accounts receivable). Twenty (20) days after selling the goods, the company receives cash, and the working capital cycle is complete.



WORKING CAPITAL CYCLE FORMULA BASED ON THE ABOVE INFORMATION

Inventory days = 85

Receivable days = 20

Payable days = 90

Working Capital Cycle = $85 + 20 - 90 = 15$

This means the company is out of pocket cash for 15 days before receiving full payment.

3.6.5.1. Cash Flow Analysis

Business owners must carefully assess the operating cycle and, as a result, come up with the minimum cash amount they need to cover their financing needs without overstressing their potential budgetary limits. The assessment of the operating cycle is also known as “cash flow analysis” because it is intended to identify the amount of funds a company’s daily operations generate, thereby showing whether this amount is sufficient to cover financial obligations. The cash flow analysis is also a good way of seeing the relationship that exists between major outflows of cash going toward financial obligations and major inflows of cash coming from sales.

As an outgrowth of conducting a cash flow analysis, a business should be able to detect whether its combined inflows and outflows yield a positive cash flow or a negative deficit. Further, the analysis is likely to reveal notable changes that occur over time. For instance, if more sales occur after the beginning of the year, yet more money goes out during the holidays, then this may be an area in which planning can prove useful for cash flow planning.

The bare minimum amount of cash a business should have on hand is enough to cover the cash obligations for the upcoming month. A business owner may wish to expand this amount to provide a safety net, in the event of a major incident or a lull in sales. For those business owners willing to take the time to create a monthly cash flow projection, this effort can go a long way in helping them to both identify and possibly eliminate deficiencies and/or surpluses in cash, as well as providing them with a tool by which they can compare sales figures to past months. Once businesses detect deficiencies, they need to adjust their financial plans to make additional cash available. Conversely, should the cash flow analysis find there are excess amounts of cash, then this may mean the company is engaging in excessive borrowing or has extra funds that could be placed in investments. The objective is to ultimately develop a plan that consistently yields a well-balanced cash flow.

3.6.6. Understanding and interpretation of Off-Balance Sheet Commitments

3.6.6.1. Off-Balance Sheet (OBS) Items

Off-balance sheet (OBS) is a term for accounts that do not appear on a company's balance sheet although they contain assets and liabilities for which the company is accountable. They are used to share risks and benefits with other companies, as in the case of joint venture (JV) projects. Off-balance sheet items are not inherently intended to be deceptive or misleading, but they can be mis-used. The practice of off-balance sheet financing has come under increasing scrutiny after several accounting scandals revealed the misuse of the practice e.g. Enron Corp. Companies must disclose off-balance sheet financing (OBSF) in disclosures in qualitative and quantitative reporting in footnotes of financial statements.

3.6.6.2. Types of Off-Balance Sheet Items

There are several ways to structure off-balance sheet items. These include:

Operating Lease is an OBS operating lease is one in which the lessor retains the leased asset on its balance sheet. The company leasing the asset only accounts for the monthly rental payments and other fees associated with the rental rather than listing the asset and corresponding liability on its own balance sheet. At the end of the lease term, the lessee generally can purchase the asset at a drastically reduced price. E.g. Motor Vehicles.

Accounts Receivables represent a considerable liability for many companies. This asset category is reserved for funds not yet been received from customers, so the possibility of default is high. Companies can improve the riskiness of the balance sheet, by selling this asset, called factoring. The factor is an agent who pays

the company a percentage of the total value of all receivables and takes care of collection. Once customers have paid up, the factor pays the company the balance due, minus a fee for services rendered. In this way, a business can collect what is owed while outsourcing the risk of default.

Clients' Funds Portfolio and Investment Managers and lawyers use OBS reporting for their client funds.

3.6.7. Understanding and interpretation of Fixed Costs and Variable Costs

3.6.7.1. *Fixed and variable costs*

Business expenses (i.e. costs) are generally categorized either as fixed or variable and need to be understood and managed by business owners and or management.

Fixed costs do not change even when the company's sales volumes or production levels increase. These generally include expenses such as:

- Rent
- Insurance
- Equipment lease
- Management salaries
- Marketing and advertising
- Interest on loans.

Especially for start-ups, these expenses must be met from cash flow or cash equivalents. Fixed expenses are usually long-term commitments such as rental of property and equipment lease to manufacture products or deliver services. Should cash flow underperform, then these fixed expenses must be provided for out of emergency funds.

Variable Costs vary with are directly with changes in activity levels or the volume of products or services the company makes. These costs would not exist if the business did not produce product. These generally include expenses such as:

- Direct labor for service companies
- Raw material
- Cost of goods purchased for resale
- Packaging supplies
- Shipping costs

The important point about variable costs is that they are not independent of the company's activities and must be considered when setting prices. Variable expenses are costs that relate to the product itself and generally increase or decrease in direct proportion to the volume being produced. The most common example are the raw materials that are required to make the product. For example, cucumbers are a variable direct cost of making pickles. Variable does not necessarily have

to be a linear one to one relationship. Cucumbers are perishable raw materials and several cucumbers in a batch may be lost due to spoilage. This can be tracked separately on the financial statements and will still be a variable cost as it will increase or decrease with the volume of sales, although not necessarily in direct proportion. It is possible to determine a trend of the percentage of raw materials that may be usable.

Examples of variable costs (using pickles as an example):

- Raw materials - pickles, vinegar, dill, spices.
- Packaging - there is a fixed number of pickles in each jar
- Labels are required for each jar
- Shipping costs are usually based on volume of jars
- Overtime for employees when additional orders are required
- Commissions which are based on sales or volume of jars sold
- Taxes are usually calculated based on a percentage of income

Examples of fixed costs:

- Rent
- Salaries to employees (excluding overtime, which is variable)
- Utilities to the extent that there is a fixed monthly charge. Increased production may bring increases due to surcharge, like overtime for employees
- Telephone and computer expenses
- Office supplies, furniture, and fixtures
- Tools and supplies can be a hybrid of variable and fixed costs as these are more sensitive to changes in production volume
- Insurance
- Interest expense on loans and bank fees
- Security (alarm, cameras etc.)
- Factory equipment is fixed up to a certain capacity although the depreciation method selected might change it to a variable cost if it is based on units of production. Note that this is another example of a cost that is fixed but not overhead

All costs are variable over time. For instance, it may be appropriate for management to identify larger factory space/premises, more employees, acquire additional machinery and insurance to provide for higher levels of output.

3.6.8. Breakeven point

Once the fixed and variable costs for the product is determined, then with that information it is possible to calculate the company's breakeven point. Small business owners also use the calculation to determine how many product units they must sell at a given price point to break even.

BREAKEVEN POINT FORMULA

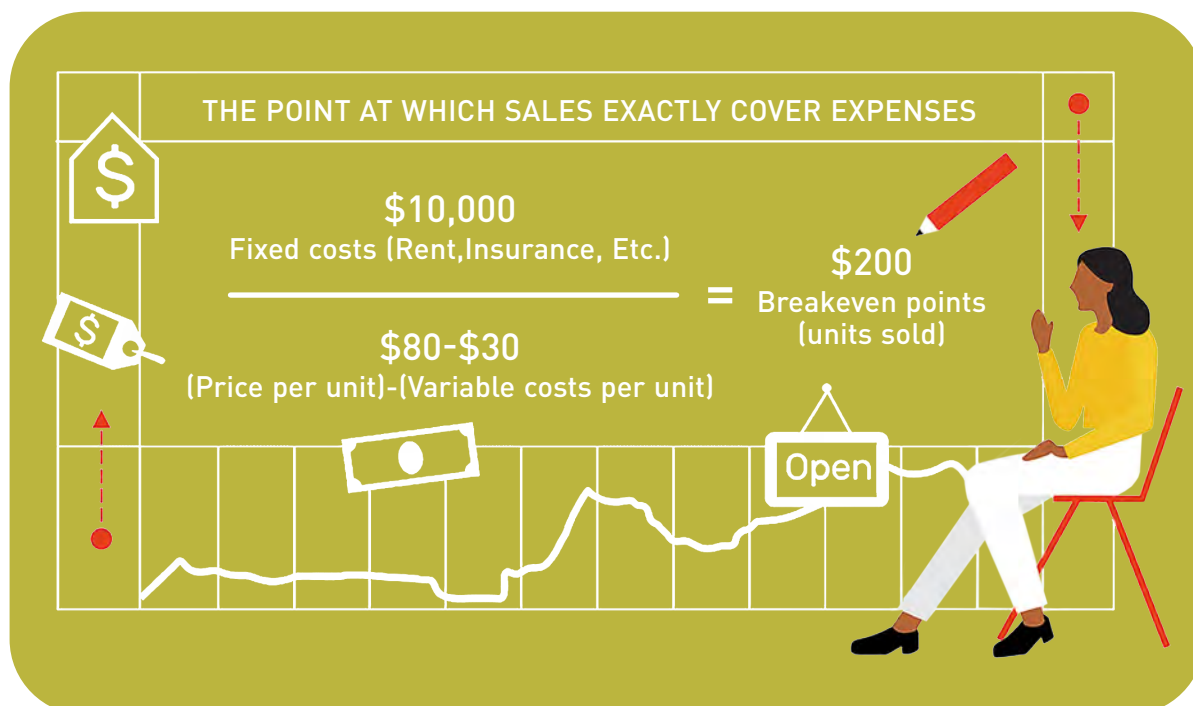


Figure 6 – Breakeven Point Formula

$$\text{FIXED COSTS} \div (\text{PRICE} - \text{VARIABLE COSTS}) = \text{BREAKEVEN POINT IN UNITS}$$

The breakeven point (CVP or cost-volume-profit analysis) is equal to the total fixed costs divided by the difference between the unit price and variable costs. Note that in this formula, fixed costs are stated as a total of all overhead for the firm, whereas Price and Variable Costs are stated as per unit costs—the price for each product unit sold.

The Contribution Margin, which is price minus variable costs, is the denominator of the equation. After unit variable costs are deducted from the price, whatever is left—the contribution margin—is available to pay the company's fixed costs.

The total contribution increases with output. The cost-volume-profit analysis makes several assumptions, including that the sales price, fixed costs, and variable cost per unit are constant. The formula to calculate the sales volume needed to cover costs and break even, is as follows:

$$\text{BREAKEVEN SALES VOLUME} = \text{FC/CM}$$

WHERE: FC=FIXED COSTS CM = CONTRIBUTION MARGIN =
SALES-VARIABLE COSTS

To use the above formula to find a company's target sales volume, simply add a target profit amount per unit to the fixed-cost component of the formula. Then solve for the target volume based on the assumptions used in the model.

3.6.8.1. What Does Breakeven Analysis Tell You?

The interconnectedness of Price Volume and Cost. The contribution margin is used in the determination of the break-even point of sales. By dividing the total fixed costs by the contribution margin ratio, the break-even point of sales in terms of total dollars may be calculated.

For example, a company with \$100,000 of fixed costs and a contribution margin of 40% must earn revenue of \$250,000 to break even.

Profit may be added to the fixed costs to perform CVP or Cost-Volume-Profit analysis. For example, if the previous company desired an accounting profit of \$50,000, the total sales revenue is found by dividing \$150,000 (the sum of fixed costs plus the desired profit) by the contribution margin of 40%. This example yields a required sales revenue of \$375,000.

CVP or break-even analysis is only reliable if costs are fixed within a specified production level. All units produced are assumed to be sold, and all fixed costs must be stable in a CVP analysis. Another assumption is all changes in expenses occur because of changes in activity level. Semi-variable expenses must be split between expense classifications using the high-low method, scatter plot or statistical regression. It is important to be able to develop strategic marketing objectives based on a company's business positioning and growth objectives and that will reinforce the desired image.

A sales forecast is an estimate of the quantity of goods and services that can realistically be sold over the forecast period, in the target market, at a price, knowing what the Fixed and Variable costs are to produce the product. The lower limit below which the price should not go is the Direct costs accounted for, plus any required contribution to overheads. The upper limit is based on the objectives, positioning of the product, market demand and the competitor environment.

Among the matters for consideration are to:

- Identify the products to be sold
- Estimate the number of each to be sold
- Multiply the unit price by the estimated number of goods or services to be sold
- Determine the cost of each good or service
- Multiply the cost of each good or service by the estimated number to be sold
- Subtract total cost from the total sales

If your business has a huge number of items in inventory it may be necessary to condense unit sales/costs into categories.

3.6.8.2. Sales Forecast Assumptions

There are many factors that can potentially affect sales that should form the basis for your forecast, including:

- **The economy and your industry:** Are they slowing or growing? Is there more competition entering the marketplace? Are you likely to gain or lose any major customers? Your sales forecast should include an estimate of percentage growth or shrinkage in the market.
- **Regulatory environment:** sometimes new laws or regulations can affect your sales prospects, either positively or negatively.
- **Products or services:** What gives your products the edge. What problem are they solving? Are you launching any new products or services that may increase sales, or are sales of your existing products/services declining due to better products/services or lower prices from competition? Will you be forced to raise prices due to increased material, labor, or other costs and how might this affect sales?
- **Marketing efforts:** Are you embarking on any new marketing campaigns or increasing or reducing the advertising spend? Perhaps bringing a new company website online, beefing up your email marketing, or branching into social media to increase sales? Are you hiring additional sales staff or losing your best salesperson?

3.6.8.3. Sales Forecasting for an Existing Business

Sales forecasting for an established business is easier as the established business already has a sales forecast baseline of past sales. A business's sales revenues from the same month in a previous year, combined with knowledge of general economic and industry trends, work well for predicting a business's sales going forward. Also, if the business has repeat customers, check with them to see whether they will continue to support the product. Or infer future activity based on the health of the customer flow.

Planning for the sales forecast also typically includes some or all the following considerations:

- The objectives (broadly stated)
- The goals (finite and measurable)
- A definition of the target market – who is the customer
- The strategies and tactics that may work the best and why – to connect with the customer
- Sales team quotas and motivations
- Budget
- Timeline

The sales plan or budget needs to be a living and breathing document which is updated with new information promptly. Overall, a sales plan can provide an important directional and purposeful spreadsheet guiding the efforts of a business. Especially the market trends. Validation of the business and customer need and how much they are prepared to pay factoring in the competition and any potential substitutes, is important for sustainability and growth. The forecasting should be based on the history, which will come from the accounting summaries by line of sales. This takes much of the guesswork out of the process, showing what your business has achieved in customers, units, and sales.

3.6.8.4. An Example of a Simple Sales Budget

Sales Forecasting for New Businesses

Sales forecasting for a new business is more problematical as there is no baseline of past sales. The process of preparing a sales forecast for a new business involves both desk and empirical researching the target market, compiling a consumer profile, and getting a sense of the competition's sales and analyzing the research to make informed decisions based on the data. Be able to estimate market share and what is the estimate of future sales.

Based on the trending you see month-to-month and year-to-year, overlay your strategies and tactics.

many more customers will you be able to attract and how often will they buy? What will the effect of investment be? How many more units will you be able to sell? What is your pricing strategy going forward?

This Sales Forecasting will need to become part of the Business Plan.

Example 12 - Calculating Break-Even Point

If the cost of overhead or fixed costs is cut by reducing salary by \$10,000 that makes fixed costs drop from \$60,000 to \$50,000. Using the formula and holding all other variables the same, the breakeven point would be:

$$\$50,000 \div (\$2.00 - \$0.80) = 41,666 \text{ units}$$

Predictably, cutting fixed costs drops the breakeven point. If variable costs are reduced by cutting costs of goods sold to \$0.60 per unit, on the other hand, then breakeven point, holding other variables the same, becomes:

$$\$60,000 \div (\$2.00 - \$0.60) = 42,857 \text{ units}$$

It is to be noted from this example that if the cost variables are reduced, the breakeven point will be lowered, and there is no need to raise prices.

The relationships Between Fixed Costs, Variable Costs, Price, and Volume

The owners of small businesses need to be aware, that in any decision about pricing a product for sale, then the costs incurred in the business, and the sales volume are all interrelated. Calculating the breakeven point is just one component of cost-volume-profit analysis, but it is often an essential first step in establishing a sales price-point that ensures a profit.



