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STATEMENT OF CHANGE IN FINANCIAL POSITION

The first three financial statements created by a company are the Statement of Earnings (Income Statement), the Statement of Change in Retained Earnings (or Statement of Change in Owner's Equity) and the Statement of Financial Position (Balance Sheet). The fourth financial statement is the Statement of Change in Financial Position. This statement looks at the Statement of Financial Position at the first of the year (end of the previous year) and at the end of the year, and reports the changes that caused the change in the Cash position of the company (Cash being actual cash on hand and cash equivalents). It answers the question "How much did our cash increase (or decrease) and why?". By detailing the change in every account except cash we are, in essence, reporting the change in cash. To begin, we must understand that there are three activities in which a company is engaged as follows: Operating Activities, Investing Activities and Financing Activities. Operating Activities are normal business activities like generating revenue and incurring expenses. Investing Activities involve the purchase (and disposal) of non-current assets such as land, building, equipment, etc. Financing Activities involve the borrowing (and repayment) of loans, the issue (selling) and retirement (buying back) of shares and the paying of dividends. To be more precise, each activity involves the following:

OPERATING ACTIVITIES:

Net Income

- a) Adjustments to Net Income:
 - i) Change in Current Assets (except Cash and Short Term Notes Receivable)
 - ii) Change in Current Liabilities (except Short Term Notes Payable)
 - iii) Non-Cash Revenue & Expenses like:
 - (1) Amortization
 - (2) Loss (or Gain) on disposal of non-current assets.

INVESTING ACTIVITIES:

Change in Short Notes Receivable Increase in Long Term Investments Decrease in Long Term Investments Cost of Acquired Non-Current Assets Proceeds from Disposal of Non-Current Assets

FINANCING ACTIVITIES:

Change in Short Term Notes Payable Increase in Long Term Notes Payable Decrease in Long Term Notes Payable Issue of Shares Retirement of Shares Payment of Dividends Looking at the Accounting Puzzle we can identify which accounts affect which activity as follows:



It is important to note some terminology at this time as follows:

Cash Equivalents represent investments that are readily convertible to a known amount of cash and are close enough to their maturity date (usually 3 months) that they are not affected by fluctuations in interest rates.

You don't Purchase a capital asset you Acquire a capital asset You don't Sell a capital asset you Dispose of a capital asset

You don't Sell shares to raise Share Capital you Issue shares You don't Buy back shares you Retire shares

STATEMENT OF CHANGE IN FINANCIAL POSITION – INDIRECT METHOD

OPERATING ACTIVITIES:	INVESTING ACTIVITIES:	FINANCING ACTIVITIES:
Net Income	Change in Short Term Notes Receivable	Change in Short Term Notes Payable
Adjustments:	Increase in Long Term Investments	Increase in Long Term Notes Payable
Change in Current Assets (except cash)	Decrease in Long Term Investments	Decrease in Long Term Notes Payable
Change in Current Liabilities (except	Cost of Acquired Non-Current Assets	Issue of Shares
short term notes payable)		
Non-Cash Expenses (ie: Amortization	Proceeds from Disposal of Non-Current	Retirement of Shares
or Loss on Disposal – positive cash)	Assets	
Non-Cash Revenue (ie: Gain on		Payment of Dividends
Disposal – negative cash)		

Now let's look at an example. We will take the information from the following Financial Statements and prepare a Statement of Change in Financial Position.

For the year ended December 31, 2000				
Sales		1,083,000		
Cost of Goods Sold		585,000		
Gross Profit		498,000		
Expenses:				
Amortization Expense	36,600			
Other Expenses	397,050			
Gain on Disposal of Equipment	(2,100)	431,550		
Net Income before Tax		66,450		
Income Tax		9,450		
Net Income		57,000		

ABC Company Statement of Earnings or the year ended December 31, 2000

ABC Company Statement of Financial Position December 31, 2000

	December 31	
ASSETS:	2000	1999
Current Assets:		
Cash	136,500	71,550
Accounts Receivable	74,100	90,750
Inventory	454,500	495,200
Prepaid Expenses	17,100	14,200
Non-Current Assets:		
Equipment	278,250	216,000
Less Acc. Amort.	(108,750)	(93,000)
TOTAL ASSETS	851,700	794,700
LIABILITIES & EQUITY:		
Current Liabilities:		
Accounts Payable	105,000	95,000
Sales Taxes Payable	12,450	28,450
Short Term Note Payable	17,250	11,250
Long Term Liabilities:		
Long Term Note Payable	112,500	82,500
Equity:		
Common Shares	483,000	450,000
Retained Earnings	121,500	127,500
TOTAL LIABILITIES & EQUITY	851,700	794,700

The purpose of the Statement of Change in Financial Position is to explain why the cash went from \$71,550 at the end of 1999 to \$136,500 at the end of 2000, an increase of \$64,950.

The Statement of Change in Financial Positions (Statement of Cash Flow) must also report the changes by activity (Operating, Investing and Financing). We will start by dealing with each activity individually and then put them all together on a complete Statement of Change in Financial Position.

Operating Activities:

These activities deal with the Revenue and Expense of the company and therefore start with the Net Income. Because cash may not be received when revenue is earned and cash may not be paid when expenses are incurred, we must make adjustments to the net income to arrive at the change in cash due to operating activities. There are four types of adjustments as follows:

1. Change in Current Assets:

An increase in current assets represents a decrease in cash. (ie: more inventory means less cash)

A decrease in current assets represents an increase in cash.

2. Change in Current Liabilities:

A decrease in current liabilities represents a decrease in cash.

(ie: the use of cash to pay down accounts payable)

An increase in current liabilities represents an increase in cash.

- **3.** Elimination of Non-Cash Expenses: ie: Amortization or Loss on Disposal of Capital Assets.
- 4. Elimination of Non-Cash Revenues:

ie: Gain on Disposal of Capital Assets.

Using the numbers in the Statement of Earnings and Statement of Financial Position above, this section of the Statement of Change in Financial Position would appear as follows. Note that the negative amounts (in brackets) represent a decrease in cash:

Net Income	57,000	
Adjustments:		
Decrease in Accounts Receivable (74,100–90,750)	16,650	
Decrease in Inventory (454,500-495,200)	40,700	
Increase in Prepaid Expenses (17,100-14,200)	(2,900)	
Increase in Accounts Payable (105,000-95,000)	10,000	
Decrease in Sales Tax Payable (12,450-28,450)	(16,000)	
Amortization Expense (non-cash expense)	36,600	
Gain on Disposal of Equipment (non-cash revenue)	(2,100)	
Cash provided by Operating Activities		139,950

Investing Activities:

Since we have already dealt with the current assets, we must now deal with the acquisition and disposal of non-current assets such as land, building, equipment, etc. An analysis of the general ledger accounts for these assets would reveal the information necessary to record the changes during the period. We deal with the acquisition and disposal of non-current assets differently as illustrated below:

1. Acquisition of Non-Current Assets:

A decrease in cash in the amount of the cost of the new asset.

2. Disposal of Non-Current Assets:

An increase in cash in the amount of the cash received for the old asset.

Because we don't have the general ledger cards available, to illustrate we will take into consideration the following:

- 1. Purchased equipment costing \$113,250.
- 2. Equipment that originally cost \$51,000, with accumulated amortization of \$20,850 was sold for \$32,250.

This section of the Statement of Change in Financial Position would appear as follows. Note that the negative amounts (in brackets) represent a decrease in cash:

Acquisition of Equipment (at cost)	(113,250)	
Disposal of Equipment (proceeds from disposal)	32,250	
Cash used for Investing Activities		(81,000)

To further clarify why we use the amount of proceeds when we dispose of a non-current asset please consider the following:

	Cost minus Accumulated Amortization equals		
Proceeds minus	Net Book Value	;	equals Gain (or loss) on Disposal
Proceeds from Dispos Gain on Disposal	sal $32,250$ minus $2,100$ equals $30,150$	Investmen Operating (a Loss wo	t Activity Activity ould be added to the Proceeds)
Cost of Equipment Accumulated Amortiz Net Book Value	51,000 zation minus <u>20,850</u> equals <u>30,150</u>		

By reporting the Proceeds and Gain (or Loss) we are reporting the change in the Equipment and the Accumulated Amortization.

Financing Activities:

Since we have already dealt with the current liabilities (except Short Term Notes Payable), we must now deal with the short term notes payable, the non-current liabilities and the equity sections of the Statement of Financial Position. An analysis of the general ledger accounts would reveal the information necessary to record the changes during the period as illustrated below:

 Change in Short Term Notes Payable: A decrease in short term notes payable represents a decrease in cash. (ie: the use of cash to pay down the loan) An increase in short term notes payable represents an increase in cash. (ie: borrow more money)

2. Increase in Long Term Notes Payable:

An increase in long-term notes payable represents an increase in cash.

3. Decrease in Long Term Notes Payable:

A decrease in long-term notes payable represents a decrease in cash.

4. Issue of Shares:

The sale of shares (increase in the Share Capital Equity account) represents an increase in cash.

5. Retirement of Shares:

The purchase (buying back) of shares (decrease in the Share Capital Equity account) represents a decrease in cash.

6. Payment of Cash Dividends:

A decrease in the Retained Earnings account (excluding the effect of Net Income or Net Loss) represents a decrease in cash.

Because we don't have the general ledger cards available, to illustrate we will take into consideration the following:

- 1. Borrowed \$6,000 and signed a short-term note payable.
- 2. Borrowed \$75,000 to purchase more equipment.
- 3. Paid \$45,000 to reduce long-term note payable.
- 4. Issued 3,000 common shares for cash at \$11 per share.
- 5. Declared and paid cash dividends of \$63,000.

This section of the Statement of Change in Financial Position would appear as follows. Note that the negative amounts (in brackets) represent a decrease in cash):

Increase in Short Term Note	6,000	
Increase in Long Term Note	75,000	
Decrease in Long Term Note	(45,000)	
Issue of Shares (3,000 x \$11)	33,000	
Payment of Dividends	(63,000)	
Cash provided by Financing Activities		6,000

When we put all three activities together and add a couple of lines at the bottom we get the following Statement of Change in Financial Position:

December 31, 2000		
OPERATING ACTIVITIES:		
Net Income	57,000	
Adjustments:		
Decrease in Accounts Receivable	16,650	
Decrease in Inventory	40,700	
Increase in Prepaid Expenses	(2,900)	
Increase in Accounts Payable	10,000	
Decrease in Sales Tax Payable	(16,000)	
Amortization Expense	36,600	
Gain on Disposal of Equipment	(2,100)	
CASH PROVIDED BY OPERATING ACTIVITIES		139,950
INVESTING ACTIVITIES:		
Purchase of Equipment	(113,250)	
Disposal of Equipment	32,250	
CASH USED FOR INVESTING ACTIVITIES		(81,000)
FINANCING ACTIVITIES:		
Increase in Short Term Note	6,000	
Increase in Long Term Note	75,000	
Decrease in Long Term Note	(45,000)	
Issue of Shares	33,000	
Payment of Dividends	(63,000)	
CASH PROVIDED BY FINANCING ACTIVITIES		6,000
INCREASE IN CASH		64,950
CASH AT THE FIRST OF THE YEAR		71,550
CASH AT THE END OF THE YEAR		136,500

ABC Company Statement of Change in Financial Position December 31, 2000

As you can see, the final number of \$136,500 agrees with the amount of cash at the end of the year, December 31, 2000.

FINANCIAL ANALYSIS

Once financial information has been created it is just that, information. That information must be analyzed before it can become knowledge and therefore useful to management. This chapter will look at three types of analysis namely Horizontal Analysis, Vertical Analysis and Ratios.

Horizontal Analysis

Also called Trend Analysis, this area deals with changes over time and the end results would be plotted on a Line Graph. To illustrate, we will use the following example:

	2000	1999	1998	1997	1996
Sales	283,880	271,800	253,680	235,560	151,000
Cost of Sales	129,200	123,080	116,280	107,440	68,000
Gross Profit	154,680	148,720	137,400	128,120	83,000
Accounts Receivable	19,100	18,300	17,400	16,200	10.000

The above table displays information for the years 1996 to 2000. Although, for each year, we have only used three numbers from the Statement of Earnings and one number from the Statement of Financial Position, you can see that it is quite a collection of numbers and very difficult to see anything of value.

It appears that our sales have increased as has our cost of sales, gross profit and accounts receivable, but is that good. Unfortunately these numbers are misleading because there are too many variables in each number. For example, the sales numbers are a combination of two variables, quantity and price per unit. The cost of sales numbers are also made up of quantity and cost per unit and each year contains a different combination of these variables.

These numbers need to be refined by making the oldest year the Base Year (100%) and expressing the other years as a percentage of that Base year (amount in year divided by amount in base year) as follows:

	2000	1999	1998	1997	1996
Sales	188%	180%	168%	156%	100%
Cost of Sales	190%	181%	171%	158%	100%
Gross Profit	186%	179%	166%	154%	100%
Accounts Receivable	191%	183%	174%	162%	100%

The percentage for Sales for the year 2000 was calculated as 283,880 divided by 151,000. The percentage for Sales for the year 1999 was calculated as 271,800 divided by 151,000.

The new percentages reveal some interesting insights. For example, sales in the year 2000 were up 188% over 1996, but gross profit was only up 186%. The reason for this lies in the fact that cost of sales was up 190%. Also, accounts receivable are up 191% while sales are only up 188%. This kind of analysis will indicate problem areas that are not obvious simply by looking at the raw numbers.

Vertical Analysis

Also called Common Size Analysis, this area deals with the relationship of one account to another account and the end results would be plotted on a Pie Chart. To illustrate, we will use the following example:

	DOLLARS	% OF REVENUE
REVENUE:		
Sales	150,000	75
Services	50,000	25
TOTAL REVENUE	200,000	100
COST OF GOODS SOLD	120,000	60
GROSS PROFIT	80,000	40
OPERATING EXPENSES:		
Advertising	10,000	5
Wages	40,000	20
Other	20,000	10
TOTAL OPERATING EXPENSES	70,000	35
INCOME FROM OPERATIONS	10,000	5
INCOME TAX	4,000	2
NET INCOME	6,000	3

This type of analysis let's us compare our company to the industry (or other companies) and one period to another. If, for example, Cost of Goods Sold became 65% of Total Revenue there would be cause for concern.