3.7. ANALYSIS OF MAIN KPIS³

3.7.1. Liquidity Ratios

3.7.1.1. Current ratio (CA/CL)

The current ratio is an important measure of liquidity because short-term liabilities are due within the next year. This means that a company has a limited amount of time to raise the funds to pay for these liabilities. Current assets like cash, cash equivalents, and marketable securities can easily be converted into cash in the short term. This means that companies with larger amounts of current assets will more easily be able to pay off current liabilities when they become due without having to sell off long-term, revenue generating assets. The current ratio is stated in numeric format rather than in decimal format. Here is the calculation:

$$\text{CURRENT RATIO} = \frac{\text{CURRENT ASSETS}}{\text{CURRENT LIABILITIES}}$$

The current ratio helps investors and creditors understand the liquidity of a company and how easily that company will be able to pay off its current liabilities. This ratio expresses a firm's current debt in terms of current assets. A current ratio of 4 would mean that the company has 4 times more current assets than current liabilities and the higher the current ratio the more favourable because it shows the company can more easily make current debt payments.

3.7.1.2. Acid Test Ratio

$$\text{QUICK RATIO} = \frac{\text{CASH + CASH EQUIVALENTS} + \text{SHORT-TERM INVESTMENTS + CURRENT RECEIVABLE}}{\text{CURRENT LIABILITIES}}$$

The quick ratio or acid test ratio is a liquidity ratio that measures the ability of a company to pay its current liabilities when they come due with only quick assets. Quick assets are current assets that can be converted to cash within 90 days or in the short-term. Cash, cash equivalents, short-term investments or marketable securities, and current accounts receivable are considered quick assets. Inventories are not included among the current Assets. Short-term investments or marketable securities include trading securities and available for sale securities that can

easily be converted into cash within the next 90 days. Marketable securities are traded on an open market with a known price and readily available buyers. Any stock on the New York Stock Exchange would be considered a marketable security because they can easily be sold to any investor when the market is open. The acid test of finance shows how well a company can quickly convert its assets into cash to pay off its current liabilities.

Sometimes company financial statements do not give a breakdown of quick assets on the balance sheet. In this case, you can still calculate the quick ratio even if some of the quick asset totals are unknown. Simply subtract inventory and any current prepaid assets from the current asset total for the numerator.

The acid test ratio measures the liquidity of a company by showing its ability to pay off its current liabilities with quick assets. If a firm has enough quick assets to cover its total current liabilities, the firm will be able to pay off its obligations without having to sell off any long-term or capital assets. Since most businesses use their long-term assets to generate revenues, selling off these capital assets would not only hurt the company, it would show investors that current operations are not making enough profits to pay off current liabilities.

Example 13 - Acid Test Ratio Example

Let us assume Carole's Plant Store is applying for a loan to remodel the storefront. The bank asks Carole for a detailed balance sheet, so it can compute the quick ratio. Carole's balance sheet included the following accounts:

- Cash: \$10,000
- Accounts Receivable: \$5,000
- Inventory: \$5,000
- Stock Investments: \$1,000
- Prepaid taxes: \$500
- Current Liabilities: \$15,000



The bank can compute Carole's quick ratio like this.

ACID TEST FORMULA:

$$(\$10,000 + \$5,000 + \$1,000) / \$15,000$$

Quick Ratio or Acid Ratio = 1.07

As you can see Carole's quick ratio is 1.07.
 This means that Carole can pay off current liabilities
 with quick assets and still have some quick assets left over.

If it is now assumed that using the same scenario except Carole did not provide the bank with a detailed balance sheet. Instead Carole's balance sheet only included these accounts:

- Inventory: \$5,000
- Prepaid taxes: \$500
- Total Current Assets: \$21,500
- Current Liabilities: \$15,000

Since Carole's balance sheet does not include the breakdown of quick assets, the bank can compute her quick ratio by subtracting inventory and any current prepaid assets from the current asset total for the numerator

QUICK RATIO

$$1.07 = \frac{\$21,500 - \$5,000 - \$500}{\$15,000}$$

Quick Ratio - Acid Test Example
Carole's quick ratio is unchanged at 1.07.

The higher the quick ratios, the more favorable for the company because it shows there are more quick assets than current liabilities. A company with a quick ratio of 1 indicates that quick assets equal current assets. This also shows that the company could pay off its current liabilities without selling any long-term assets. This is a good sign for investors, but an even better sign to creditors knowing they will be paid back on time.

3.7.2. Solvency Ratios

3.7.2.1. EBITDA

EARNINGS BEFORE INTEREST, TAXES, DEPRECIATION, AND AMORTIZATION

$$\begin{array}{l}
 \text{Net Income} \\
 + \text{Interest Expense} \\
 + \text{Taxes} \\
 + \text{Depreciation} \\
 + \text{Amortization}
 \end{array}
 \left. \vphantom{\begin{array}{l} \text{Net Income} \\ + \text{Interest Expense} \\ + \text{Taxes} \\ + \text{Depreciation} \\ + \text{Amortization} \end{array}} \right\} = \text{EBITDA}$$

EBITDA, which stands for Earnings Before Interest, Taxes, Depreciation, and Amortization, is a financial calculation that measures a company's profitability before deductions that are often considered irrelevant in the decision-making process. In other words, it is the net income of a company with certain expenses like amortization, depreciation, taxes, and interest added back into the total. The accounting effects of non-operating expenses like interest and non-cash expenses like depreciation are added back to net income to analyze and compare the true operating cash flows of the businesses.

Like all profitability measurements, higher numbers are preferred over lower numbers because higher numbers indicate the company is more profitable. An EBITDA of \$10,000 means the company has \$10,000 left over after operating expenses have been paid to cover the interest and taxes for the year. In this sense, it is also a coverage or liquidity measurement than a profitability calculation.

3.7.2.2. EBITDA Margin

The EBITDA margin takes the basic profitability formula and turns it into a financial ratio that can be used to compare all different sized companies across and industry. The EBITDA margin formula divides the basic earnings before interest, taxes, depreciation, and amortization equation by the total revenues of the company– thus, calculating the earnings left over after all operating expenses (excluding interest, taxes, dep, and amort) are paid as a percentage of total revenue. Using this formula, a large company like Apple could be compared to a new start up in Silicon Valley.

3.7.2.3. EBITDA/Liabilities ratio

This is a specialized ratio that compares the financial stability of a company and its liquidity position. The financial borrowings are compared against the Earnings before interest, taxes, depreciation, and amortization of a company. The debt/EBITDA ratio compares a company's total obligations to the actual cash the company brings in and reveals how capable the firm is of paying its debt. In practice it is used to compare the liquidity position of one company with another and creditors, investors, and rating agencies use the Debt/EBITDA to evaluate whether a company may face default or difficulties in paying off its debts and how long it will take to repay all its debts.

RATIO FORMULA

$$\text{DEBT/EBITDA RATIO} = \frac{\text{TOTAL LIABILITIES}}{\text{EBITDA}}$$

Auditors and financial experts state that a lower debt/EBITDA ratio is a positive signal that the entity in question has sufficient financial resources to cover its obligations. A higher debt/EBTIDA ratio may indicate that the business relies too much on debts and might face difficulties in paying off its liabilities. A Debt/EBITDA ratio less than 3 is desirable. Any ratio higher than 4 or 5 indicates an increased likelihood for the company to encounter difficulties in dealing with its liabilities or getting new loans.

Example 14 - Calculation of Debt/EBITDA Ratio

i Company A has total liabilities of \$100,000 and an EBITDA of \$35,000. Which is the level of the Debt/EBITDA ratio?

ANSWER

$$\text{DEBT/EBITDA RATIO} = \frac{\$35,000}{\$100,000} = 2.86$$

3.7.2.4. Interest Coverage Ratio

This is a financial ratio that measures a company's ability to make interest payments when due. This liquidity ratio has nothing to do with being able to make principle payments on the debt itself, only the firm's ability to afford the interest on the debt. Investors are concerned about seeing investments in the company appreciate based on profits and operational efficiencies and that the company can pay its bills on time without having to sacrifice its operations and profits. Creditors use the interest coverage ratio to identify whether a company can support additional debt. If a company cannot afford to pay the interest on its debt, it would be a poor credit risk.

Ratio Formula

$$\text{INTEREST COVERAGE RATIO} = \frac{\text{EBIT (Earnings before interest \& taxes)}}{\text{INTEREST EXPENSES}}$$

This equation uses EBIT instead of net income. Earnings before interest and taxes is essentially net income with the interest and tax expenses added back to reflect a true representation of how much the company can afford to pay in interest. This formula can be used to measure any interest period. For example, monthly or partial year numbers can be calculated by dividing the EBIT and interest expense by the number of months.

Example 15 - Interest Coverage Ratio

Sarah's Jam Company is a jelly and jam jarring business that cans preservatives and ships them across the country. Sarah wants to expand her operations, but she does not have the funds to purchase the canning machines needed. Thus, she goes to several banks with her financial statements to try to get the funding she wants. Sarah's earnings before interest and taxes is \$50,000 and her interest and taxes are \$15,000 and \$5,000, respectively. The bank would compute Sarah's interest coverage ratio like this:

INTEREST COVERAGE RATIO

$$3.33 = \frac{\$50,000}{\$15,000}$$

As you can see, Sarah has a ratio of 3.33.
This means that EBIT is 3.33 times more in earnings than her current interest payments.
She can well afford to pay the interest on her current debt along with its principle payments.
This is a good sign because it shows her company risk is low and her operations are producing enough cash to pay her bills.

Analyzing a coverage ratio depends on how much risk the creditor or investor is willing to take. However, if the number is less than 1, it means the company is not making enough money to make interest payments. If the coverage equation equals 1, it means the company makes just enough money to pay its interest. Most creditors look for coverage to be at least 1.5 before they will make any loans.

3.8. ANALYSIS OF PROFIT MARGINS AND PROFITABILITY⁴

Profit margins are useful for determining and then comparing the profits as a percentage of revenue earned, after subtracting expenses. This can then be compared to the profit margin analysis of peers. There are three main profit margin percentages, including: Gross profit margin, Operating profit margin and Net profit margin. These three different percentages provided insight into the business's profitability, and comparability to competitors.

Gross profit margin shows the amount of profit the business makes on its cost of goods sold (CGS). The gross margin reflects how efficiently the business uses labor and supplies in the production process.



$$\text{GROSS PROFIT MARGIN} = \frac{\text{SALES} - \text{CGS}}{\text{SALES}}$$

Gross profit margin can be impacted by changes in sales prices, number of products sold, and product mix. Not be confused with the Contribution Margin as which is Revenue minus Variable Costs, whereas Gross Profit Margin is after subtracting all CGS expense items. Also, Contribution Margin % is calculated by dividing Contribution Margin by Sales. The Gross Profit margin is what is left to cover all other expenses, such as General Administrative expenses.

Operating profit margin compares earnings before interest and taxes (EBIT) to sales. This shows how well your business generates income from business operations.



$$\text{OPERATING PROFIT MARGIN} = \frac{\text{EBIT}}{\text{SALES}}$$

⁴ Much of the information for this section is adapted from <https://www.investopedia.com/investing/roa-and-roe-give-clear-picture-corporate-health/>.



Net profit margin compares net income and sales. A higher net profit margin means a more efficient conversion of sales into actual profit.

$$\text{NET PROFIT MARGIN} = \text{NET PROFIT} / \text{SALES.}$$

If a company has \$200,000 in sales and \$50,000 in monthly net income. Net profit margin = $\$50,000 / \$200,000 = 25\%$ or \$0.25 of net income for every dollar of sales. The higher the ratio, the more effective a company is at cost control. Compared with industry average, it tells investors how well the management and company are performing compared to competitors.

3.8.1. Profit margin analysis

Conducting a profit margin analysis can help to grow the business and demonstrate to investors that the business is a worthwhile investment.

1. Use the formulas to calculate gross, operating, and net profit margins, for a period.
2. Research the profit margins of competitors in the same industry to determine what they are and how they have improved over time and determine how this information can inform strategy going forward.
3. See how the company's profit margin differs from that of the competitors. How have their margins changed over time and what was their strategy that improved their margins and the actions to avoid. Other benefits of this profit margin analysis include to:
 - Help guide decisions about pricing
 - Identify weaknesses in the business
 - Learn from the wins and losers of the competitors
 - Catch red flags and resolve issues early on
 - Reveal areas of industry wide pressure on the profit margin
 - Get new ideas to improve strategy and execution
 - Improve profit margin going forward.

Profit margin analysis can be used in conjunction with other profit ratios such as the ROE or ROA.

3.8.2. Return on Equity (ROE)

ROE is one of the most important ratios. This is a basic test of how effectively a company's management uses investors' funds. ROE shows whether management is growing the company's value. Equity is equal to a firm's total assets minus its total liabilities. Equity is found on a company's balance sheet; it is one of the most common financial metrics employed by analysts to assess the financial health of a company. Shareholder equity can also represent the net or book value of a company. This financial indicator divides the company's net income by the shareholders' equity. ROE is calculated as:

$$\text{ROE} = \frac{\text{ANNUAL NET INCOME}}{\text{AVERAGE SHAREHOLDERS' EQUITY}}$$

The net income on the income statement, and shareholders' equity appears at the bottom of the company's balance sheet.

Example 16 - ROE Calculation

ROE for Ed's Farms.

- The company's 2019 income statement puts its net income at \$3.822m.
- On the balance sheet, total stockholder equity for 2019 was \$25.268m; in 2018 it was \$6.814m.



**TO CALCULATE ROE,
AVERAGE SHAREHOLDERS' EQUITY FOR 2019 AND 2018**

$$(\$25.268\text{m} + \$6.814\text{m} + 2 = \$16.041\text{m})$$

Divide net income for 2019 (\$3.822 m)
by shareholder equity (\$16.041m).

$$\text{ROE} = 0.2382, \text{ or } 24\%.$$

This tells us that in 2019 Ed's Farms generated a 24% profit on every dollar invested by shareholders. If investors look for a ROE of at least 15%, then by this standard alone, Ed's Farms' ability to generate profits from shareholders' equity appears impressive.

3.8.3. Return on Assets (ROA)

ROA reveal how much profit a company earns for every dollar of its assets. Assets include things like cash in the bank, accounts receivable, property, equipment, inventory, and furniture. It is calculated as:

$$\text{ROA} = \frac{\text{ANNUAL NET INCOME}}{\text{TOTAL ASSETS}}$$

Example 17 - ROE Calculation



Using Ed's Farms again,

in 2019 it earned \$3.822 million. The total assets on the balance sheet for 2019 amounted to \$448.507 million.

$$\frac{\text{NET INCOME}}{\text{TOTAL ASSETS}} = \text{ROA OF 0.0085, OR 0.85\%}.$$

This tells us that in 2019 Ed's Farms earned less than 1% profit on the resources it owned.

Which is an extremely low number.

In other words, this company's ROA is vastly different from the performance of its ROE.

3.8.4. The Difference Is All About Leverage

The financial leverage or debt separates ROE and ROA. Using the balance sheet's fundamental equation:

$$\begin{aligned} \text{ASSETS} &= \text{LIABILITIES} + \text{SHAREHOLDERS' EQUITY} \\ \text{IF A COMPANY CARRIES NO DEBT, THEN} \\ \text{SHAREHOLDERS' EQUITY} &= \text{TOTAL ASSETS AND ROE} = \text{ROA} \end{aligned}$$

Using the balance sheet equation: $\text{shareholders' equity} = \text{assets} - \text{liabilities}$. By taking on debt, a company increases its assets. But since equity equals assets minus total debt, a company decreases its equity by increasing debt. In other words, when debt increases, equity shrinks, and since equity is the ROE's denominator, ROE, in turn, gets a boost.

At the same time, when a company takes on debt, the total assets—the denominator of ROA—increase. So, debt amplifies ROE in relation to ROA. Ed's balance sheet should reveal that why the company's return on equity and return on assets were so different is because the balance sheet also carries a large amount of debt. In 2019, it had total liabilities that exceeded \$422 million—more than 16 times its total shareholders' equity of \$25.268 million.