Many franchise operations are provided with these ratios. When you purchase a franchise, the franchisor will provide key percentages that management can use to monitor the actual performance of their franchise.

Ratios

Also referred to as Financial Ratios, this area deals with the reduction of a massive amount of numbers to sets of numbers that can be compared from period to period when analyzing a specific company or from company to company when analyzing investment options.

There are four groups of ratios that analyze specific areas of interest as follows:

1) LIQUIDITY

- i) Working Capital
- ii) Current Ratio
- iii) Quick Ratio (Acid-Test Ratio)
- iv) Accounts Receivable Turnover
- v) Merchandise Inventory Turnover
- vi) Days Sales Uncollected
- vii) Days Stock in Inventory

2) SOLVENCY

- i) Debt Ratio
- ii) Equity Ratio
- iii) Pledged Assets to Secured Liabilities
- iv) Times Interest Earned

3) EFFICIENCY & PROFITABILITY

- i) Gross Margin
- ii) Profit Margin
- iii) Total Asset Turnover
- iv) Return on Total Assets
- v) Return on Equity
- vi) Book Value per Share
- vii) Earnings per Share

4) MARKET

- i) Price Earnings Ratio
- ii) Dividend Yield

On the following pages we will look at each ratio to determine its purpose, its calculation and an example, but first we need some information to be used in the examples. The following Statement of Earnings and Statement of Financial Position will provide that information:

ABC Company Statement of Earnings December 31, 2000

Sales		505,500
Cost of Goods Sold		310,500
Gross Profit		195,000
Expenses:		
Interest Expense	9,500	
Other Expenses	122,000	
Total Expenses		131,500
Income from Operations		63,500
Income Tax		7,500
Net Income		56,000

ABC Company Statement of Financial Position December 31, 2000

ASSETS:	2000	1999
Current Assets:		
Cash	26,500	
Accounts Receivable	62,500	72,500
Merchandise Inventory	95,000	102,500
Prepaid Expenses	8,500	
Capital Assets:		
Plant & Equipment	550,000	
Less Accumulated Amortization	(344,300)	
TOTAL ASSETS	398,200	325,500
LIABILITIES:		
Current Liabilities:		
Accounts Payable	84,000	
Sales Tax Payable	11,500	
Long Term Liabilities:		
Long Term Note Payable	85,000	
TOTAL LIABILITIES	180,500	
EQUITY:		
Share Capital	125,000	105,000
Retained Earnings	92,700	52,000
TOTAL EQUITY	217,700	157,000
TOTAL LIABILITIES & EQUITY	398,200	

Note: Since previous year information is only needed for calculations that use an average, only the applicable numbers have been added for 1999.

WORKING CAPITAL

This number has nothing to do with cash on hand. It shows the liquidity of a company, which is the ability of a company to meet its short-term obligations.

Calculation:					
	Current A	ssets minus	Current Liabilities		
Example:					
Current Assets	s (Ca Exp	ash + Accounts Reco penses)	eivable + Merchandis	se Invento	ory + Prepaid
Current Liabil	ities (Ad	ccounts Payable + S	ales Tax Payable)		
	(Current Assets	192,500		
	(Current Liabilities	95,500		
	V	Working Capital	97,000		

CURRENT RATIO

This number also shows the relationship between the current assets and the current liabilities and hence the liquidity of a company. A general rule of thumb is that a company's current ratio should be about 2 to 1 (2:1)

Colculation.

Calculation:			
	Current Assets divided by	Current Liabilities	
Example:			
Current Assets	s (Cash + Accounts Rec	ceivable + Merchandise Invento	ry + Prepaid
	Expenses)		
Current Liabil	ities (Accounts Payable + S	Sales Tax Payable)	

Current Assets	192,500
Current Liabilities	95,500
Current Ratio	2.02 : 1

QUICK RATIO (ACID TEST RATIO)

This number is a more strict application of the current ratio and uses the quick assets that exclude prepaid expenses and inventory. A general rule of thumb is that a company's quick ratio should be no less than 1 to 1(1:1)

Calculation:

	Quick Asset	s divided by	Current Liabilities
Example:			
Quick Assets	(Cash	n + Accounts Rec	eivable)
Current Liabil	ities (Acco	ounts Payable + S	Sales Tax Payable)

Quick Assets	89,000
Current Liabilities	95,500
Current Ratio	0.93 : 1

ACCOUNTS RECEIVABLE TURNOVER

This number represents how quickly a company converts its accounts receivable to cash. Usually, the higher this number the better, but it can also be too high which may indicate that credit terms are too restrictive resulting in lost sales.

Calculation:

Example:

Sales divided by	Average Receivables
Sales	505,50
Average Receivable (62,500 +	72,500) / 2 67,50
Accounts Receivable Turnover	7.49 Time

MERCHANDISE INVENTORY TURNOVER

This number represents how long a company holds inventory before it's sold. A company with a high turnover requires a lower investment in inventory to make the same sales dollars as a company with a lower turnover. Usually, the higher this number the better, but it can also be too high which may indicate that sales are being lost because inventory variety is missing.

Calculation:

	Cost of Goods Sold divided by	Average Inventory
Example:		
	Cost of Goods Sold	310,500
	Average Inventory (95,000 + 105)	,500) / 2 98,750
	Accounts Receivable Turnover	3.14 Times

DAYS SALES UNCOLLECTED

This number also represents how quickly a company converts its accounts receivable to cash. The lower this number the better because it represents the number of days a customer takes to pay.

Calculation:

A/R divided by Sales times 365

Example:

Accounts Receivable	62,500
Annual Sales (credit sales)	505,500
Number of days in a year	365
Days Sales Uncollected	45.13 Days

DAYS STOCK IN INVENTORY

This number represents how quickly a company converts its inventory into accounts receivable or cash. The lower this number the better because it represents the number of days items stay in stock.

Calculation:

y Cost of Goods Sold times 365	Inventory divided by
--------------------------------	----------------------

Example:

Inventory	95,000
Annual Cost of Goods Sold	310,500
Number of days in a year	365
Days Stock in Inventory	111.67 Days

DEBT RATIO

This ratio goes hand in hand with the Equity Ratio. The sum of the two ratios equals 100% as each ratio is a percentage of the total assets of the company. These ratios measure the portion of the assets financed by lenders (debt) and the portion of the assets financed by the owners (equity).

Calculation:

	Total Liabilities divided by	Total Assets times	100
Example:			
	Total Liabilities	180	,500
	Total Assets	398	,200
	Convert to a percentage		100
	Debt Ratio	45.3	33%

EQUITY RATIO

This ratio goes hand in hand with the Debt Ratio. The sum of the two ratios equals 100% as each ratio is a percentage of the total assets of the company. These ratios measure the portion of the assets financed by lenders (debt) and the portion of the assets financed by the owners (equity).

Calculation:

Equity Ratio

Example:

Total Equity divided by	Total Assets times	100
Total Equity	217	,700
Total Assets 3		,200
Convert to a percentage		100

54.67%

PLEDGED ASSETS TO SECURED LIABILITIES

This ratio represents the solvency of a company from a lenders point of view. It shows the relationship between the assets that are pledged to the creditors and the liabilities that are secured by a lien on the pledged assets. An example of this relationship would be a house and the mortgage on the house. The mortgage is a secured liability and the house is a pledged asset. In our example we will assume that the Capital Assets are pledged against the Long Term Note Payable.

Calculation:

Pledged Assets divided by	Secured Liabilities

Exampl	le:	

Net Capital Assets (550,000 – 344,300)	205,700
Long Term Note Payable	85,000
Pledged Assets to Secured Liabilities	2.42:1

TIMES INTEREST EARNED

This ratio also represents the solvency of a company from a lenders point of view. It shows the number of times the company has earned (before taxes and interest expense) an amount equal to the interest expense.

Calculation:

(Net Income plus Income Tax plus Interest) divide	d by	Interest	
Example:				
	Net Income		56,000	
	Income Tax		7,500	
	Interest Expense		9,500	
	Interest Expense		9,500	
	Times Interest Earned	7	.68 Times	

GROSS MARGIN

This ratio takes into consideration the sales less the cost of goods sold (gross profit) to determine the relationship between gross profit and sales. The higher gross margin percentage the more of the gross profit is left for operating expenses and net income.

Calculation:

	(Sales minus Cost of Goods Sold) divided by	Sales times	100
Example			
	Sales	505,5	500
	Cost of Goods Sold	310,5	500
	Sales	505,5	500
	Convert to a percentage]	100
	Gross Margin	38.58	8%

PROFIT MARGIN

This percentage takes into consideration the sales and the net income to determine the relationship between net income and sales. The higher the profit margin percentage the more profitable the company.

Calculation:

Example:

Net Income divided by	Sales times	100
Net Income		56,000
Sales		505,500
Convert to a percentage		100
Gross Profit		11.08%

RETURN ON TOTAL ASSETS

This percentage takes into consideration the net income and the total assets to measure the efficiency of a company. The higher the number, the more efficiently the company is using its assets.

Calculation:

Net Income divided by Average Total Assets times 100
--

Example:

Net Income	56,000
Average Total Assets (398,200 + 325,500) / 2	361,850
Convert to a percentage	100
Return on Total Assets	15.48%

RETURN ON EQUITY

This percentage takes into consideration the net income and the total equity to measure the profitability of a company. The higher the number, the more profitable the company is for its owners.

Calculation:

Example:

Net Income	56,000
Average Total Equity (217,700 + 157,000) / 2	187,350
Convert to a percentage	100
Return on Total Equity	29.89%

100

Net Income divided by Average Total Equity times

BOOK VALUE OF COMMON SHARES

This dollar amount has no bearing on the market value of the shares of a company. It is simply a mathematical calculation that divides the book value of the shares by the number of shares outstanding. Some insight is available when compared to the market value of the shares.

Calculation:

Book Value of Shares divided by Nur	mber of shares outstanding
-------------------------------------	----------------------------

Example (assume 12,500 shares issued and outstanding):

Book Value of Shares	125,000
Number of Shares Issued & Outstanding	12,500
Book Value per Share	\$10.00

EARNINGS PER SHARE

This dollar amount is very important to the shareholders of a company. It represents the amount of net income the company made per share.

Calculation:

Net Income divided by Number of shares outstanding	Net Income divided by	Number of shares outstanding
--	-----------------------	------------------------------

Example (assume 12,500 shares issued and outstanding):

Net Income	56,000
Number of Shares Issued & Outstanding	12,500
Earnings per Share	\$4.48

PRICE EARNINGS RATIO

This ratio compares the market price of a share (dollar amount for which a share can be purchased on the open market) with the earnings per share. The lower the number the better for the investor as (in the example below) the price of a share is 6.47 times greater than the earnings per share (6.47 years to earn what it cost for the share)

Calculation:

Example (assume a market price of \$29 per share):

Market Price pe	r Share		29
Earnings per Sh	are		4.48
Price Earnings I	Ratio		6.47:1

DIVIDEND YIELD

This percentage compares the dividend paid per share with the market price per share. The higher the number the better for the investor.

Calculation:

Dividend per Share divided by	Market Price per Share times	100

Example (assume a dividend of \$1 per share):

Dividend per Share	1
Market Price per Share	29
Convert to a percentage	100
Dividend Yield	3.45%

COST-VOLUME-PROFIT ANALYSIS

This type of analysis, often called Break-Even (net income is zero) analysis, is used to get an overall picture of the company's possible net incomes and is a prelude to the budgeting process. It is a generalization and does not eliminate the need for budgeting. It also (in a manufacturing company) makes the assumption that all units produced will be sold. Once the numbers have been calculated, the results are put on a graph for easier analysis.

To begin, we must determine what expenses are involved and whether those expenses are variable or fixed costs.

Variable Cost: Costs that change in direct proportion to the sales. A couple of examples would include Cost of Product and Sales Commission. As the quantity sold increases, the cost of goods sold and sales commission increases in exactly the same proportion (ie: Sales doubles, Cost of Goods Sold and Sales Commission doubles).

Cost of Product (per Unit)	\$50
Packaging (per Unit)	8
Commission (per Unit)	2
Variable Cost (per Unit)	\$60

Example of Components of Variable Cost:

Fixed Cost: Costs that do not change in proportion to the quantity of sales. An example might include Management Salaries or Rent (assuming that a portion of the rent is not a percentage of sales). For a cost to qualify as a Fixed Cost, the quantity sold may increase, but this cost remains the same. If, for example, Rent Expense was \$500 per month plus 10% of Sales, the \$500 would be a Fixed Cost and the 10% would be Variable.

From the description of the Variable and Fixed cost you should understand the following:

As the volume of production/sales increases:

Variable Cost per Unit stays the same Total Variable Cost increases Fixed Cost per Unit decreases Total Fixed Cost stays the same

Most costs, although not consistent from period to period can be determined to be either variable or fixed. However, there are costs that are a combination of the two (Mixed, Semi-Variable, Step-Variable, etc.) but, for the purpose of ease of understanding, we will assume that you only have two types of costs (Variable and Fixed).

To illustrate we will use an example that assumes the only variable cost is the cost of the product.

Step 1: Using the selling price per unit and the variable cost per unit, determine the relationship between the selling price, the variable cost and the contribution margin (selling price minus the variable cost).

	\$ per Unit	%	
Selling Price	100	100%	
Variable Cost	60	60%	Variable Rate
Contribution Margin	40	40%	Contribution Rate

- Step 2: Using the total fixed cost (assume \$200,000), calculate the Break-Even point in Units (Fixed Cost divided by Contribution Margin).
 \$200,000 divided by \$40 equals 5,000 units.
- Step 3: Using the total fixed cost (assume \$200,000), calculate the Break-Even point in Sales dollars (Fixed Cost divided by Contribution Rate).
 \$200,000 divided by 40% equals \$500,000.