Because ROE weighs net income only against owners' equity, it does not say much about how well a company uses its financing from borrowing and issuing bonds. Such a company may deliver an impressive ROE without effectively using the shareholders' equity to grow the company. ROA, because its denominator includes both debt and equity, shows how well a company puts both these forms of financing to use. Together ROA and ROE provide a clear picture of management's effectiveness at managing leverage risk and generating returns from shareholders' investments.

3.9. ANALYSIS OF WORKING CAPITAL STRUCTURE

Working capital provides important information about the financial condition of a company for both investors and management. Also known as net working capital, this indicates the total amount of liquid assets a company has available to run its business. $WC = \text{Current assets} - \text{Current liabilities}$. Measures a company’s operational efficiency and short-term financial health.

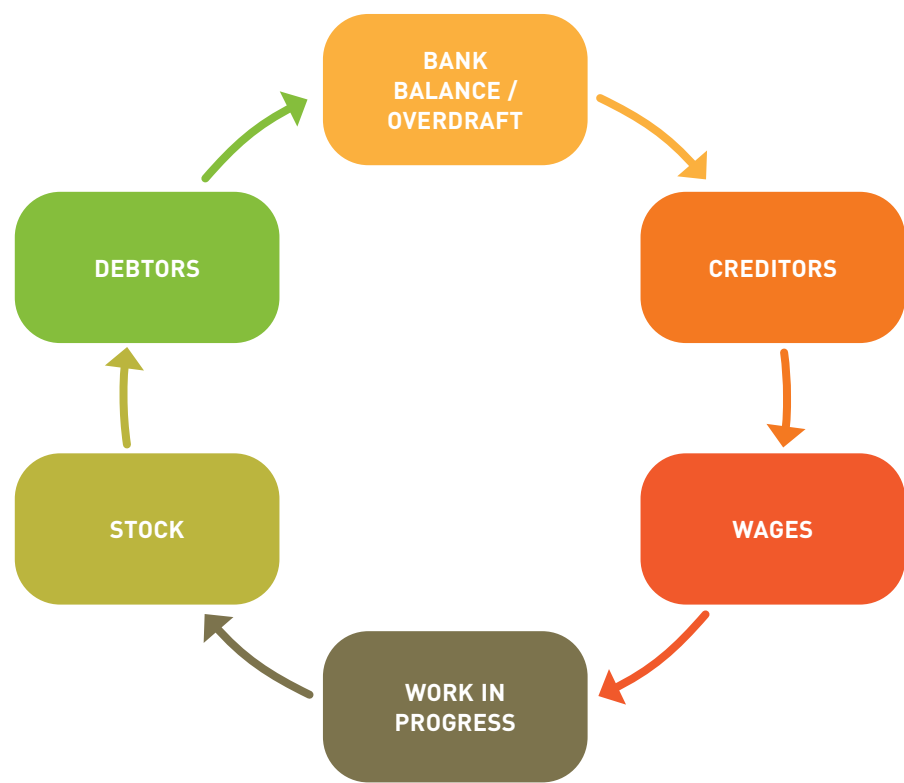


Figure 7 - Working Capital Cycle
Source: Strengthening and Promoting Women Entrepreneurs in Jamaica,
IDB/MIF Technical Cooperation No: ATN/ME-12117-JA

The working capital cycle demonstrates the process of using working capital to pay suppliers and other short-term obligations, for raw materials and products used to transform into work in Progress and finished goods (stock) and services for sale. The finished goods are then sold to customers, primarily on credit. Accounts receivable and debtors must be managed, and outstanding amounts need to be collected and banked. Creditors must be managed because credit, plus any creditor squeeze, afforded from suppliers, provides time to convert raw material and purchases into finished product for sale.

Example 18 - Controlling Debtors and Accounts Receivable

1. Decide how often you will check debtors (review monthly)
2. How many days credit (standard terms plus some leeway) will you allow?
3. Work out average daily sales by averaging last three months
4. Work out actual days credit given
(divide total amount owed by average daily sales)



Month May 2011

Target Debtors		
Number of days credit on standard terms		30 days
Extra days credit you are prepared to allow	+	15 days
Target days credit that you are giving to customers	=	45 days

Actual Debtors			
Total sales for last three months		\$36,000.00	

Average daily sales	Total sales last 3 months	\$36,000.00	
	91 days (3 months)		\$395.60

Actual days credit	Total owed by customers	\$21,000.00	
	Average daily sales	\$395.60	53 days

As seen from the Actual Debtors calculation above, is the reality that management of receivables is critical as the credit extended to customers must be maintained to ensure that the working capital is realised to meet short term obligations and pay for purchases required to make the products for sale.

Adapted from: Women Business Owners Training Manual
Source: Strengthening and Promoting Women Entrepreneurs in Jamaica,
IDB/MIF Technical Cooperation No: ATN/ME-12117-JA

3.9.1. Improving Accounts Receivable Collection and Invoicing

Always watch your new sales. As money becomes tighter, customers will bounce from business to business, they need close attention. Useful management tools for following up on accounts receivable is the Flash Report and the Accounts Receivable Ageing Report.

Example 19 - Controlling Debtors

CONTROLLING DEBTORS

- Establish credit references for new customers
- Make your standard terms clear to customers in writing. Include in order confirmation
- Prepare your invoices carefully to ensure there are no mistakes or details missing
- Address the invoices to the correct person
- Send the invoice as early as you can
- Send invoices before the end of each calendar month
- Keep regular checks on customer credit situation and ring those customers who are late
- Follow up again if payment does not materialise as promised
- Decide what to do about persistent late payers:
 - Payment with order
 - Payment on delivery
 - Discount for early payment



CREDIT CHARGE FOR LATE PAYMENT

- Increase unit cost to absorb cost of late payment
- Stop doing business with late payers.
- Small claims court
- Take legal advice

LONGER TERM SOLUTIONS:

- Credit agency
- Factoring company
- Credit insurance

Adapted from: Strengthening and Promoting Women Entrepreneurs in Jamaica,
IDB/MIF Technical Cooperation No: ATN/ME-12117-JA

Example 20 - Examples of accounts receivable payment terms

ACCOUNTS RECEIVABLE PAYMENT TERMS

For wholesalers and retailers:

- Depending on creditworthiness, 10 days net for companies with good credit, prior to delivery for customers with questionable credit or those that are past due
- Develop a minimum sales order that will require a credit check
- Check references on a new client
- If payment history is greater than 60 days obtain supervisor approval



Perform the following steps when invoicing the customer:

- Invoice within 24 to 48 hours after performing service
- Review invoices for accuracy
- Double check that everything has been billed
- Note payment terms on the invoice

Adapted from: Strengthening and Promoting Women Entrepreneurs in Jamaica,
IDB/MIF Technical Cooperation No: ATN/ME-12117-JA

3.9.2. Efficiency ratios

Efficiency ratios, also called activity ratios, which measure how well companies utilize their assets to generate income. Efficiency ratios often look at the time it takes companies to collect cash from customers or the time it takes companies to convert inventory into cash—in other words, make sales. Management uses these ratios to help improve the company's operations management. Companies that are efficient with their resources usually become profitable.

3.9.3. Accounts Receivable Turnover

The accounts receivable turnover ratio measures how efficient a company is at collecting its credit sales from customers. Some companies collect their receivables from customers in 90 days while other take up to 6 months to collect from customers. This ratio can be viewed as a liquidity ratio as well. Companies are more liquid the faster they can convert receivables into cash. Higher ratios mean that companies are collecting their receivables more frequently and if a company can collect cash from customers sooner, it will be able to use that cash to pay bills and other obligations sooner.

3.9.4. Working Capital Ratio

The working capital ratio transforms the working capital calculation into a comparison between current assets and current liabilities.

$$\text{WORKING CAPITAL RATIO} = \frac{\text{CURRENT ASSETS}}{\text{CURRENT LIABILITIES}}$$

Example 21 - Working Capital Ratio Calculation



An example is Kay's Machine Shop that has several loans from banks for equipment purchased in the last five years. These loans are coming due which is decreasing the working capital. At the end of the year, Kay's had \$100,000 of current assets and \$125,000 of current liabilities.

WORKING CAPITAL RATIO

$$.80 = \frac{\$100,000}{\$125,000}$$

The ratio of 0.8 or 80% is less than 1 is considered risky by creditors and investors because it shows the company is not running efficiently and unable to cover its current debt.

A ratio less than 1 is often referred to as negative working capital.

Source: <https://www.myaccountingcourse.com/financial-ratios/working-capital-ratio>

3.9.5. Asset Turnover Ratio

Comparing net sales with average total assets measures a company's ability to generate sales from its assets shows how efficiently a company can use its assets to generate sales. The total asset turnover ratio shows how many sales are generated from each dollar of assets. For instance, a ratio of .5 means that each dollar of assets generates 50 cents of sales.

$$\text{ASSET TURNOVER RATIO} = \frac{\text{NET SALES}}{\text{AVERAGE TOTAL ASSETS}}$$

Average total assets are calculated by adding the beginning and ending total asset balances together and dividing by two. A ratio of 1 means that the net sales of a company equals the average total assets for the year. In other words, the company is generating 1 dollar of sales for every dollar invested in assets.

Example 22 - Asset Turnover Ratio Calculation

Sally's Tech Company is a tech start up that manufactures a new tablet computer. Sally is currently looking for new investors and has a meeting with an angel investor. The investor wants to know how well Sally uses her assets to produce sales, so he asks for her financial statements. Here is what the financial statements reported:

- Beginning Assets: \$50,000
- Ending Assets: \$100,000



ASSET TURNOVER RATIO

$$.33 = \frac{\$250,000}{(\$50,000 + \$100,000) / 2}$$

Net Sales: \$25,000

As you can see, Sally's ratio is only 0.33. This means that for every dollar in assets, Sally only generates 33 cents. In other words, Sally's Tech start up is not very efficient with its use of assets.

3.9.6. Inventory Turnover

This measures how many times average inventory is “turned” or sold during a period. A company with \$1,000 of average inventory and sales of \$10,000 effectively sold its inventory 10 times over.

$$\text{INVENTORY TURNOVER RATIO} = \frac{\text{COST OF GOODS SOLD}}{\text{AVERAGE INVENTORY}}$$

Average inventory is used instead of ending inventory. This is calculated by adding the beginning and ending inventory and dividing by two. The cost of goods sold is reported on the income statement.

Inventory turnover is a measure of how efficiently a company can control its merchandise, so it is important to have a high turn. This shows the company does not overspend by buying too much inventory and wastes resources by storing non-saleable inventory. It also shows that the company can effectively sell the inventory it buys.

Example 23 - Inventory Turnover Calculation

i

Donny's Furniture Company sells industrial furniture for office buildings. During the current year, Donny reported cost of goods sold on its income statement of \$1,000,000. Donny's beginning inventory was \$3,000,000 and its ending inventory was \$4,000,000. Donny's turnover is calculated like this:

$$\begin{aligned} &\text{INVENTORY TURNOVER RATIO} \\ & .29 \text{ TIMES} = \frac{\$100,000}{(\$3,000,000 + \$4,000,000) / 2} \end{aligned}$$

Donny's turnover is .29. This means that Donny only sold roughly a third of its inventory during the year. It also implies that it would take Donny approximately 3 years to sell his entire inventory or complete one turn. In other words, Danny does not have effective inventory control.

3.9.7. Days' sales in Inventory

Also called days inventory outstanding, measures the number of days it will take a company to sell all its inventory.

$$\text{DAYS' SALES IN INVENTORY} = \frac{\text{ENDING INVENTORY}}{\text{COST OF GOODS SOLD}} \times 365$$

3.9.8. Credit

Be familiar with your customers' credit. Only extend credit to organizations you feel confident will pay. Otherwise, hard-earned sales may need to be written off through bad debt.



Chapter 4

Financial Projection

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4.1. THE ROLE OF KEY PERFORMANCE INDICATORS (KPI)

A Key Performance Indicator (KPI), is a measurable value that demonstrates how effectively a company is achieving key business objectives⁵. KPIs can be used to manage different aspects of the business. There are financial KPIs, operational KPIs, sales KPIs, each measure will be unique to the business and should be a S.M.A.R.T.⁶ objective that reflects one of the more important elements of the business.

Measurable, realistic KPIs that are agreed provide objective performance metrics for discussion, rather than descriptive and imprecise terms of assessment. It then becomes easier to drill down on why a target was not been met. KPIs can also help employees to feel more engaged through participation in goal setting. However, KPIs have their limitations. Focus on a target should not exclude other important aspects of the business not captured in the data. If properly captured, KPIs should reflect the most important parts of the business and the data captured should be assessed in relation to the overall objectives.

There are different types of KPIs

- **Financial KPIs**- This group of KPIs measures the bottom line of your business: financial success. This could be revenue, net income, cash flow, the health of your balance sheet, or something more specific.
- **Growth KPIs**- KPIs could include, overall revenue growth, new customers., or a range of other metrics.
 - **Customer KPIs**- This group of KPIs are based on regular surveys, or the number of repeat purchases, levels of customer engagement with your products or apps, interactions on social media, among others.
 - **Leading/Lagging Indicators**. Leading indicators are measurable facts that at which has happened and is relied on to forecast a particular outcome, or “lagging” indicators that measure what has already happened.

A ‘**lagging KPI indicator**’, is a measurable fact that records actual performance such as:

- Annual Sales
- Growth in Annual Sales
- Gross Margin
- EBITDA
- Annual Net Income
- Growth in Annual Net Income

5 <https://business.tutsplus.com/tutorials/what-are-kpis--cms-27209#>.

6 S.M.A.R.T. is an acronym meaning “Specific, Measurable, Achievable, Relevant, Timely” objectives.

A **‘leading KPI indicator’** is a measurable factor that changes before the company starts to follow a trend. Leading KPI’s are used to predict changes in the company, such as:

- % Growth in Sales
- % Growth in New business leads
- Number of New Patents
- Number of New Website Views

The techniques, such as forecasting, budgeting, and preparation of projected financial statements, are all parts of the business planning process. They are reviewed in this chapter and should be viewed as part of the larger initiative of building a Business Plan. A budget is a plan, whereas a forecast is a prediction of future events and conditions.

4.1.1. How to Choose Key Metrics During a Time of Uncertainty

Determining key metrics for your specific business is a process. It is recommended that the organisation start with 3-10 quantifiable metrics that will help measure whether the business is headed in the right direction and alert any need for modification, such as:

- Cash Balance
- Accounts Receivable
- Accounts Payable
- Inventory
- Sales Revenue
- Gross Margin & Net Income
- Customer Service

4.1.1.1. Why Measurements Are So Important

In an environment of increasingly limited resources, it is important to know what success looks like and to track the proper metrics to achieve overarching goals.

As will be seen, KPIs are critical to cash flow and cost containment considerations.

4.1.2. Assumptions

The business plan assumptions must be documented for future assessment. The most important factor is ensuring that the data in the financial analysis section is consistent and flows from the assumptions made in other sections of the business plan. IAS (International Accounting Standards) should be followed throughout this section. Use graphs and charts to illustrate the most important aspects in the financial analysis, with the supporting graphics included in an Appendix. Use data from current and past markets and financial situations to substantiate the numbers. The links between financial statements are summarized in Chapter 4 – Figure 1 below.

Links Between Financial Statements

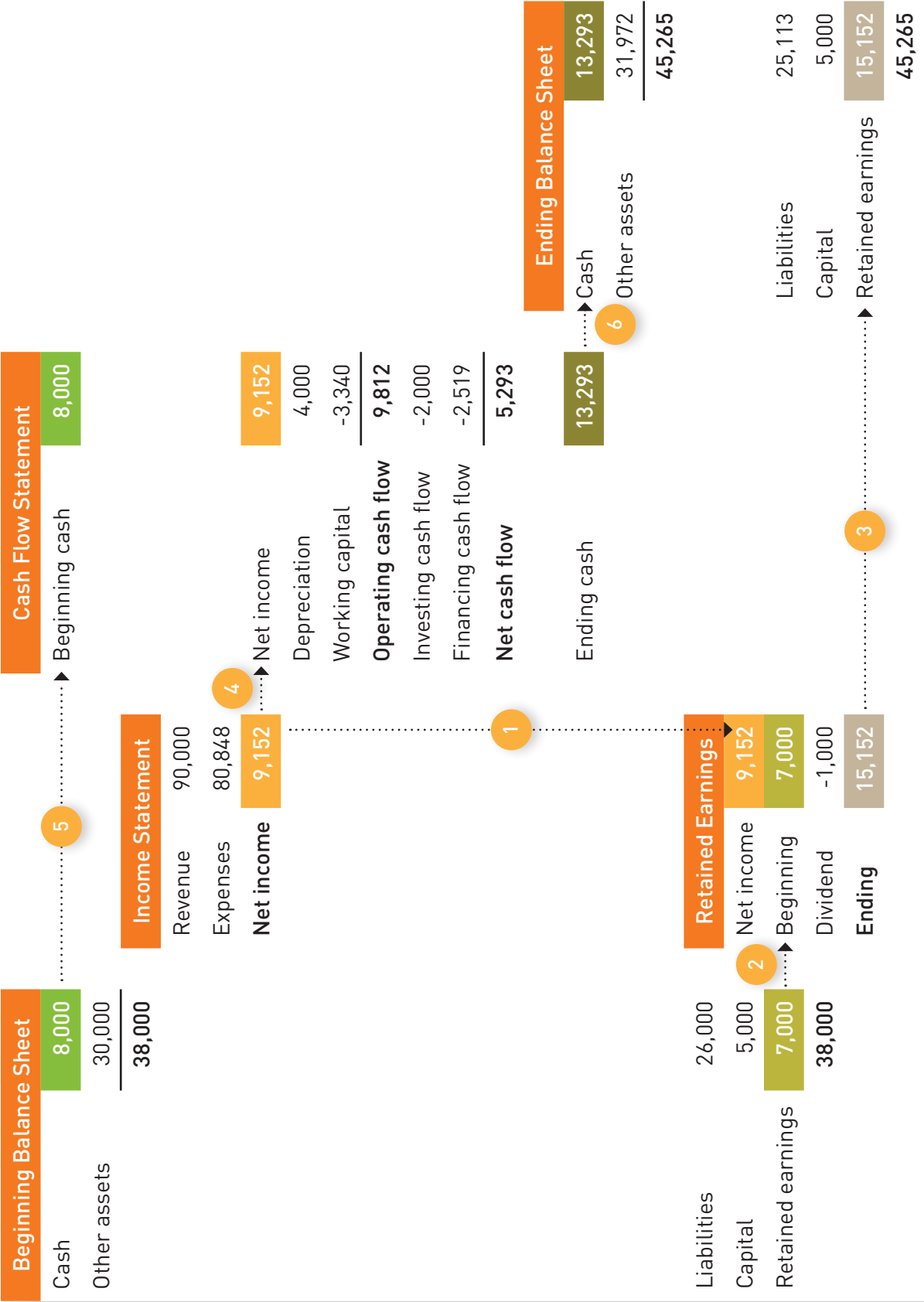


Figure 1 - Links Between Financial Statements

Referring to the numbers highlighted in red on the diagram:

1. Net income from the income statement is used in the statement of retained earnings.
2. Retained earnings from the beginning balance sheet is added to net income using the retained earnings statement.
3. The retained earnings statement final balance is included in the ending balance sheet.
4. Net income from the income statement is also the starting point for the cash flow statement.
5. Cash from the beginning balance sheet is used in the cash flow statement.
6. The cash flow statement final balance is included in the ending balance sheet.

Source: <https://www.planprojections.com/projections/links-between-financial-statements/>

4.2. ANALYSIS OF A FINANCIAL FORECAST

The forecast is based on analysis of past data. The object of business forecasting is not only to determine the trend, but also to make analysis based on definite statistical data, which will enable the firm to take advantage of future conditions.

4.2.1. Forecasting Methods

4.2.1.1. Financial Forecasting Techniques:

Financial forecasting is a prerequisite for strategic planning. In financial forecasting, future estimates are made through preparation of projected financial statements - projected income statement, projected balance sheet, projected cash flow and funds flow statements, using ratios and other analytic tools. Financial forecasting helps to decide on matters such as capital investment, annual production level, working capital requirement, estimation of funds requirement for business and estimated growth in sales.

Some of the other important techniques that are employed in financial forecasting are:

1. Days Sales Method:

It is a traditional technique used to forecast sales by calculating the number of days sales and establishing its connection to balance sheet items to arrive at the forecasted balance sheet. This technique is useful for forecasting funds inflow to the company.

2. Percentage of Sales Method:

It is another commonly used method in estimating financial requirements of the firm based on forecast of sales. Any change in sales is likely to have an impact on various individual items of assets and liabilities on the balance sheet.

3. Regression Analysis Methods:

Simple regression analysis provides estimates of values of the dependent variable from values of independent variable. The device used to accomplish this estimation procedure is the regression line. For financial forecasting purpose, sales are taken as an independent variable and then values of each item of asset (dependent on sales) are forecasted. Under this method, every time only one item of asset level can be determined. Multiple Regression analysis is a further application and extension of the simple regression method with sales assumed as a function of several variables. This computation requires use of computer programs.

4. Projected Cash Flow, Income Statement and Balance Sheet:

The projected financial statements are based on forecast of sales and anticipated expenses for the period under estimation. The projected balance sheet is also drawn based on the future estimation of raising or repayment long-term funds and acquisition or disposal of fixed assets and estimation working capital items with reference to the estimated sales.

Benefits of Financial Forecasting are:

- a. Providing basic and necessary information for setting company objectives and for preparation of financial plans.
- b. Acting as a performance benchmark for firm's financial discipline.
- c. Providing information for decision-making about the business.
- d. Projecting fund requirement and its utilization.
- e. Enabling the preparation and updating of financial plans based on changes in the economic environment and business situations.
- f. Providing information needed for business expansion and future growth.

This section will examine how to determine business potential by using market analysis and competitor information to estimate the potential market share and growth expectations and use to project capital and operational expenses.

It is important to distinguish between the addressable and available markets. The addressable market is the total revenue opportunity for your product or service. The available market is the portion of the addressable market for which you can realistically compete based on factors such as geography, resources, capacity, among others. Having identified the potential market, then the data must be collected to determine the size of the achievable market. Much of this can be done online. Sources include market studies, journals, and government reports.

4.2.1.2. Estimate Sales and Costs of Sales

The revenue projections should be used to substantiate the related expenses by ensuring that the expenses support the sales related activities. Calculating the estimated sales begins with identifying the total available market (TAM) which is the total size (people, revenues, units) of the market with the problem the product is intended to resolve. SAM (Served Available Market) is that part of the TAM who can use the solution to the problem.

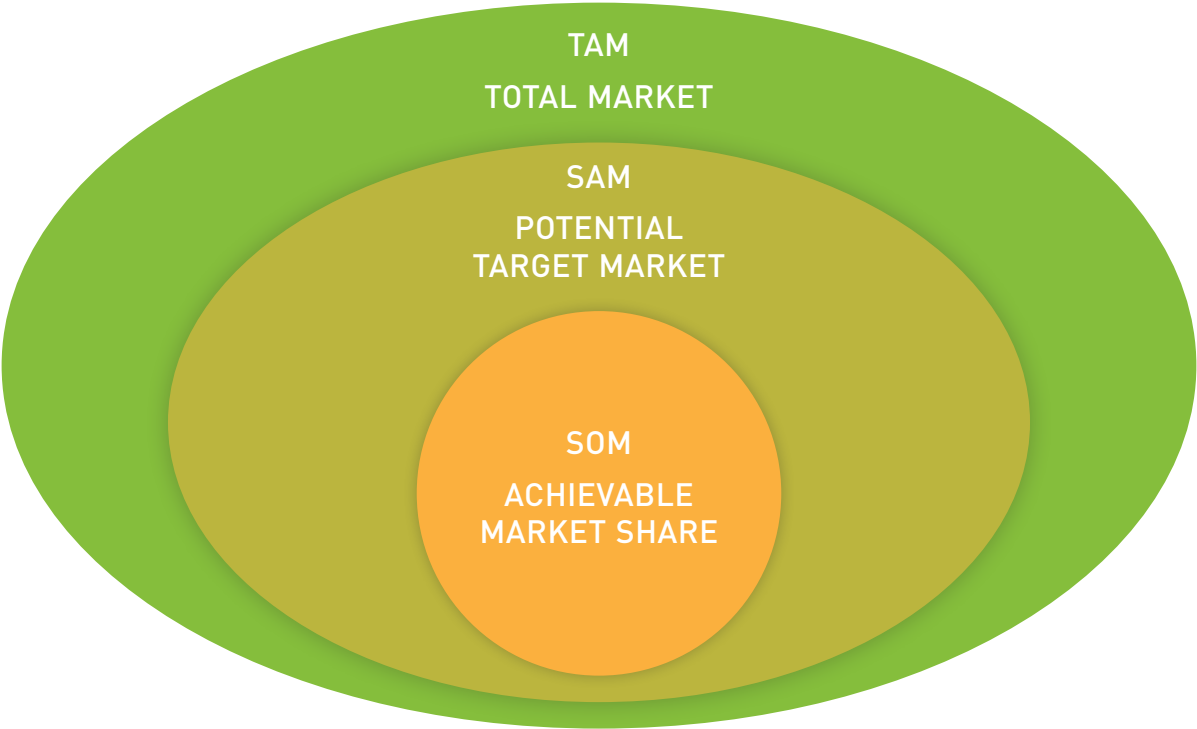


Figure 2 - The Total Available Market

Source: <https://www.planprojections.com/business-plan/market-share-in-a-business-plan/>

It is important to distinguish between the total market (TAM) and the potential target market (SAM). The achievable market is the portion of the potential target market or SOM which can be realistically defended. This identification will be based on the range of factors, including geography, resources, capacity constraints, among others. Once the potential target market is known, then by collecting data the size of the achievable market share can be estimated. Much of this research can be done online. Sources include market studies, journals, and government reports.

Table 1 – Estimate of Serviceable Available Market

Market Size					
The lawn care treatment business in the region is worth £27 million a year. It is estimated that £4.5 million (16.7%) is spent in the town chosen for our first site. The lawn care treatment industry is growing at a rate of 11 % per year and is exected to reach £7.6 million in five years time.					
Market		Now	%	5 years	%
Lawn care treatment market for the whole region	TAM	27,000	100.0%	42,900	100.0%
Lawn care treatment market for the town	SAM	4,500	16.7%	7,590	17.7%

The lawn care treatment industry for the region is expected to reach £42.9 million in 5 years time. However, providing the business is successful, there is no reason not to expand to other regions and form a national chain of lawn care centers. Across the whole country we would expect the total available market (TAM) to be £250 million in five years time.

For example, if the potential target market (SAM) is 4.5 million customers and we expect to be able to obtain 1% of this market, then the achievable market share (SOM) is calculated as follows:

- $SAM = 4,500,000$
- $SOM = SAM \times \text{Market share } \%$
- $SOM = 4,500,000 \times 1\% = 45,000$



The obtainable market share forms the basis of the revenue projection in the business and it is therefore important that the estimate of the market share is supported and justified by the marketing plan.

The most important factor to consider for market potential, is the market size of your product. Data research will determine the market size, which is a first step to determining the potential.

4.2.1.3. *Customer Identification and Marketing*

Market growth rate relates to the ongoing industry trend. This can be determined by checking the facts and figures of the last 5 years of the industry. The information is available from desk research on the internet of Chamber of Commerce and industry websites.

Competitive Assessment of the opportunity for success with the new product requires knowledge and understanding of the customer, and the key competitors and their value propositions. This research will inform of the top competitive threats and determine the availability of the market, or the next course of action. The information garnered from the research will allow for a mapping of the value propositions, along three key dimensions: cost, service, and technology to better inform the new or prospective product.

Table 2 - Hints for Competition Analysis

HERE ARE SOME SIMPLE HINTS TO HELP YOU IN THIS SECTION

- Who are your most important competitors?
- What are their main strengths and weaknesses?
- How can you be different?
- How can your product or service be more competitive?
- What are your competitors' pricing policies? How do these affect your sales strategies?
- Can you list your main competitors and their estimated market share?

4.2.1.4. *Competition*

To determine market potential, it is important to understand the competitive landscape. If the industry is competitive, then differentiation will be costly. When top brands enter industries, which are dominated by smaller players, among the strategies the small retailers use to attract customers to their businesses is customer service excellence.

4.2.1.5. *Product and consumer type*

Determining market potential includes understanding the likelihood that the product will be accepted and the hurdles to be overcome. For innovative products because the market size and growth rate are unknown, empirical research is required.

4.2.2. Financial Forecasting

4.2.2.1. *The Cash Flow and Income Statement*

The forecasting should be for at least three years for the cash flow statement. During the first year the information should be presented monthly. This is to ensure that negative cash flow would show up and indicate a need to revise one or more assumptions or seek additional funding.

4.2.2.2. *Financial Forecasting: The Balance Sheet*

On the balance sheet include the assets, liabilities, and owner's equity. Information and assumptions already included for the Income Statement and the Cash Flow statement will form the basis for building up the Balance Sheet. It should be clear that the cash flow statement, income statement, and balance sheet tell a consistent story. Financial forecasting is a dynamic process that should be revisited at least quarterly, or whenever a major event takes place. The recommended approach is to use key financial ratios, that investors and lenders use to evaluate the financial statements. Two such ratios are:

- **Quick Ratio**

Also known as the acid-test ratio, the quick ratio measures the ability of a business to use its most liquid assets to cover its current liabilities. A low quick ratio is a red flag that a cash crunch could be a major stumbling block for a business.

- **Gross Profit Margin**

This ratio measures the efficiency of a business in using its raw materials, labor, and manufacturing-related assets to generate the bottom line. The gross profit margin is a useful test for the best-case scenario. A gross margin that makes a dramatic jump from the regular scenario to the best-case scenario could be an indication that the estimates are not conservative enough – the costs may be too low.

There are several financial ratios, but it is appropriate to use ones that make the most sense to the operation and are of most interest to the investors and lenders. These ratios can be used to assess company performance on an ongoing basis. The likelihood of profitability for the industry or product can be estimated using the following calculations:

ROI – RETURN ON INVESTMENT
RONA – RETURN ON NET ASSETS
ROS – RETURN ON SALES
ROCE – RETURN ON CAPITAL EMPLOYED

4.2.2.3. *Market Assessment*

The market assessment will begin with being able to identify the market size and focus areas and indicate the necessary scale and timing of the investments - How big is the overall market? How rapidly is it growing? And what segments are of interest? The available market is the portion for which the business can realistically compete. This is based on many factors, including geography, resources, capacity constraints, but when decided, then data must be collected. Sources include market studies, journals, and government reports. Then to quantify and segment the market.

Step 1: *Create spreadsheets* for each market segment and then list variables such as number of shipments, pricing, net revenues, and investments. The next step is to use the variables collected to estimate the available market.

Step 2: *Customer Identification & Targeting.* The goal of this step is to identify and prioritize the customers that will accelerate the commercialization efforts. Some customers are more likely to buy than others and their timing in adopting new products can be dramatically different. The demographics will reveal the segmentation of the market is being appealed to - Innovators, Early adopters, Early Majority, Late Majority or Laggards. In addition, the willingness of certain market leaders to buy the product can give it a boost in the broader market. There can be “indirect” customers who have influence over the adoption of the product such as standards bodies as well as companies that offer goods or services that are compatible.

Next, name the potential customers and rank them. The goal is to identify those that best fit the value proposition and can best influence broader adoption of the product. If the product’s primary value is its usefulness and cost, for example, then identify target customers that prioritize these values. Also, determine the trends, how likely they are to adopt new technologies and what their influence is in the market. Finally, identify the decision makers within the priority customer segment. Use websites, personal connections, and other tools to find out who they are and target them for interviews.

Step 3: *Competitive Assessment* - Knowing who will compete for customers is essential to assessing the opportunities and odds for success. By understanding the competitors' value propositions, it is possible to evaluate the top competitive threats and determine the availability of the market, or the next course of action.

Begin by taking a broad inventory of the competitive landscape, determine who are the key competitors and identify their customers. Then develop strategic marketing objectives that are based on a company's business positioning and growth objectives and that will reinforce the desired image. To be able Then, map their value propositions along the three key dimensions: cost, service, and technology. This will generate useful insights.