With the above three steps complete, we can look at a Statement of Earnings at the breakeven point as follows:

ABC Company Ltd. Statement of Earnings At Break-Even

	1101	
Sales (\$100 x 5,000 units)		\$500,000
Variable Cost (\$60 x 5,000 units)	\$300,000	
Fixed Cost	200,000	
Total Cost		500,000
Net Income		\$0

The next step is to set up a graph to plot the Total Sales Line and Total Cost Line.. The X axis (along the bottom) represents various quantities and the Y axis (along the left side) represents dollars. Before we begin it must be determined what the maximum quantity will be and the maximum dollar value will be. In our example we will assume 10,000 units and \$1,000,000 (10,000 units times \$100). Our graph is then set up as follows:



The bottom left corner of the graph is the coordinate (0,0) representing zero units and zero dollars. Each vertical line from left to right represents an increase of 1,000 units. Each horizontal line from bottom to top represents an increase of \$100,000. As you can see, the maximum quantity is 10,000 units and the maximum dollars is \$1,000,000.

We must now put two lines on the graph, one representing the Total Sales Line and one representing the Total Cost Line. Because a line consists of two points that are joined together, we must determine the end points of each line.

Total Sales Line:

Point	Quantity	Price	Total Dollars
Start	0	\$100	\$0
End	10,000	\$100	\$1,000,000

In the above example, the coordinates of the point at the start of the Total Sales Line would be (0,0) or zero units and zero total dollars. The point at the end of the Total Sales Line would be (10000, 1000000) or 10,000 units and \$1,000,000. When plotted on the graph they would appear as follows:



Total Costs Line:

Point	Quantity	Cost per Unit	Total Variable Cost	Fixed Cost	Total Cost
Start	0	\$60	\$0	\$200,000	\$200,000
End	10,000	\$60	\$600,000	\$200,000	\$800,000

In the above example, the coordinates of the point at the start of the Total Costs Line would be (0,200000) or zero units and \$200,000. The point at the end of the Total Costs Line would be (10000, 800000) or 10,000 units and \$800,000. When added to the graph we get the following:



The intersection of the two lines represents the break-even point and, as calculated earlier, the quantity is 5,000 units and the total sales dollars are \$500,000. If sales are greater than 5,000 units the company will enjoy a net income. If sales are less than 5,000 units the company will suffer a net loss.

You should be aware than this is only a rough estimate of the way things might happen, but it does allow us to gauge how the company is doing. For example, if the break-even is 5,000 units per month, we are half way through the month and we have sold 1,000 units, we know we are in trouble.

The usefulness of this analysis comes out when we use it to determine projected net income at various quantity levels or have a target net income and we need to know the quantity necessary to achieve that target.

Net Income at Various Quantities

As noted in the previous examples the selling price is \$100, the variable cost is \$60 and the fixed cost is \$200,000. Let's also assume that the tax rate is 30%. We can now set up the following table:

	Per Unit	Percentage
Sales	\$100	100%
Variable Cost	- \$60	- 60%
Contribution Margin / Rate	= \$40	= 40%
Fixed Cost is \$200,000		
Income from Operations		100%
Income Tax Rate		- 30%
Net Income		= 70%

Using the percentages and fixed cost from the above table we can substitute the per unit information with new variables. Assume we want to know the net income if we sold 8,000 units. The following table would help calculate the result:

	Percentage	At 8,000 Units
Sales (\$100 X 8,000)	100%	\$800,000
Variable Cost	60%	- 480,000
Contribution Rate / Margin	40%	= 320,000
Fixed Cost		- 200,000
Income from Operations	100%	= 120,000
Income Tax	30%	- 36,000
Net Income	70%	= 84,000

Variable Cost of \$480,000 equals Sales dollars times 60% Contribution Margin of \$320,000 equals Sales dollars time 40%

Income Tax of \$36,000 equals Income from Operations times 30% Net Income of \$84,000 equals Income from Operations time 70%

The end result shows that if we sell 8,000 units at \$100 per unit, we can expect a net income of about \$84,000.

Quantity Necessary to Reach a Target Net Income

As noted in the previous examples the selling price is \$100, the variable cost is \$60 and the fixed cost is \$200,000. Let's also assume that the tax rate is 30%. We can now set up the following table:

	Per Unit	Percentage
Sales	\$100	100%
Variable Cost	- \$60	- 60%
Contribution Margin / Rate	= \$40	= 40%
Fixed Cost is \$200,000		
Income from Operations		100%
Income Tax Rate		- 30%
Net Income		= 70%

Using the percentages and fixed cost from the above table we can substitute the per unit information with new variables. Assume we want to know the quantity we need to sell to reach a net income of \$56,000. In this case we would start at the bottom of the table and work our way to the top. The following table would help calculate the result:

	Percentage	At 7,000 Units
Sales	100%	\$700,000
Variable Cost	60%	
Contribution Rate / Margin	40%	280,000
Fixed Cost		200,000
Income from Operations	100%	80,000
Income Tax	30%	
Net Income	70%	56,000

Income from Operations of \$80,000 equals Net Income divided by 70% Contribution Margin of \$280,000 equals Income from Operations plus Fixed Cost Sales of \$700,000 equals Contribution Margin divided by Contribution Rate (40%) Number of Units of 7,000 equals \$700,000 divided by Selling Price per Unit (\$100)

The end result shows that if we want to achieve a net income of \$56,000 we must sell 7,000 units at \$100 per unit.

A final note about costs that are not strictly variable or fixed (Mixed, Semi-Variable and Step-Variable). An example of Mixed could be a salesperson's wages where part of it is salary and part is commission. Semi-Variable costs do not increase in the same proportion as quantities increase. Step-Variable are like Fixed costs but only to a certain quantity and then they jump up to another level. A good example would be the cost of supervisor salaries if the production plant put on a second shift. The cost would jump again when a third shift was added.

SALES MIX

The above example dealt with only one product to make it easier to understand the principles involved. In the real world very few companies sell only one product and so you should understand how to use the Cost-Volume-Profit Analysis in a situation where more than one product exists. To help you understand we will use an example as follows:

PRODUCT	SELLING PRICE / UNIT	VARIABLE COST / UNIT
А	\$10.00	\$6.00
В	\$8.00	\$4.00
С	\$12.00	\$9.00

Before we can begin we must determine the quantities of each product we expect to sell. This information would be determined by looking at a sales budget and historical information. For our purposes we will use the following:

PRODUCT	SALES MIX (Quantity)
А	10,000
В	8,000
С	16,000

The next step is to reduce the above relationship to a ratio where the smallest quantity is one. We do this as follows:

PRODUCT	SALES MIX	DIVIDED BY	SALES MIX
		SMALLEST	RATIO
Α	10,000	8,000	1.25
В	8,000	8,000	1.00
С	16,000	8,000	2.00

Therefore, the Sales Mix ratio is 1.25 : 1 : 2

With the above information we can determine the "Composite Selling Price per Unit", the "Composite Variable Cost per Unit" and the "Composite Contribution Margin per Unit" as in the following two tables:

PRODUCT	SALES MIX RATIO	SELLING PRICE	TOTAL
A	1.25	\$10.00	\$12.50
В	1	\$8.00	\$8.00
C	2	\$12.00	\$24.00
	\$44.50		

PRODUCT	SALES MIX RATIO	VARIABLE COST	TOTAL
А	1.25	\$6.00	\$7.50
В	1	\$4.00	\$4.00
С	2	\$9.00	\$18.00
	Composit	te Unit Variable Cost	\$29.50

Therefore, the Composite Unit has the following:

Selling Price per Unit	\$44.50	100.00%
Variable Cost per Unit	\$29.50	66.29%
Contribution Margin per Unit / Rate	\$15.00	33.71%

With this information we can use the Fixed Cost (let's assume \$150,000) to determine the Break-even in Units and in Sales Dollars as follows:

Break-even in Units = Fixed Cost divided by Contribution Margin = \$150,000 / \$15.00 = 10,000 units

Break-even in Sales Dollars = Fixed Cost divided by Contribution Rate = \$150,000 / 0.3371 = \$444,972

The next step is to break the Composite Unit down to the quantity of its individual components, namely, Product A, B and C. We do this by multiplying the Sales Mix ratio by the Composite Unit Break-even quantity as follows:

PRODUCT	SALES MIX	COMPOSITE	BREAK-EVEN
	RATIO	UNIT	UNITS
		BREAK-EVEN	PER PRODUCT
А	1.25	10,000	12,500 (1.25 x 10,000)
В	1.00	10,000	10,000 (1.00 x 10,000)
С	2.00	10,000	20,000 (2.00 x 10,000)

To prove our findings we use the Units at Break-even multiplied by the Selling Price for each product and then sum the calculations as follows:

PRODUCT	UNITS AT	SELLING PRICE	SALES DOLLARS
	BREAK EVEN	PER UNIT	AT BREAK EVEN
А	12,500	\$10.00	\$125,000
В	10,000	\$8.00	\$80,000
С	20,000	\$12.00	\$240,000
	\$445,000		
COMPOS	\$444,972		
	DIFFERENCE D	UE TO ROUNDING	\$28

MASTER BUDGET

The Master Budget usually covers a three-month period. As each month becomes history, a new month is added. This "Rolling Budget" will allow us to compare actual performance with expected performance. The Master Budget is made up of three types of budgets and their components as follows:

- 1. Operating Budgets
 - a. Sales Budget
 - b. Merchandise Purchases Budget (or Production Budget)
 - c. Selling Expense Budget
 - d. General & Administrative Expense Budget
- 2. Capital Expenditures Budget
- 3. Financial Budgets
 - a. Cash Budget
 - b. Budgeted Statement of Earnings
 - c. Budgeted Statement of Financial Position

This, and the next pages, will deal with each type of budget and then put all the components together.

Operating Budgets

Before we begin our example, we must accumulated some information so the numbers in the budgets make sense. To start, let's make the following assumptions:

- 1) We are opening up a brand new store.
- 2) We only sell staplers.
- 3) We sell the staplers for \$10 each and get paid immediately.
- 4) The staplers cost us \$6 each and we pay for them when we receive them.
- 5) Our store rent which includes all utilities is \$500 per month payable at the start of each month.
- 6) One sales clerk is paid a salary of \$2,000 per month.
- 7) We will spend \$200 per month on advertising.
- 8) Store supplies will amount to \$100 per month.
- 9) Our bookkeeper will cost us \$400 per month.
- 10) All other general and administrative expenses will total \$300 per month.
- 11) We will purchase a computer system in the first month for \$1,800. We will use the computer for three years at which time it will be scrapped. This means we have Amortization Expense of \$50 per month (1,800 / 3 years / 12 months).

Using the information from above we can determine our "Selling Price", our "Variable Cost" and our "Fixed Cost" as follows:

Selling Price per Unit	10
Variable Cost per Unit	6
Gross Profit per Unit	4
Fixed Costs:	
Rent	500
Sales Salary	2,000
Advertising	200
Store Supplies	100
Amortization	50
Bookkeeping	400
Other G & A	300
Total Fixed Costs	3,550

Based on the above information we can determine the number of staplers we need to sell per month to break-even as follows:

Fixed Cost divided by	Gross Profit per Unit equals	Number of Units
3,550	4	887.50

We are now able, after some market research, to create our Sales Budget.

Sales Budget

This budget takes the quantity sold per month multiplied by the selling price per unit. In reality a company sells many products at different prices, but for reasons of simplicity we will be selling only one product. The sales budget must be for four months for reasons that will become obvious when we look at the Merchandise Purchases Budget that follows. The Sales Budget we will use as an example is as follows:

	January	February	March	April
Number of Units	900	1,000	1,200	1,500
Price per Unit	10	10	10	10
Sales per Month	\$ 9,000	\$ 10,000	\$ 12,000	\$ 15,000

As you can see, once the number of units per month has been established, the Sales per Month is a simply multiplication. As mentioned earlier this is an over simplification. In reality a sales budget per product would be necessary to arrive at the total sales per month.

Merchandise Purchases Budget

Once the sales budget has been finalized, the Merchandise Purchases Budget (which, by product, can be very difficult) must be calculated.. This budget will help determine the quantity (and cost) necessary to ensure there is enough inventory on hand to cover the sales and leave enough in the ending inventory to begin the next month. The Merchandise Purchases Budget is in quantities until we multiply the final numbers by the cost per unit.

We begin by making a management decision as to the percentage of the current month's sales we want in the beginning inventory. Put another way, of the next month's sales, what percentage do we want in the ending inventory. It is because we use "Next Month's Sales" that we require four months projected sales. Assuming we have decided that we want 60% of the next month's sales in the ending inventory, we get the following:

	January	February	March
Next Month's Sales	1,000	1,200	1,500
% for Ending Inventory	60%	60%	60%
Ending Inventory	600	720	900
Sales for Current Month	900	1,000	1,200
Quantity to be Available	1,500	1,720	2,100
Less Beginning Inventory	0	600	720
Quantity to Purchase	1,500	1,120	1,380
Cost per Unit	\$ 6	\$ 6	\$ 6
Purchases per Month	\$ 9,000	\$ 6,720	\$ 8,280

Selling Expense Budget

This budget takes into consideration any expense that involves selling the product:

	January	February	March
Store Rent	500	500	500
Sales Salary	2,000	2,000	2,000
Advertising	200	200	200
Store Supplies	100	100	100
Total Selling Expenses	2,800	2,800	2,800

General & Administrative Expense Budget

This budget covers any other expenses not dealt with as of yet as follows:

	January	February	March
Bookkeeping	400	400	400
Other G & A Expenses	300	300	300
Total General & Admin.	700	700	700

SALES	Janu	ary	Februa	nry	March	n April
Number of Units		900	1,0	000	1,200) 1,500
Price per Unit		10		10	1() 10
Sales per Month	\$ 9,	000	\$ 10,0	000	\$ 12,000) \$ 15,000
PURCHASES			January		February	March
Next Month's Sale	s		1,000		1,200	1,500
% for Ending Inve	ntory		60%		60%	60%
Ending Inventory			600		720	900
Sales for Current N	Aonth		900		1,000	1,200
Quantity to be Available		1,500			1,720	2,100
Less Beginning Inventory		0			600	720
Quantity to Purchase			1,500		1,120	1,380
Cost per Unit			\$ 6		\$ 6	\$ 6
Purchases per Mor	nth		\$ 9,000		\$ 6,720	\$ 8,280
	-					
SELLING EXPEN	NSES		January		February	March
Store Rent			500		500	500
Sales Salary			2,000		2,000	2,000
Advertising			200		200	200
Store Supplies			100		100	100
Total Selling Exper	nses		2,800		2,800	2,800

When we put all the Operating Budgets together we get the following:

G & A EXPENSES	January	February	March
Bookkeeping	400	400	400
Other G & A Expenses	300	300	300
Total General & Admin.	700	700	700

Capital Expenditures Budget

This budget lays out the expected acquisition and disposal of Capital Assets. This is the purchase or disposal of such things as land, buildings, equipment, vehicles, etc.