Once in-house research is complete, to help focus on market-related decisions, there are several strategic tools to further guide the decisions. Examples include Michael Porter's Five Forces Model and PESTLE analysis, which help determine threats and opportunities from outside forces, such as political or economic change. Michael Porter's Five Forces Model is self-explanatory below in Chapter 4 – Figure 3.

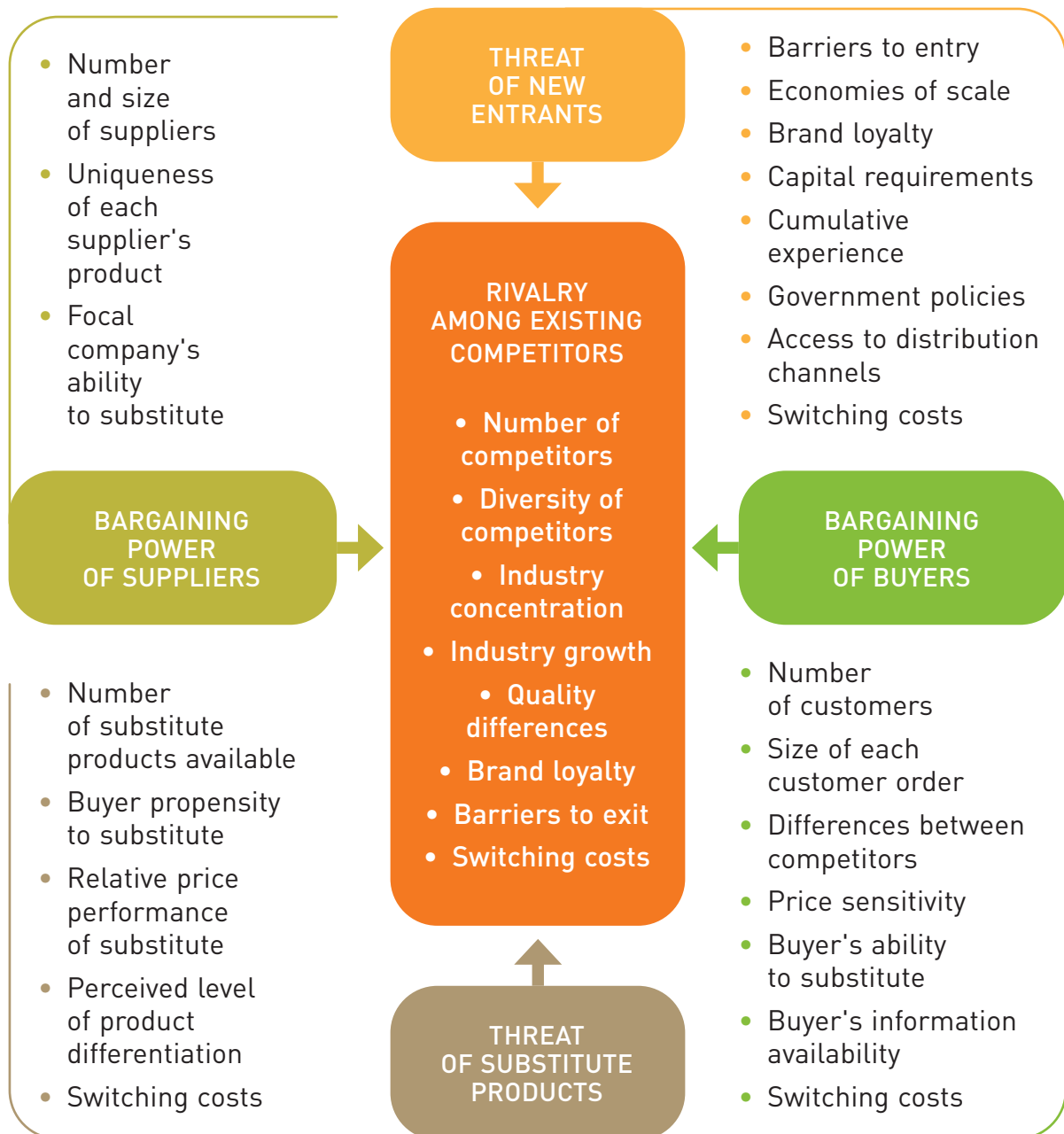


Figure 3 - Michael Porter's Five Forces Model

Source: <https://www.business-to-you.com/top-5-business-frameworks/>

The PESTEL Analysis below in Chapter 4 – Figure 4 PESTEL Analysis, helps the entrepreneur or management to review the external environment to recognize the factors that are supportive to the business and industry and others that are blockers and need to either be resolved find work arounds. Some external factors that companies may want to consider are listed below in Chapter 4 – Table 3 PESTEL Analysis Scanning the Environment. There are probably many more factors that could influence a certain business. The factors will vary from industry to industry and from one country to another.

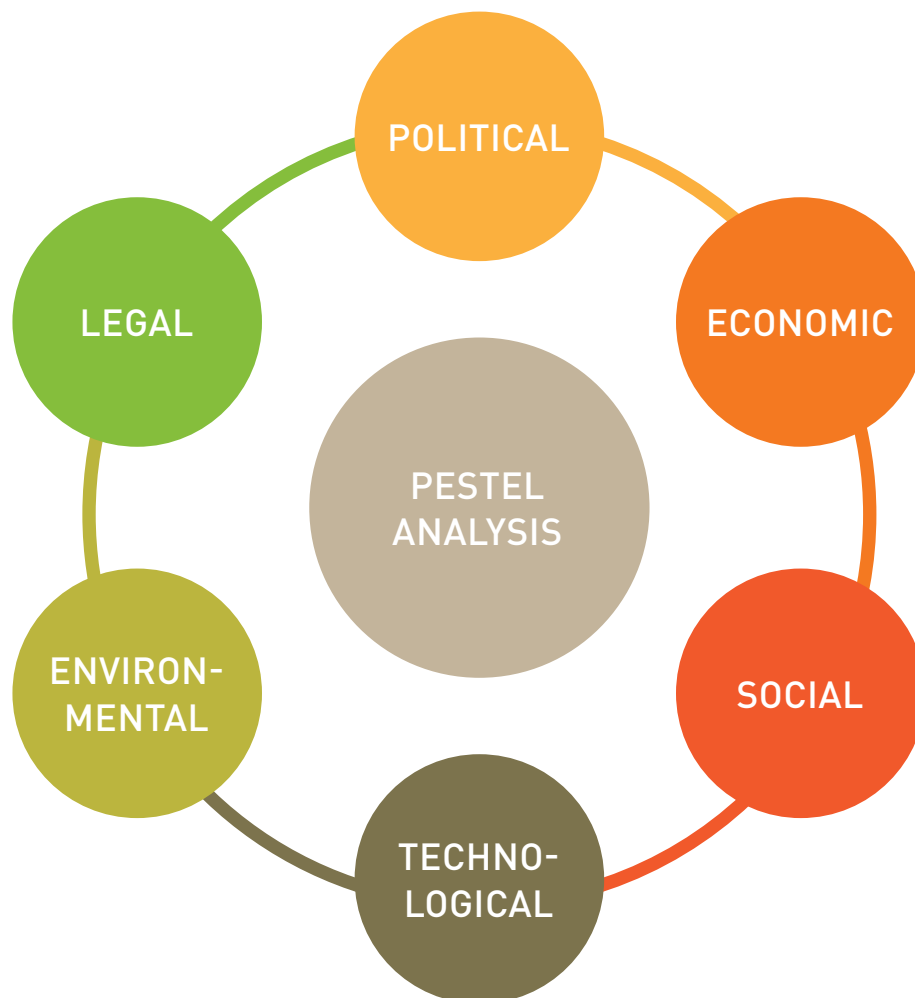


Figure 4 - PESTEL Analysis

Table 3 - PESTEL Analysis Scanning the Environment

P	GOVERNMENT POLICY / POLITICAL STABILITY / CORRUPTION / FOREIGN TRADE POLICY / TAX POLICY / LABOUR LAW / TRADE RESTRICTIONS
E	ECONOMIC GROWTH / EXCHANGE RATES / INTEREST RATES / INFLATION RATES / DISPOSABLE INCOME / UNEMPLOYMENT RATES
S	POPULATION GROWTH RATE / AGE DISTRIBUTION / CAREER ATTITUDES / SAFETY EMPHASIS / HEALTH CONSCIOUSNESS / LIFESTYLE ATTITUDES / CULTURAL BARRIERS
T	TECHNOLOGY INCENTIVES / LEVEL OF INNOVATION / AUTOMATION / R&D ACTIVITY / TECHNOLOGICAL CHANGE / TECHNOLOGICAL AWARENESS
E	WEATHER / CLIMATE / ENVIRONMENTAL POLICIES / CLIMATE CHANGE / PRESSURES FROM NGO'S
L	DISCRIMINATION LAWS / ANTITRUST LAWS / EMPLOYMENT LAWS / CONSUMER PROTECTION LAWS / COPYRIGHT AND PATENT LAWS / HEALTH AND SAFETY LAWS

Source: <https://www.business-to-you.com/scanning-the-environment-pestel-analysis/>

Especially for SMEs and start-ups, an economic area of concern might be the availability of credit. A social factor is the Buying habits and Attitudes towards customer service. Technology concerns might be the availability of a robust Internet infrastructure and the Communication infrastructure. In-house research will provide the tools necessary to conduct effective interviews to validate the value proposition, ultimately preparing for the first customer.



Chapter 5

Valuation

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WHAT IS BUSINESS VALUATION?



Business valuation is the process by which the economic worth of a company is determined. There are different approaches, but each method involves a full and objective assessment of the business. Business valuation values assets that the company owns and management structure, projected earnings, share price and revenue are factors.

A BUSINESS VALUATION IS REQUIRED WHEN

- selling a business
- looking to merge or acquire another company
- looking for business financing or investors
- establishing partner ownership percentages
- adding shareholders
- in divorce proceedings
- for certain tax purposes

5.1. DEFINITIONS

5.1.1. EQUITY VALUE

Equity value (EV) is found by taking the company's fully diluted shares outstanding and multiplying it by a stock's current market price. Fully diluted means that it includes warrants, and convertible securities and minority interests, aside from just the basic shares outstanding. We add this minority interest to the calculation of EV because the parent company has consolidated financial statements with that minority interest; meaning the parent includes 100% of the revenues, expenses, and cash flow in its numbers even though it doesn't own 100% of the business. By including the minority interest, the total value of the subsidiary is reflected in EV.

5.1.2. ENTERPRISE VALUE

Enterprise value is an alternative valuation method that includes the cash and any long term and short-term debt with the company's market capitalization. This is considered a more comprehensive valuation of a company and preferred when reviewing a company which is a takeover prospect. The value of a firm's debt, for example, would need to be paid off by the buyer when taking over a company.

$$\text{ENTERPRISE VALUE} = (\text{EQUITY VALUE} + \text{VALUE OF DEBT} + \text{MINORITY INTEREST} + \text{PREFERRED SHARES}) - (\text{CASH AND CASH EQUIVALENTS})$$

Example 1

January 28, 2017, Macy's recorded the following

MACY'S DATA PULLED FROM 2017 10-K STATEMENT			
1	# Outstanding Shares	308.5 million	
2	Share Price as of 11/17/17	\$20.22	
3	Market Capitalization	\$6.238 billion	Item 1 x 2
4	Short-Term Debt	\$309 million	
5	Long-Term Debt	\$6.56 billion	
6	Total Debt	\$6.87 billion	Item 4 + 5
7	Cash and Cash Equivalents	\$1.3 billion	
	Enterprise Value	\$11.808 billion	Item 3 + 6 - 7

Source: <https://www.investopedia.com/>
provides an example of how to calculate the enterprise value for Macy's (M) for the fiscal year ended January 28, 2017.

We can calculate Macy's equity value from the information above which is \$6.238 billion (308.5 million x \$20.22).

Macy's has a short-term debt of \$309 million and long-term debt of \$6.56 billion for a total debt of \$6.87 billion.

Macy's has \$1.3 billion in cash and cash equivalents.



MACY'S ENTERPRISE VALUE IS CALCULATED AS \$6.238 BILLION

(equity value or market cap) + \$6.87 billion (debt) - \$1.3 billion (cash).

Macy's EV = \$11.808 billion

If a company were to purchase Macy's outstanding shares for \$6.24 billion, it would also have to settle Macy's outstanding debts. In total, the acquiring company will spend \$13.11 billion to purchase Macy's. However, since Macy's has \$1.3 billion in cash, this amount can be added to repay the debt.

5.2. VALUATION METHODS

There are various approaches to business valuations that may be categorised into:

1. intrinsic methods derived from the discounted cash flow based on present value of future cash flows or benefits, based on projections and assumptions.
2. comparative method which is the use of comparable company analysis (or "comps" for short) which is the use of values and ratios of similar companies to derive the value of another business. Comps is a relative form of valuation.
3. cost approach which is based on the book value or replacement value.

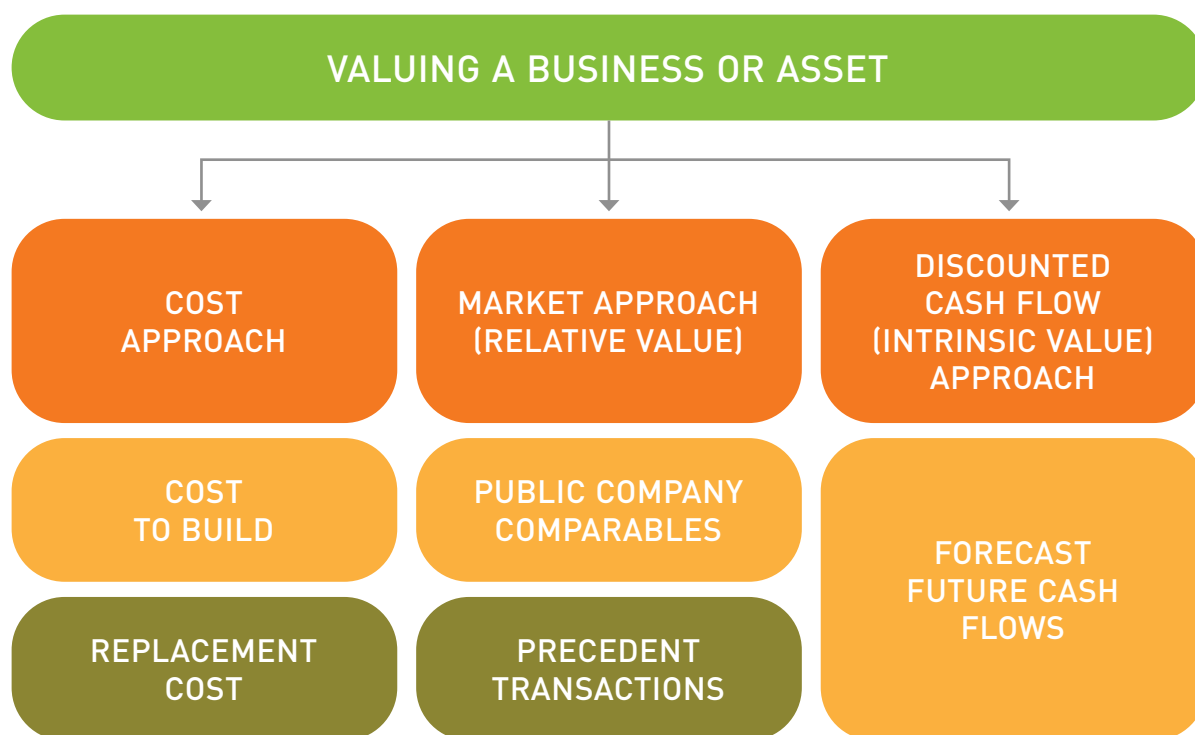


Figure 1 - Business Valuation Methods

Source: <https://corporatefinanceinstitute.com/resources/knowledge/valuation/>

5.2.1. INTRINSIC METHODS

5.2.1.1. *Asset-Based Valuation Method*

An asset-based business valuation method uses the balance sheet, to determine the company's worth, based on the business's total net asset value, minus the value of its total liabilities. The asset-based business valuation:

- **Going Concern:** This formula considers the business's current total equity.
- **Liquidation Value Based:** Valuation based on the net cash that would exist if the business were terminated and the assets were sold.

5.2.1.2. *ROI-Based Valuation Method*

A ROI-based business valuation method evaluates the value of your company based on the company's profit and the return on investment (ROI) an investor could potentially receive for buying into the business.

5.2.1.3. *Discounted Cash Flow (DCF)*

The discounted cash flow valuation method, also known as the income approach, for example, values a business based on its projected cash flow, adjusted (or discounted) to the present value. The DCF method can be particularly useful if your profits are not expected to remain consistent in the future. Projections can include alternative scenarios to determine the future cash flows based on *actual sales plus* any new products planned, the ideal sales mix, and any new business expected to win.

Discounted Cash Flow (DCF) analysis is an intrinsic value approach where an analyst forecasts the business' unlevered free cash flow into the future and discounts it back to today at the firm's Weighted Average Cost of Capital (WACC). The DCF analysis is performed by building a financial model in Excel which is the most detailed of the three valuation approaches. It requires several assumptions, will often result in the highest value, and provide the most accurate valuation. A DCF model, as shown in **Chapter 5 – Table 1**, allows the analyst to forecast value based on different scenarios. A sensitivity analysis can be performed to see how variations in the discount rate, or any of the major assumptions will impact the NPV. For larger businesses, the DCF value is commonly a sum-of-the-parts analysis, where different business units are modeled individually and added together.

Table 1 - The DCF method

© Corporate Finance Institute. All rights reserved. ONLINE COMPANY INC MODEL		HISTORICAL RESULTS				FORECAST PERIOD				
		2014	2015	2016	2017	2018	2019	2020	2021	2022
DCF Model										
Assumptions										
Tax Rate	25%									
Discount Rate	12%									
Perpetual Growth Rate	4%									
EV/EBITDA Multiple	8.0x									
Current Price	\$11.75									
Shares Outstanding	50,000									
Discounted Cash Flow	Entry	2019	2020	2021	2022	2023	Exit	Terminal Value		
Date	9/30/17	12/31/19	12/31/20	12/31/21	12/31/22	12/31/23	12/31/23	EV/EBITDA	579,263	
Year Fraction		1.00	1.00	1.00	1.00	1.00	1.00			
EBIT		48,970	53,062	56,958	60,478	65,983				
Less: Cash Taxes		12,243	13,265	14,240	15,120	16,496				
NOPAT		36,728	39,796	42,719	45,359	49,487				
Plus:D&A		9,003	10,203	11,162	11,930	12,544				
EBITDA		57,974	63,264	68,121	72,408	78,526				
Less: Capex		15,000	15,000	15,000	15,000	15,000				
Less: Changes in NWC		4,003	4,749	2,564	2,706	2,128				
Unlevered FCF		26,728	30,250	36,317	39,583	44,902	579,263			
DCF VALUE		MARKET VALUE				RATE OF RETURN				
Enterprise Value	418,525	Market Cap		587,500		IRR		10%		
Plus: Cash	139,550	Plus: Debt		30,000						
Less: Debt	30,000	Less: Cash		153,654						
Equify Value	528,075	Enterprise Value		463,846						
Equity Value/Share	10.56	Equity Value/Share		11.75						

Image source: CFI

5.2.2. COMPARATIVE METHODS

5.2.2.1. Book Value

The book value method calculates the value of the business at a given moment in time by looking at the balance sheet. This approach may be particularly useful if the business has low profits, but valuable assets.

5.2.2.2. Trading Comparables

Comparable company analysis (also called “trading multiples” or “peer group analysis” or “equity comps” or “public market multiples”) is a relative valuation method in which the current value of a business is compared to other similar businesses by looking at trading multiples like Price/Earnings (P/E), Price /Book (P/B), Enterprise Value/Earnings Before Interest, Taxes, Depreciation, and Amortization (EV/EBITDA), or other ratios. Multiples of EBITDA are the most common valuation method.

The “comps” valuation method provides an observable value for the business, based on what companies are currently worth. Comps are the most widely used approach, as they are easy to calculate and always current. The logic follows that, if company X trades at a 10-times P/E ratio, and company Y has earnings of \$2.50 per share, company Y’s stock must be worth \$25.00 per share (assuming its perfectly comparable).

Example 2 - EBITDA

Company XYZ accounts for their \$20 depreciation and amortization expense as a part of their operating expenses. Calculate their Earnings Before Interest Taxes Depreciation and Amortization:

Company XYZ Income Statement

Revenue	\$100
Cost of Goods Sold	\$20
Gross Profit	\$80
Operating Expenses	\$25
Operating Profit	\$55
Interest Expense	\$10
Earnings Before Taxes	\$45
Tax Expense	\$20
Net Income	\$25

$$\begin{aligned}
 \text{EBITDA} &= \\
 &\text{NET INCOME} + \text{TAX EXPENSE} + \text{INTEREST EXPENSE} + \\
 &\quad \text{DEPRECIATION \& AMORTIZATION} \\
 &= \$25 + \$20 + \$10 + \$20 \\
 &= \$75
 \end{aligned}$$

$$\begin{aligned}
 \text{EBITDA} &= \\
 &\text{REVENUE} - \text{COST OF GOODS SOLD} - \text{OPERATING EXPENSES} + \\
 &\quad \text{DEPRECIATION \& AMORTIZATION EXPENSE} \\
 &= \$100 - \$20 - \$25 + \$20 \\
 &= \$75
 \end{aligned}$$

$$\begin{aligned}
 &\text{EBITDA MULTIPLE} = \\
 &\quad \text{ENTERPRISE VALUE} / \text{EBITDA} \\
 &\quad \text{To Determine the Enterprise Value and EBITDA:} \\
 &\quad \text{ENTERPRISE VALUE} = \\
 &\quad (\text{MARKET CAPITALIZATION} + \text{VALUE OF DEBT} + \text{MINORITY INTEREST} + \\
 &\quad \text{PREFERRED SHARES}) - (\text{CASH AND CASH EQUIVALENTS})
 \end{aligned}$$

$$\begin{aligned}
 \text{EBITDA} &= \\
 &\text{EARNINGS BEFORE TAX} + \text{INTEREST} + \\
 &\quad \text{DEPRECIATION} + \text{AMORTIZATION}
 \end{aligned}$$

Example 3 - EV/EBITDA Calculation

ABC Corp has an Equity Value (Market Cap) of \$69.3B as of March 1, 2018, and a cash balance of \$0.3B and debt of \$1.4B as of December 31, 2017. For the full year of 2017, its EBITDA was reported at \$5.04B and the current analyst consensus estimate for 2018 EBITDA is \$5.5B. What are the resulting historical and forward-looking multiples?



HERE ARE THE STEPS TO ANSWER THE QUESTION

Calculate the Enterprise Value (Market Cap plus Debt minus Cash) =
 $\$69.3 + \$1.4 - \$0.3 = \70.4B

Divide the EV by 2017A EBITDA = $\$70.4 / \$5.04 = 14.0\text{x}$

Divide the EV by 2018A EBITDA = $\$70.4 / \$5.50 = 12.8\text{x}$

Source: <https://corporatefinanceinstitute.com/resources/knowledge/valuation/ebitda-multiple/>

5.2.2.3. Precedent Transactions (Comparative Method)

Precedent transactions analysis is another form of relative valuation where you compare the company in question to other businesses that have recently been sold or acquired in the same industry. These transaction values include the take-over premium included in the price for which they were acquired. These values represent the en bloc value of a business. They are useful for M&A transactions but can easily become stale-dated and no longer reflective of the current market as time passes. They are less commonly used than Comps or market trading multiples.

Table 2 - Precedent Transactions

DATE	TRANSACTION		BUYERS	EV/ SALES	VALUATION	
	Target	Value (\$M)			EV/ EBITDA	EV/EBIT
01/24/2017	Current Ltd	2,350	Average limited	1.9x	9.4x	11.2x
04/19/2016	Recent Inc	6,500	Bohemeth Industires	1.4x	8.0x	16.6x
04/19/2014	Past Co	2,150	Other Group	1.3x	8.7x	12.1x
11/07/2014	Historical LLP	450	Junior Enterprises	2.3x	11.1x	13.6x
11/01/2012	Old Group	325	Minature Company	5.1x	18.8x	21.5x
10/07/2011	Dated Enterprises	150	Micro Partners	2.1x	9.3x	13.2x
Average				2.3x	10.9x	14.0x
Median				2.0x	9.4x	12.9

5.3. WACC

Investors use WACC as an analytic tool to decide whether or not to invest. Securities analysts employ WACC is used to determine the discount rate to use in discounted cash flow analysis when valuing and selecting investments. The rate selected is applied to the future cash flows for deriving a business's Net present value (NPV). The NPV is an investment measure that investors use to determine whether an investment will achieve a target yield that justifies making the investment. WACC can be used as a hurdle rate against which to assess the return on investment (ROI).

A healthy capital structure that reflects a low level of debt and a high amount of equity is a positive sign of investment quality. Capital structure is a permanent type of funding that supports a company's growth and related assets. Expressed as a formula, capital structure equals debt obligations plus total shareholders' equity:

$$\text{CAPITAL STRUCTURE} = \text{DEBT} + \text{EQUITY}$$

Although WACC serves as a useful reality check for investors, the average investor is not likely to have the detailed company information required to calculate a company's WACC. However, security analysts make the information available and so learners need to understand its value and how WACC is calculated.

Overall, financial managers consider and evaluate the capital structure by seeking to optimize the weighted average cost of capital (WACC). WACC is a calculation that derives the average percentage of payout that a company is required to make to its investors to compensate for all the capital, debt and equity provided. A company's WACC is a function of the mix between debt and equity and the cost of that debt and equity.

The assets which are owned by the business, were obtained by either incurring liabilities or were provided by owners. Everything a company owns must equal everything the company owes to creditors (lenders) and owners. The owners are comprised of either sole proprietors, or stockholders for companies or corporations. Equity capital consists of a company's common and preferred stock plus retained earnings. This is considered invested capital and it appears in the shareholders' equity section of the balance sheet.

5.3.1. Calculating the WACC

To calculate WACC, investors need to determine the company's cost of equity and cost of debt which together are the components required to arrive at the WACC. The rate of return that investors expect from corporate securities require a risk premium over the risk-free rate of return expected from investments in government securities. The rate of return on 10-year U.S. Treasury bonds is often used as a proxy for the risk-free rate, as there is no default risk. The risk premium which is added to the risk-free rate is the incentive to compensate investors for taking on added risk inherent in corporate equities and bonds. The formula is as follows:

$$\text{WACC} = [(E \div V) \times Re] + [(D \div V) \times Rd] \times (1 - T)$$

Where:

Re = cost of equity (expected rate of return on equity)

Rd = cost of debt (expected rate of return on debt)

E = market value of company equity

D = market value of company debt

V = total capital invested, which equals **E + D**

E/V = percentage of financing that is equity

D/V = percentage of financing that is debt

T = corporate tax rate

Calculating the WACC

Assuming calculations are complete for the cost of capital for all the sources of debt and equity and gathered the other information, calculate the WACC:

$$\text{WACC} = [(E \div V) \times Re] + [(D \div V) \times Rd] \times (1 - T)$$

See Calculating WACC examples which follow.

5.3.1.1. Cost of Debt

The Debt component of capital structure is reflected as long-term debt on the Balance Sheet. However, when analyzing a company's balance sheet, conservative investors may use a comprehensive total debt figure that includes the short-term borrowings (notes payable); the current portion of long-term debt; long-term debt; and two-thirds (rule of thumb) of the principal amount of any operating leases and redeemable preferred stock, as these are all loans to the business. Since the interest on the debt is tax-deductible, a business must multiply the coupon rate (the yield paid by a fixed-income security) on the company's bonds by (1 - tax rate):

$$\begin{aligned} \text{POST-TAX COST OF DEBT CAPITAL} &= \\ \text{COUPON RATE ON BONDS} \times (1 - \text{TAX RATE}) \\ \text{OR} \\ \text{POST-TAX COST OF DEBT} &= \\ \text{BEFORE-TAX COST OF DEBT} \times (1 - \text{TAX RATE}) \end{aligned}$$

For example, a business with a 40% combined federal and state tax rate borrows \$50,000 at a 5% interest rate. The post-tax cost of debt capital is 3% (cost of debt capital = $.05 \times (1 - .40) = .03$ or 3%). The \$2,500 in interest paid to the lender reduces the company's taxable income, which results in a lower net cost of capital to the firm. The company's cost of \$50,000 in debt capital is \$1,500 per year ($\$50,000 \times 3\% = \$1,500$).

If a company is perceived as having a higher chance of defaulting on its debt, the lender will assign a higher interest rate to the loan, and thus the total cost of the debt will be higher.

Example 4 - Calculating WACC

Your business has a capital structure of \$7.1 million and it is made up of \$5.6 million in equity and \$1.5 million in debt.

- E = \$5,600,000
- D = \$1,500,000
- Tax Rate (T) = 21%



CALCULATE THE COST OF COMMON STOCK (RE)

$$Re = \text{Cost of Common Stock} = \text{Risk Free Rate} + [\text{Beta} \times (\text{Expected Market Return} - \text{Risk Free Rate})]$$

The risk-free rate is around 3%
and the expected market rate of return is around 8%.
If your company is considered riskier than the market
with a beta of 1.2, you can calculate the approximate return
on your common stock as follows:

$$Re = 3\% + [1.2(8\% - 3\%)] = 9\%$$

CALCULATE THE COST OF DEBT

The cost of debt is the cost of the business firm's long-term debt.
For the purpose of this example, let's say that the company
has a mortgage on the building in which it is located
in the amount of \$150,000 at a 6% interest rate.
The before-tax cost of debt is 6%.

CALCULATE THE WACC

$$\begin{aligned}
 \text{WACC} &= [(\$5,600,000/\$7,100,000) \times .09 + \\
 & \quad [(\$1,500,000/\$7,100,000) \times .06 \times (1-0.21)] \\
 &= 0.79 \times .09 + 0.21 \times .06 \times .79 \\
 &= 7 + 0.99 \\
 &= 7.99\%
 \end{aligned}$$

Taken by itself, the result means that this business firm has a WACC of 7.99%.

On average, it pays 7.99% to obtain financing for its operations.

That means that the firm's goal for return on its assets should be at least 7.99%.

The WACC is also the discount rate to be used in the Net Present Value calculations to evaluate capital budgeting projects.

Source: <https://www.thebalancesmb.com/calculate-weighted-average-cost-of-capital-393130#citation-5>

For a publicly traded company, the after-tax cost of debt, R_d = yield to maturity of outstanding debt as a percentage $\times (1 - \text{tax bracket})$, are variables that usually appear on the balance sheet, income statement or annual financial reports. Similarly, for the cost of equity, R_e = (next year's dividends per share/current market value of stock) + growth rate of dividends. This equation does not take preferred stock into account. If the next year's dividends are not provided, the current dividends can be used. The current market value of stock will be included in a company's financial reports.

5.3.1.2. Cost of Equity

To arrive at the cost of equity, although there is no concrete price that the company must pay, that does not mean that no cost of equity exists. Shareholders of common stock expect a certain return on their equity investment in a company. The required rate of return is usually considered a proxy for the cost of equity because, if the company does not deliver the expected return, then shareholders will sell their shares. The equity market risk premium (EMRP) for investing in the stock market is the difference between the risk-free rate and the market rate - $(R_m - R_f)$ —Equity Market Risk Premium. the return shareholders should expect on their investment. It is called an opportunity cost because the shareholders sacrifice an opportunity to invest that money for a return elsewhere and instead allow the firm to build capital.

METHOD 1. FOR COST OF EQUITY: Capital Asset Pricing Model (CAPM) Method

This financial model requires three pieces of information to help determine the required rate of return on a stock, or how much a stock should earn to justify its risk. The formula requires the following inputs:

The Risk-Free Rate: Currently in the Economy: The return you would expect on investment with zero risks. You can use the rate on a 3-month U.S. Treasury bill.

The Market Rate of Return: What you expect from the market. To determine this return, use the return on a market index such as the Standard and Poor's 500.