The decision to invest in a Capital Asset must be considered very carefully and is very difficult because of the following factors:

- 1. The benefits of the decision are uncertain.
- 2. A large amount of money is involved.
- 3. The investment involves a long-term commitment.
- 4. The decision is difficult, if not impossible, to reverse.

It is for these reasons that different investment alternatives must be considered. We will save the comparison of different investment alternatives to a later chapter and use this chapter to concentrate on the budgeting process after the decision is made.

The purchase of a Capital (Fixed) asset can be done five ways as follows:

- 1. Purchase for cash.
- 2. Obtain financing (a loan) and use the cash to purchase.
- 3. Sell shares of the incorporated company and use the cash to purchase.
- 4. Trade in an asset the company owns and add some cash.
- 5. Lease the asset.

You would be wise to keep things as simple as possible. What we mean by this is to break each transaction into its components. For example:

- #2 should be treated as two transactions, obtaining financing and acquiring the asset.
- #3 should be treated as two transactions, issuing shares and acquiring the asset.
- #4 should be treated as two transactions, disposing of an asset and acquiring the asset.
- #5 deals with either an Operating Lease or a Capital Lease. A capital lease is treated like number 2 above where an operating lease is renting the asset.

In this way we simplify the budgeting process. By treating the "obtaining of a loan" and "selling of shares" as Financing Activities that affect our Cash Budget and Budgeted Statement of Financial Position, we only have to deal with the acquisition and disposal of Capital Assets.

Acquisition

Assuming we have raised enough money either through financing or the sale of shares, we must now add the acquisition of Capital Assets to our Capital Expenditures Budget. We need only put the cost of the asset in the appropriate month. There is, however, a calculation needed to determine the amount of monthly Amortization Expense for the Selling (or General & Administrative) Expenses Budget.

Disposal

To deal with the disposal of a Capital Asset we must understand completely the following formula:

Cost minus Accumulated Amortization equals Net Book Value. Proceeds minus Net Book Value equals Gain (or Loss) on Disposal.

We will now look at each component and which part of the Master Budget is affected and by what amount.

Cost	Reduction of the Asset on the Budgeted Statement of
	Financial Position.
Accumulated Amortization	Reduction of the Accumulated Amortization on the
	Budgeted Statement of Financial Position.
Net Book Value	Affect taken care of by the previous two items.
Proceeds from Disposal	Receipt of cash on the Cash Budget.
Gain (or Loss) on Disposal	Revenue (or Expense) on Budgeted Statement of
	Earnings.

In our example, to keep things simple, we only purchased a computer as follows:

CAPITAL EXPENDITURES	January	February	March
Computer	1,800		
Total Expenditures	1,800		

This budget leads to the calculation of Amortization Expense. We will be using the computer for both selling and administration, but for simplicity sake we will consider its use mainly for selling and therefore a selling expense. Assuming we will use the computer for three years and the value will be zero at the end of that period, there will be a monthly expense of \$50 (using the Straight Line Method of Amortization). This changes our Selling Expense Budget and we now have the following budgets.

SALES	January	February	March	April
Number of Units	900	1,000	1,200	1,500
Price per Unit	10	10	10	10
Sales per Month	\$ 9,000	\$ 10,000	\$ 12,000	\$ 15,000

PURCHASES	January	February	March
Next Month's Sales	1,000	1,200	1,500
% for Ending Inventory	60%	60%	60%
Ending Inventory	600	720	900
Sales for Current Month	900	1,000	1,200
Quantity to be Available	1,500	1,720	2,100
Less Beginning Inventory	0	600	720
Quantity to Purchase	1,500	1,120	1,380
Cost per Unit	\$ 6	\$ 6	\$ 6
Purchases per Month	\$ 9,000	\$ 6,720	\$ 8,280

SELLING EXPENSES	January	February	March
Store Rent	500	500	500
Sales Salary	2,000	2,000	2,000
Advertising	200	200	200
Store Supplies	100	100	100
Amortization of Computer	50	50	50
Total Selling Expenses	2,850	2,850	2,850

G & A EXPENSES	January	February	March
Bookkeeping	400	400	400
Other G & A Expenses	300	300	300
Total General & Admin.	700	700	700

CAPITAL EXPENDITURES	January	February	March
Computer	1,800		
Total Expenditures	1,800		

Financial Budgets

These budgets determine the cash receipts and disbursements in the Cash Budget and use that budget plus the previous budgets to create the Budgeted Statement of Earnings and Budgeted Statement of Financial Position.

Cash Budget

The receipt and disbursement of cash can be determined from previous budgets and information about when customers pay you and when you pay suppliers, but there are other ways cash is received or disbursed as follows:

Other Receipts of Cash: Increase in Loans (Notes Payable) From the Owners (Owner / Partner Investments or Sale of Shares) Other Disbursements of Cash Decrease in Loans (Notes Payable) To the Owners (Owner / Partner Withdrawals or Cash Dividends)

All cash receipts and disbursements must be considered when you are creating the Cash Budget. Our first consideration is the Cash Receipts from Customers and for this we need to consider the Sales Budget as follows:

SALES	January	February	March	April
Number of Units	900	1,000	1,200	1,500
Price per Unit	10	10	10	10
Sales per Month	\$ 9,000	\$ 10,000	\$ 12,000	\$ 15,000

To determine the receipts we must make a decision as to when we will receive the cash. For purposes of this example we will assume all sales are for cash. Since we are assuming this is a new company we can now begin our Cash Budget as follows:

	January	February	March
Cash at Beginning of Month	0		
Cash Receipts from Customers	9,000	10,000	12,000
Cash before Disbursements to Suppliers	9,000		

PURCHASES	January	February	March
Next Month's Sales	1,000	1,200	1,500
% for Ending Inventory	60%	60%	60%
Ending Inventory	600	720	900
Sales for Current Month	900	1,000	1,200
Quantity to be Available	1,500	1,720	2,100
Less Beginning Inventory	0	600	720
Quantity to Purchase	1,500	1,120	1,380
Cost per Unit	\$ 6	\$ 6	\$ 6
Purchases per Month	\$ 9,000	\$ 6,720	\$ 8,280

Our next consideration is the Cash Disbursements to Suppliers and for this we need to consider the Purchases Budget as follows:

To determine the disbursements we must make a decision as to when we will pay the cash. For purposes of this example we will assume all purchases are for cash. We can now add to our Cash Budget as follows:

	January	February	March
Cash at Beginning of Month	0		
Cash Receipts from Customers	9,000	10,000	12,000
Cash before Disbursements to Suppliers	9,000		
Cash Disbursements to Suppliers	9,000	6,720	8,280
Cash before other disbursements	0		

Our next consideration is any other Cash Disbursements and for this we need to consider the Selling Expenses Budget, the General & Administrative Expenses Budget and the Capital Expenditures Budget as follows:

SELLING EXPENSES	January	February	March
Store Rent	500	500	500
Sales Salary	2,000	2,000	2,000
Advertising	200	200	200
Store Supplies	100	100	100
Amortization of Computer	50	50	50
Total Selling Expenses	2,850	2,850	2,850

G & A EXPENSES	January	February	March
Bookkeeping	400	400	400
Other G & A Expenses	300	300	300
Total General & Admin.	700	700	700

CAPITAL EXPENDITURES	January	February	March
Computer	1,800		
Total Expenditures	1,800		

Notice that we do not use Amortization Expense on the Cash Budget as this expense does not affect cash. We can now add to our Cash Budget as follows:

	January	February	March
Cash at Beginning of Month	0		
Cash Receipts from Customers	9,000	10,000	12,000
Cash before Disbursements to Suppliers	9,000		
Cash Disbursements to Suppliers	9,000	6,720	8,280
Cash before other disbursements	0		
Other Disbursements:			
Store Rent	500	500	500
Sales Salary	2,000	2,000	2,000
Advertising	200	200	200
Store Supplies	100	100	100
Bookkeeping	400	400	400
Other G & A Expenses	300	300	300
Purchase of Computer	1,800		
Total of Other Disbursements	5,300	3,500	3,500
Cash before Other Adjustments	-5,300		

As you can see, our "Cash before Other Adjustments" is in a negative position. Because of this we must determine if we are going to borrow money (loan) or if the owner is

	January	February	March
Cash at Beginning of Month	0	4,700	4,480
Cash Receipts from Customers	9,000	10,000	12,000
Cash before Disbursements to Suppliers	9,000	14,700	16,480
Cash Disbursements to Suppliers	9,000	6,720	8,280
Cash before other disbursements	0	7,980	8,200
Other Disbursements:	500	500	500
	2,000	2,000	2,000
	200	200	200
	100	100	100
	400	400	400
	300	300	300
	1,800		
Total of Other Disbursements	5,300	3,500	3,500
Cash before Other Adjustments	-5,300	4,480	4,700
Investment by Owner	10,000		
Cash at End of Month	4,700	4,480	4,700

going to invest money. Let's assume the owner will invest \$10,000. We can now complete our Cash Budget as follows:

Notice that the cash at the beginning of February is the same as the cash at the end of January and the cash at the beginning of March is the same as the cash at the end of February.

Budgeted Statement of Earnings

We now have accumulated enough information to create a Budgeted Statement of Earnings and Statement of Change in Owner Equity for the three-month period as follows:

ABC Company Budgeted Statement of Earnings For the 3 Months ended March 31, 2000

Sales			31,000
Cost of Goods Sold:			
Beginning Inventory		0	
Plus Purchases		24,000	
Goods Available for Sale		24,000	
Less Ending Inventory		5,400	18,600
Gross Profit			12,400
Selling Expenses:			
Store Rent	1,500		
Sales Salary	6,000		
Advertising	600		
Store Supplies	300		
Amortization of Computer	150	8,550	
General & Administrative Expenses:			
Bookkeeping	1,200		
Other G & A Expenses	900	2,100	10,650
Income from Operations			1,750

ABC Company Budgeted Statement of Change in Owner Equity For the 3 Months ended March 31, 2000

Owne	0		
Plus:	Net Income	1,750	
	Owner Investment	10,000	11,750
			11,750
Less:	Owner Withdrawal		0
Owne	r Equity March 31		11,750

Budgeted Statement of Financial Position

We have also accumulated enough information to create a Budgeted Statement of Financial Position as at March 31, 2000 as follows:

Current Assets:		
Cash	4,700	
Inventory	5,400	10,100
Capital Assets:		
Computer	1,800	
Less Acc.Amort.	150	1,650
Total Assets		11,750
Liabilities		0
Owner Equity		11,750
Total Liabilities & Owner Equity		11,750

ABC Company Budgeted Statement of Financial Position As At March 31, 2000

Again, we are aware that this is an oversimplification, but unless we understand how every piece fits together we cannot add to the puzzle.

At this point, a further explanation of Cash Receipts from Customers and Cash Disbursements to Suppliers is in order. As mentioned above, the receipts and disbursements may be based on sales and purchases. In reality, customers don't always pay when expected and we don't always pay suppliers when expected. This, and the fact that we have a value in our Accounts Receivable and Accounts Payable accounts, makes the following examples applicable to the real world:

Let's look at an example of Receipts from Customers and Payments to Suppliers to help understand:

Example of Receipts from Customers:

Assumptions:

1	Projected Sales are as follows:
1.	Flojecteu Sales ale as follows.

	January	February	March
Total Sales	40,000	50,000	60,000

- 2. Of the Total Sales, 20% are for Cash and 80% are on account.
- 3. Of the 80% Credit Sales, 40% are paid the following month and 60% are paid two months later.

Calculation of Cash Receipts from Customers for March are as follows:

Cash from March Cash Sales (60,000 x 20%)	12,000
Cash from February Credit Sales (50,000 x 80% x 40%)	16,000
Cash from January Credit Sales (40,000 x 80% x 60%)	19,200
Total Cash Receipts in March	47,200

To complete the example we will add the fact that Accounts Receivable exist as follows:

4. Accounts Receivable at December 31st is \$70,000 and we expect to receive 40% in January and 60% in February

Calculation of Cash Receipts from Customers are as follows:

	January	February	March
From December 31 A/R (\$70,000)	28,000	42,000	
From Cash Sales	8,000	10,000	12,000
From January Credit Sales		12,800	19,200
From February Credit Sales			16,000
Total Cash Receipts from Customers	36,000	64,800	47,200

Example of Payments to Suppliers:

Assumptions:

1. Projected on account Purchases are as follows:

	January	February	March
Purchases	20,000	30,000	40,000

2. Of the Purchases, 70% are paid the following month and 30% are paid two months later.

Calculation of Cash Disbursements to Suppliers for March are as follows:

Cash for February Purchases (30,000 x 70%)	21,000
Cash for January Purchases (20,000 x 30%)	6,000
Total Cash Disbursements in March	27,000

To complete the example we will add the fact that Accounts Payable exist as follows:

3. Accounts Payable at December 31st is \$40,000 and we expect to pay 70% in January and 30% in February

Calculation of Cash Disbursements to Suppliers are as follows:

	January	February	March
From December 31 A/P (\$40,000)	28,000	12,000	
From January Credit Purchases		14,000	6,000
From February Credit Purchases			21,000
Total Cash Receipts from Customers	28,000	26,000	27,000

Finally, as mentioned earlier, a budget should be continuous. This means that, in our example, when January is over our next budget should be for February, March and April. When February is over, our next budget should be for March, April and May. By doing this we make budgeting part of the day-to-day functions of the accounting department.