The Stock's Beta: This measurement represents a stock's risk, with 1.0 representing the beta of the market. A stock 10 percent riskier than the market would have a beta of 1.1, for example. Safer stocks will have betas of less than 1.0. Many investment sites such as Bloomberg calculate and provide betas for listed stocks.

Use the formula for the required rate of return

$$\text{REQUIRED RATE OF RETURN} = \text{RISK-FREE RATE} + \text{BETA} \times (\text{MARKET RATE OF RETURN} - \text{RISK-FREE RATE})$$

For example, if you have a risk-free rate of 2 percent, a beta of 1.5, and an expected rate of return on the market of 8 percent, your formula would be as follows:



$$\text{REQUIRED RATE OF RETURN} = .02 + 1.5 \times (.08 - .02) = .11, \text{ or } 11 \text{ percent}$$

The cost of retained earnings is 11 percent.

METHOD 2. FOR COST OF EQUITY: Bond Yield Plus Risk Premium Method

This simple method of calculating the cost can provide a “quick and dirty” estimate. Take the interest rate on the firm’s bonds and add on a risk premium. The risk premium would usually range from 3 to 5 percent, based on a judgment of the firm’s riskiness.

For example, if the bond’s interest rate is 6 percent and you assign a risk premium of 4 percent, add these together to get an estimate of 10 percent.

5.3.1.3. Levered or Equity Beta

β —Beta—measures how a company’s share price reacts as compared to the overall market volatility. Levered beta, also known as equity beta or stock beta, is the volatility of returns for a stock, which considers the impact of the company’s leverage on its capital structure. It compares the volatility (risk) of a levered company to the risk of the market. This is the combined effect of both business risk and the risk that comes from taking on debt. This looks at the volatility of an equity, based on its capital structure commonly referred to as the “equity beta”.

Equity beta allows investors to assess how sensitive a security might be to macro-market risks. For example, a company with a β of 1.5 denotes returns that are 150% as volatile as the market of which it is a part. The higher a company’s debt or leverage, the more earnings from the company need to be committed to servicing the debt. As a company adds more debt, the uncertainty of the company’s future earnings also rises. It increases the risk associated with the company’s stock, but it is not a result of the market or industry risk.

The beta coefficient can be interpreted as follows: $\beta = 1$ exactly as volatile as the market

- $\beta > 1$ more volatile than the market
- $\beta < 1 > 0$ less volatile than the market
- $\beta = 0$ uncorrelated to the market
- $\beta < 0$ negatively correlated to the market

Many persons are accustomed to get information about public companies from research entities online. When you look up a company’s beta on Bloomberg the default number you see is levered. That means that the level of debt for each company has already been incorporated into the beta calculation. The higher a company’s debt or leverage, the more earnings from the company must be committed to service that debt. As a company adds more debt, the company’s uncertainty of future earnings also increases. This increased risk is associated with the company’s stock, but it is not a result of the market or industry risk. Therefore, by removing the financial leverage (debt impact), the unlevered beta can capture the risk of only the company’s assets.

- Each company’s debt level is unique, which would impact the outcome. For greater comparability, analysts want to compare how “risky” the assets of a company are, regardless of its level of debt funding in the capital structure. This is achieved by removing the financial leverage, or un-lever the beta (i.e. remove the debt impact). The unlevered beta captures the risk of the company’s assets only, which is Asset beta or unlevered beta.

- Asset β or Unlevered β = Levered β / (1 + [(1 – Tax Rate) * (Total Debt / Equity)])
- The formula for re-levering Beta is below:
- Equity β or Levered β = Unlevered β * (1+ [(1 – tax rate) *(Total Debt/Equity)])
- The result is then the basis for calculation of the unique levered Beta using the following equation based on the capital structure of the company that is being valued.
- Occasionally, a company may have a negative beta (e.g., a gold-mining company), which means the share price moves in the opposite direction to the market.

Example 5 - Unlevered Beta

Assume Stock 1 has an equity beta of 1.21, a tax rate of 35% and a net debt to equity ratio of 21%. Also, Net Debt is \$524M and Equity is \$2.542M. Using the formula calculate the Asset Beta and comment on your finding.



CALCULATION

$$\begin{aligned}
 \text{Asset Beta or Unlevered Beta} &= \text{Levered Beta} / (1 + [(1 - \text{Tax Rate}) * (\text{Debt} / \text{Equity})]) \\
 &= 1.21 / (1 + [(1 - 0.35) * (0.21)]) = 1.21 / (1 + (.065 * 0.21)) \\
 &= 1.21 / 1.1365 \\
 \text{Asset Beta} &= 1.065
 \end{aligned}$$

Comment: After unlevering the stock, the beta drops down to 1.21. This is due to removal of the debt which now makes the stock less risky for stockholders. The debt had added leverage to the stock.

Once the cost of equity is calculated, the investor or analyst may make adjustments for risk factors specific to the company, which may increase or decrease its risk profile based on matters such as, company size, pending lawsuits, the concentration of the customer base, and dependence on key employees. Adjustments are entirely a matter of investor judgment and varies from company to company. Rarely will two people derive the same WACC. Even if two people reach the same WACC, all the other applied judgments and valuation methods will likely ensure that each has a different opinion regarding the components that comprise the company value.

5.4. OTHER VALUATION METHODS

5.4.1. Leveraged Buy-Out Model⁷

When a company is purchased with significant amounts of borrowed money, keeping its assets as collateral, and using its cash flows can be a way to service the debt. In this case, the company's debt acts as a lever to improve returns on investment.

Compared to equity, debt has a lower cost of capital, so it helps to improve return on investment. The financial buyers acquire a company, fix it up, and then sell it. Thus, a leveraged buyout is an accepted form of business growth. By carrying out an analysis, buyers can determine the maximum purchase price that should be paid depending on different leverage levels and associated returns.

The analysis involves the following steps:

- The sources and uses of the funds for purchasing the firm are identified in terms of equity and debt;
- The firm's existing balance sheet is modified (pro-forma balance sheet) to reflect the transaction and the new capital structure; and
- An integrated cash flow model is created to project the firm's income and cash flow over a period.

Companies that are very stable and have recurring cash flows can safely have high debt volume, up to 90% or more than the purchase price. However, the normal range would be 40-50% of the purchase price. When firms do not generate sufficient cash flows to service their debts (an over-leveraged buyout), a high debt-to-equity ratio may lead to insolvency or require debt-to-equity swaps, which would amount to relinquishing control. Because of this, steady cash flow (to support the relatively high interest expense in a highly leveraged buyout) is an important factor.

5.4.2. Break-up Analysis or Sum of parts valuation

A company may have businesses that are too varied for the application of a single valuation method or ratio to all its businesses to be useful. This means, for example, that applying EV/EBITDA to total EBITDA, or using CAPM with a single beta may be not be the right approach. The solution is to value the different parts of the business separately and add the values of the different parts of the business together. This is a sum of parts valuation. A company may have a growth business that deserves a high PE and a mature business that deserves a low PE. A cyclical business may require a higher discount rate when doing a DCF.

Example 6 - Sum of Parts Valuation Approach

Consider a company that has three businesses: a subsidiary in which it owns a 50% stake and which is separately listed, a new business in which it has invested heavily but which is not expected to become profitable for several years, a mature, stable, defensive business that produces dependable cash flows.



APPROACH

Applying a single PE or EV/EBITDA to this business would be difficult. A possible approach using A Sum of Parts Approach would be appropriate, as follows:

- Value the separately listed subsidiary using the market value of its shares, possibly with a premium for the fact that it is a controlling interest.
- Use a DCF for the new start-up.
- Use an EV/EBITDA for the stable business
- Depending on how this is applied this will give you three numbers that can be added together to give an EV for the whole company.
- It may be necessary to adjust the total (usually by applying a smallish discount) for the effect of the fact that the businesses are in fact combined.



Chapter 6

Case study

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6.1. ENTERPRISE DESCRIPTION

6.1.1. Background

1. Fruit, Vegetables and Flower Exporters' Association (FVFEA) provides marketing services to its own members by priority, but also to other farmers (approximately 55) primarily in the neighbouring locations. FVFEA markets a wide range of crops, including papayas, vegetables and flowers. It purchases 70% of the crops grown by participating farmers.
2. FVFEA works with 10 greenhouse farmers who mostly grow sweet peppers and who employ 3 persons per greenhouse. FVFEA reports that there are issues of high temperatures in the greenhouses in the summer months. The greenhouse farmers harvest water from the houses, but given the droughts, this has not been enough. In addition to harvesting water, the greenhouse farmers bought and stored water and had a capacity to store 3,500 gallons that are sufficient to last for 2 weeks.
3. They grew sweet peppers for 6-7 months and reaped between 12 and 14 lbs. of pepper per plant. FVFEA plays an important coordinating role, not just in the sale of the sweet pepper crop, but also in the coordination of production to ensure that there is never a time when there is not greenhouse production of sweet peppers to meet the demand and commitment to their markets.
4. The impact of the drought on the availability of crops to market was most clearly demonstrated in the situation with plantains. In addition to significant reductions in the size of the fruit, and a general reduction in the numbers available, of 20 plantain farmers 5 farms were completely burned out because of fires from the extremely dry conditions.
5. FVFEA entered into contracts with farmers (the average size of the farms is 3 acres) to supply produce of an agreed amount and quality. The farmers deliver the produce to the facility where they are weighed, and receipts issued to the farmers. The produce is washed, dried, graded and packaged according to the specific requirements of each market. When the goods are packaged, they are then bar-coded. In general, this process takes place on Wednesdays and the produce is delivered to the major buyers on Thursdays.
6. FVFEA operated on the basis of a five-day credit after delivery from the farmers. Payments were made to farmers by cheque on Fridays, so that, effectively, farmers who deliver produce on Wednesdays are paid within 3 days.
7. FVFEA did not simply enter into contracts and await the delivery of products. The leading salesperson took a proactive stance to monitoring the suppliers. She visited the fields and did site evaluations so that she had a high level of confidence in the ability to supply when she makes a commitment.

8. FVFEA reported that one of their strengths is their commitment to honouring their markets. They described this sense of honour insistently as being a key concept for successful marketing and for having the good relationships on which collaborative endeavour depends. They were emphatic about the need to have a vision that is shared with the farmers; with ensuring that there is trust between the farmers and FVFEA so that farmers feel comfortable that their interests are being secured; and, above all, that there is strong and on-going communication at all times.
9. FVFEA added further value to its suppliers by operating a joint-purchasing programme through which farmers were able to buy certain fertilisers and other input enjoying the benefit of bulk pricing.
10. FVFEA saw itself being able to diversify into a certain amount of processing over the next 3-5 years and was confident that if farmers were able to improve their water situation to make them less vulnerable to droughts, they anticipated increasing sales, production and employment by between 15% and 20%.
11. FVFEA reported that before the droughts they were able to meet all their expenses, pay the farmers reliably and in accordance with their contracts and make a surplus of \$150,000.

6.2. CURRENT SITUATION

1. FVFEA continues to market the crops of its members preferentially, however, to meet the demands of its market it is more open to trading in the produce of non-members in and around the area.

FVFEA no longer markets as wide a selection of produce, instead placing emphasis on three crops: Plantains, Sweet Potatoes and Sweet Peppers. They also trade in relatively small amounts of Irish Potatoes but do not see themselves as able to compete with Irish Potato farmers who grow at higher elevation areas.
2. SMMC continues to market the crops of 14 greenhouse growers – this mainly being sweet peppers. The demand for sweet peppers has continued to be particularly strong and the prices commensurately high (as high as \$400.00 per .45 of a kilo). This price has proven to be more of a temptation than FVFEA's suppliers have been able to resist and so they have not been supplying the volumes that FVFEA's customers can handle and the FVFEA marketing person has had to work especially hard to persuade farmers to keep her in reasonable supply.
3. FVFEA continues to play an important coordinating role in the production and sale of sweet peppers, as demonstrated in 2, above. They supply an average of 140 kilos per week of sweet peppers to BestProduce Limited. They maintain very low levels of inventory, operating just-in-time management procedures.
4. The rainfall pattern during the course of 2017 was much more propitious for farmers since there was no period of significant drought during the year. This has resulted in FVFEA being able to supply an average of 900 kilos of plantains per week to BestProduce. They have been also able to supply an average of 300 kilos of sweet potatoes per week.

5. The procedure for receiving, processing and packaging produce for market continues along the same lines as in the previous period.
6. The payment terms between FVFEA and the supplying farmers continue to be the same.
7. SMMC's marketing person continues to be active in her visits to and monitoring of the supplying farmers. She continues to demonstrate detailed knowledge of what is happening in the farmers' field.
8. FVFEA continues to be committed to the vision of member engagement and collaboration and can point to instances where, even with the higher prices for sweet peppers, committed members continued to honour their commitments to sell their sweet peppers to the Cooperative.
9. FVFEA no longer has the available cash flow to pay much attention to the joint purchasing opportunities.
10. The Cooperative's hopes for diversifying into partial processing of product is unlikely to be realised anytime soon. There is simply not enough product, opportunity or the funds to enable this. As a result, they have not been able to realise the increases in revenue and employment that were anticipated.

It should be noted, however, that FVFEA has been proactive in trying to discover and develop other revenue streams.

Since the actual throughput of the facility is well below optimal usage, FVFEA is in the process of testing hiring out the facility for use by exporters who can benefit from access to such a facility. Thus far they have accommodated a papaya exporter who has hired the facility for 1 day

6.3. THE DEVELOPMENT BANK'S INVESTMENT

1. Development Bank invested \$20,751,500 in FVFEA's operation, while the Cooperative contributed \$4,080,000 in cash. The investment consisted of the following:
2. Installation and retrofitting of two 40-foot containers to provide cold-storage capacity of 141.5 cubic metres. One of these containers is to handle ethylene producing crops and the other non-ethylene producing crops.
3. The installation and retrofitting of one 40-foot container to provide dry-storage capacity of 70.7 cubic metres.
4. The establishment of a covered area of 148.6 square metres for processing.
5. Two stainless steel sinks with 3 compartments for washing produce, along with a 1000-gallon plastic tank for storing water, with a pump;
6. Provision of office equipment to include a desk top computer and a multi-purpose print/scan/fax/copy machine;
7. Capacity building interventions to cover organisational strengthening, business management and Good Agricultural Practices.

8. A chain link fence was to be erected around the perimeter of the facility for reasons of security.
9. It should be noted that at the time of the interviews the cold storage facility had not yet been commissioned.
10. It should also be noted that it is not at all clear that the requisite capacity building to ensure preparation of HACCP certification had been achieved.

6.4. UPDATED SITUATION

1. Investment made;
2. Installation and retrofitting implemented;
3. Processing area established;
4. Installed and functioning;
5. Equipment in place and functioning;
6. Capacity building interventions occurred;
7. Chain link fence in place;
8. The cold storage facility has been commissioned but is rarely used since, with the exception of the sweet peppers, the crops FVFEA is actually handling do not require significant cooling. Even in the case of the sweet peppers the volumes and frequencies are insufficient to warrant the powering up of the cooling facilities. This is especially true since they do not hold products in inventory for more than a few hours after which they move them directly into their cool truck.
9. The situation with the processing facility's not being ready for HACCP certification continues. Members of the FVFEA team have received training but the certification of the facility itself has not occurred. Were the facility to be HACCP certified, its attractiveness to exporters would increase substantially, as would the pricing possibilities for the use of the facility that could reasonably be charged. The facility could then be marketed as a certified resource for the regional producers.

6.5. FINANCIAL ANALYSIS

6.5.1. ASSUMPTIONS

6.5.1.1. *Production Assumptions*

The level of outturn achieved by FVFEA is the starting point which is projected for 2 additional years. Data used in the Base Scenario which was provided by the beneficiaries is increased after Year 3 for both revenue and input prices. This is because the main cause for the low level of sales is the drought experienced over the past two years from which the most recent data is drawn. Planting has resumed and the weather is normalizing. It is assumed that after Year 3 improved yields are achieved by the farmers who supply FVFEA as the drought would be over. After Year 3 in the Base case, Revenues are moved up by 10% which reflects the average inflation rate based on the average inflation rate over the previous five years, which averaged 10.3%. The cost of inputs is up 7% which is in line with the input costs to the agricultural sector over the recent past.

The impact of the presumed changes in buying activity is included in the Sensitivity analysis at the Production Up 15%, 20% and 30%; Production down 10%; holding production while separately increasing the employee related expenses by 20%, then Lease cost by 10% and then by 15%, and then also assuming the 300,000 lbs. of cassava found a market and is sold; increasing revenues and expenses by 20%; and by holding the present buying activity flat for the five years to determine the impact on profits and sustainability of the venture. (See Sensitivity Analysis Summary provided below).

6.5.1.2. *Sale Price Assumptions*

Prices obtained for the produce sold in the market are used to calculate actual and estimated earnings. These prices are increased by the average inflation rate of 10% in Year 4. Assumptions are made as to the volumes of produce and the prices at which they are wholesaled to the market, as are reflected in the financial analyses. Most of the crops are estimated on a weekly basis except for a few crops such as Carrots, where the volumes are based on less frequent twice monthly arrangement between FVFEA and the farmers. These arrangements also reflect the contracts in place for delivery of produce.

6.5.1.3. *Input Price Assumptions*

The current cost of inputs is maintained for the first three years into the project. After Year 3 the cost is increased by the average inflation rate of 7%.

6.5.1.4. *Discount Rate Assumption*

The discount rate used in the financial analysis is 7%. This is in line with where input costs to the agricultural sector are expected to be and reflective of the middle of the range of inflation projections. This rate is also assumed for input costs to the sub-project. The financial analysis also assumes that after Year 4 the sub-project is able to increase prices for produce sold by 10% that is in line with the inflation rate for the preceding 5-year period, which averaged 10.3%.

Operating Expenses and Revenues are analysed for 5-year periods, along with the statements of Capital Investments. This way full assessment of the complete investment made by the Development Bank in the operation of the FVFEA is achieved.

6.5.2. Net Present Value

The net present value, or NPV, is a common method used to evaluate investments. It provides the value of the total cash flow over the life of the project if you had that money today. It takes into consideration the initial investment made. If the NPV exceeds the initial investment then the project will add value to the group. FVFEA's NPV is negative J\$3.4 Million, however, the extenuating circumstances and overall economic impact on this rural farming community shows tremendous benefit over the medium term as the Scenario analysis demonstrates.

6.5.3. Internal Rate of Return

The IRR or Internal Rate of Return may be defined as the rate of growth a project is expected to generate. Therefore, the IRR should be higher than the cost of funds. Though the Co-op did not borrow money to complete the upgrading of the buying depot, if they were to borrow money from the bank they would pay an interest rate of 12% or higher. Agricultural loans are available at lower rates approximating 7% - 9% but FVFEA could not entertain credit facilities at this time with IRR of 3.5%. As the Sensitivity Analysis shows this operation is able to achieve significantly improved levels of return should the volume of produce processed and traded increase by 30% or the entire operation expands overall by 20%.

6.5.4. Breakeven Analysis

The FVFEA buying facility will break even in 5 years but only with improved performance as projected in Years 4 and 5. To continue at the current level results in a negative cash flow of \$7.95 Million and an IRR of negative 1.6%.

6.5.5. Cash Flow Analysis

In each instance as the Financial Analysis will show, these sub projects would not have been established without the support of the development grant which contributed 90% of the required funding to establish the packinghouse. With proper support to achieve standards achieved by a well-run operation the sale of these crops could be commercially viable and provide cumulative discounted cash flows in five years as shown below while providing employment and improved living standards for the community. The net cash inflow is negative for the first two years of operation which results in a negative ROI in each scenario. The base situation is shown below. This does not reflect the tremendous potential that this project has for FVFEA and the rural farming community that it supports.

Table 1 - Cash Flow Analysis

Cash Flow (\$) Development investment	Community Cash Contribution (\$)	ROI	Fifth Year Cumulative discounted cash flow (\$)
4,456,000	4.08M	-33.8%	1,921,091

If FVFEA is able to bounce back as is expected in 2016 and achieve the 30% growth from this new low, the operation will accumulate discounted cash amounting to \$ 12,773,652.57 in Year 5 as the Sensitivity Analysis demonstrates.

6.5.6. Sensitivity Analysis

This analysis shows how a change in the quantities of crops sold, the prices and processing costs will affect the income of the project and by extension the beneficiaries. If no adjustment is made to increase the current production, the operation results in a negative NPV \$3.4 Million and IRR of 3.5% breaking even in Year 5. It is not until the operation has a 30% increase in production that a positive NPV of \$5.15 Million is achieved with IRR of 12.2%. Sale of the full production of Cassava would also provide assuage the losses incurred. These are the only two occasions that SMMC could entertain credit should it be required. A 10% reduction in production results in negative NPV and /IRR. It is important to note that at the time of this assessment the sub-project is just beginning to recover from its worst period when the farmers are at their lowest levels of output.

Of note, is that there is only one instance where the return is adequate to sustain even the usual loan rate to farmers of 7%, this being the preferential rate made available to farmers through the People’s Cooperative Banks and special lines of development funding. This means that the facility will need to revert to trading levels previously seen prior to the impact of the drought to remain viable and sustainable. The increase in operational level overall of 20% results in IRR of 22.4% and NPV of \$16.5 Million.

Table 2 - Sensitivity Analysis

Fruit, Vegetables and Flower Exporters' Association (FVFEA)								
	Base scenario	Flat scenario	Increase Expenses 20%	Only Production Up 15%	Production Up 20%, Expense and lease Cost Up 20%	300,000 lbs Cassava Sold @ \$20/lb Year 3	Outturn Revised BASE Scenario	Outturn Revised FLAT Scenario
Net Cash Flow excluding investment by Development Grant	(12,470,396)	(12,470,396)	(14,914,385)	(12,492,858)	(11,760,896)	(12,470,396)	1,554,163	1,554,163
ROI	-33.8%	-33.8%	-43.8%	-33.9%	-30.9%	-33.8%	22.7%	22.69%
Accumulated Cash Flow	(12,470,396)	(12,470,396)	(14,914,385)	(12,492,858)	(11,760,896)	(12,470,396)	1,554,163	1,554,163
Cash Flow including investment by Development Grant	(33,221,896)	(33,221,896)	(35,665,885)	(33,244,358)	(32,512,396)	(33,221,896)	(19,197,337)	(19,197,33)
NPV	3,438,168	(7,948,068)	(13,711,498)	(10,987,710)	16,519,650	168,061,966	87,799,222	(54,186,22)
IRR	3.5%	-1.6%	-6.6%	-5.0%	22.4%	101.2%	3.5%	3.5%
Cumulative discounted cash flow	(33,221,896)	(33,221,896)	(35,665,885)	(33,244,358)	(32,512,396)	(33,221,896)	(19,197,337)	(19,197,33)
Breakeven year (Discounted Pay Back)	5.00	6.00	6.00	6.00	5.00	3.00	6.00	11.00

	Only Production Up 20%	Only Production Up 30%	Only Production down 10%	Only Lease increased by 10%	Only Lease increased by 15%	Personnel Related Expenses up 20%
Net Cash Flow excluding investment by Development Grant	(11,704,485)	(11,321,531)	(12,853,351)	(12,485,396)	(12,492,896)	(12,956,126)
ROI	-30.7%	-29.2%	-36.3%	-33.8%	-33.9%	-35.7%
Accumulated Cash Flow	(11,704,485)	(11,321,531)	(12,853,351)	(12,485,396)	(12,492,896)	(12,956,126)
Cash Flow including hard investment by Development Grant	(32,455,986)	(32,073,031)	(33,604,851)	(33,236,896)	(33,244,396)	(33,707,626)
NPV	(978,397.00)	5,154,542.00	(19,377,213)	(3,508,526.00)	(3,540,384.00)	(5,479,940)
IRR	6.0%	12.2%	-15.9%	3.4%	3.4%	1.5%
Cumulative discounted cash flow	(32,455,986)	(32,073,031)	(33,604,851)	(33,236,896)	(33,244,396)	(33,707,626)
Breakeven year (Discounted Pay Back)	5.00	5.00	6.00	5.00	5.00	6.00

6.5.7. Fruit, Vegetables and Flower Exporters' Association (FVFEA) OUTTURN – BASE Scenario

Table 3 - FVFEA Base Scenario

OUTTURN BASE SCENARIO												
BASIC ASSUMPTIONS												
Mark up on cost		25.00%										
Inflation for inputs		7%										
Increase in price after 3 rd year		10%										
Project Duration	Years	5.00										
Lease Payment for Land	Annual	150,000										
Prices as provided by beneficiaries				2014	2015	2016-2018	2014	2015	2016	2017	2018	
CROPS		Unit Price (\$)	Quantities Sold (lbs.)				Revenues (\$)					
		Avg Price-Yr 1	Avg Price-Yr 2-5	Unit/ Month Avg.			Year 1	Year 2	Year 3	Year 4	Year 5	
Banana/ Green		\$ 130.33	\$ 130.33	15.00	0.00	200.00	23,459.40	0.00	312,792.00	344,071.20	344,071.20	
Cabbage		76.02	200.00	402.00	220.00	300.00	366,720.48	528,000.00	720,000.00	792,000.00	792,000.00	
Callaloo		11.30	11.30	1960.00	0.00	200.00	265,776.00	0.00	27,120.00	29,832.00	29,832.00	

[illegible]

Sorrel	Pumpkin	Plantain/Green	Pepper/Scotch	Pepper/Red	Papaya	Pak chow	Onion	Melon
127.27	81.64	69.82	135.00	81.76	40.00	70.00	103.02	77.42
0.00	81.64	80.00	150.00	60	0.00	70.00	0.00	77.42
529.76	305.00	4081.60	403.00	307.00	300.00	30.00	86.00	178.00
0.00	6500.00	2000.00	140.00	0.00	0.00	0.00	0.00	0.00
0.00	10,000.00	22,000.00	140.00	16,000.00	1200.00	200.00	0.00	400.00
809,070.66	298,802.40	3,419,727.74	652,860.00	301,203.84	144,000.00	25,200.00	106,316.64	165,369.12
0.00	6367920.00	1,920,000.00	252,000.00	0.00	0.00	0.00	0.00	0.00
0.00	9,796,800.00	21,120,000.00	252,000.00	11,520,000.00	4320000.00	168,000.00	0.00	371,616.00
-	10,776,480.00	23,232,000.00	277,200.00	12,672,000.00	4,752,000.00	184,800.00	-	408,777.60
-	10,776,480.00	23,232,000.00	277,200.00	12,672,000.00	4,752,000.00	184,800.00	-	408,777.60

[illegible]

Sweet Pepper - Ripe or Assorted		\$ 180.00	\$ 180.00	2000.00	2000.00	2000.00	4,320,000.00	4,320,000.00	4,320,000.00	4,752,000.00	4,752,000.00	
Cassava		\$0.00	\$20.00	\$0.00	14000.00	14000.00	-	2,520,000.00	3,360,000.00	3,696,000.00	3,696,000.00	
Total Cost Revenue							15,767,444.49	19,191,120.00	73,160,328.00	80,476,360.80	80,476,360.80	

[illegible]

Personnel related expenses	monthly	202,387.73						2,428,652.76	2,428,652.76	2,428,652.76	2,598,658.45	2,598,658.45
Sales and Marketing Expenses	monthly	663,320.00						7,959,840.00	7,959,840.00	7,959,840.00	8,517,028.80	8,517,028.80
Delivery of produce to customers-twice weekly	per trip	9,500.00						988,000.00	988,000.00	988,000.00	1,057,160.00	1,057,160.00
Cost of Crops Purchased from farmers								11,937,894.68	15,272,940.00	47,699,046.00	51,103,949.22	51,103,949.22
Total Annual Expenses								24,157,840.40	27,492,885.72	59,918,991.72	64,179,291.14	64,179,291.14
Operational Profit				35,740,751.44				(8,390,395.91)	(8,301,765.72)	13,241,336.28	16,297,069.66	16,297,069.66

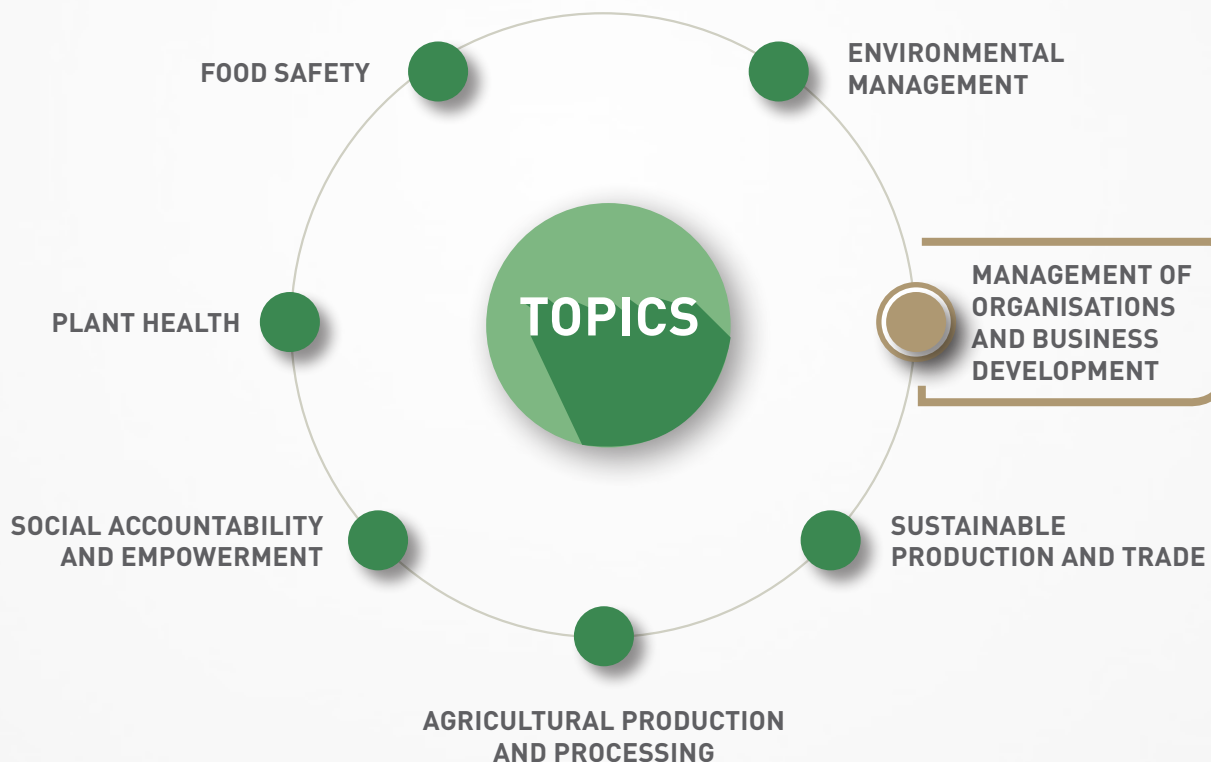
CAPITAL INVESTMENTS – DEVELOPMENT GRANT										
3 - 40Ft. Containers to serve as Cold and Dry storage to create 141.5msq.Cold Storage; 70.7m. sq.Dry Storage;							-34.73%			
148.6m.sq. Packing facility							20,751,500.00			
Machinery, Equipment, and Small Tools										
Community Contribution -Infrastructure							4,080,000.00			
TOTAL CAPITAL INVESTMENTS							24,831,499.65			
Net Cash Flow excluding hard Investment by Development Grant							-\$12,470,395.91	\$(8,301,765.72)	\$13,241,336.28	\$16,297,069.66
ROI							-33.79%			

Accumulated Cash Flow							-\$12,470,395.91	-\$20,772,161.63	-\$7,530,825.35	\$8,766,244.31	\$25,063,313.97
Cash Flow including hard Investment by Development Grant							(33,221,895.56)	(8,301,765.72)	13,241,336.28	16,297,069.66	16,297,069.66
NPV							(\$3,438,167.68)				
IRR							3.52%				
Cumulated Discounted Cash Flow							(33,221,895.56)	(43,849,193.97)	(30,607,857.69)	(14,375,978.64)	1,921,091.02
Break Even Year (Discounted Pay Back)							5				

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