Effective Accounting for Small Business

A Guide to Business and Personal Financial Success

David E. Tooch

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Contents

Introduction to the Book and the Course

Executive summary

This book is designed for college courses in "Managerial Accounting," "Cost Accounting," "Accounting II" and others of similar name and nature. This book is also designed for all private citizens. After all, each of us is a "business" unto ourselves:

Your	Sales	Your	Income
Business:	– Expenses	Personal	– Expenses
	= Profit (Loss)	Life:	= Disposable Income (Debt)

Personal financial management and success is as important as business financial management and success. Many of the topics presented apply to both our business and personal lives.

As is the nature of managerial accounting, the concepts and applications are intended for internal use only. There are no rules regarding the content and format of in-house spreadsheets and reports. Our focus is strictly on reports that provide the best and most useful information to people and managers. Other accounting courses address "generally accepted accounting principles," IRS regulations, and stockholder and other external reports.

This book is presented in outline format with minimal text. It is up to you and/or your instructor to fill in the blanks based on the goals and priorities of your class, and your business and your personal life.

The book begins with training and insight in cost behavior, the income statement, cash flow statement, balance sheet, and manufacturing cost reports, each presented in the most useful format. This is followed by a series of standalone tools and techniques aimed at efficiency, profit maximization, per-hour income maximization, business and personal financial planning and wealth and perspectives on both doing well ($) and doing good (©). There is much more to life than just making money! Tips for success: simply plug each lesson into your current or future business,

your current and future personal/ home situation, and your life's passions. In addition to the unique inclusion of topics in personal financial management, this book gives equal time to retail, service, manufacturing, and non-profit enterprises.

Course perspectives

Make it real and make it interesting; start by writing down some short- and long-term business and personal financial goals! If you own or manage a business, think about and write down the specific sales, profit, and growth goals that you would like to achieve over the next 1-3-5-10+ years. As for your personal life, write down the specific income, investment, retirement, or other goals that you would like to achieve over the next 1-3-5-10+ years. This course will teach you exactly how to turn dreams into reality!

> **(STOP! Do not continue unless you have written down the above-mentioned goals. Writing them down is the first step toward achievement!)**

Connections to the Process of Management: Plan, Organize, Staff, Direct, Control, and Follow up: All Introduction to Business courses include perspectives and applications about the process of management; this course focuses on the control and follow-up portions of that process, i.e., the various reports and spreadsheets that managers (and private individuals) receive on a regular basis from bookkeepers and banks. The numbers don't lie! These reports provide their recipients with useful information that may then be acted upon if production, sales, or profit/ income results are less than expected. This course includes examples of these reports, and most importantly how to interpret and act upon the information/results of each period.

Related Career Opportunities: There are many varied job and career opportunities inherent to the material covered in this book. People in positions ranging from Controller to Chief Financial Officer to Financial Advisor and Consultant use the material in this book as a benchmark or starting point to successful financial management applications.

Introduction to learning to identify and act on numbers that "jump off the page": Arguably the most important financial skillset to possess, this book will teach you how to quickly identify and act on the biggest winners and biggest losers that currently exist in your business and/or personal financial life. Pushing the winners and fixing or eliminating the losers is the best and fastest route to favorable and significant change.

There is more to life than money! Throughout this book, you will be educated about the many human resource management and personal life intangibles and dynamics that exist for each of us throughout our business and personal lives. While the financial focus is always on maximizing business profit and personal income in the most efficient manner, it is important to consider and incorporate all aspects of life.

> **"The good life is a balance of work, play, family, friends, and community."**

PART I

Basic Applications

CHAPTER 1

Cost

There are two ways to make money-bring in more and/or spend less:

Your Business:	Sales – Expenses = Profit (Loss)	Your Personal Life:	Income – Expenses = Disposable Income (Debt)

Take the time to learn, understand, and master cost behavior; this will pay off handsomely throughout your entire business and personal life!

Fixed Costs: Expenses that remain the same regardless of changes in production or sales: These include monthly expenses such as rent or mortgage payments, salaries (versus hourly labor), fire and liability insurance, depreciation, property taxes, and others. Notice that regardless of month-to-month changes in production or sales, these expenses remain the same; hence the name "fixed costs" For planning and managing purposes, treat these costs as fixed for one full year. Some fixed costs can and will change from year to year.

Fixed Costs Per Unit: Bookkeepers and managers convert total fixed costs to per unit fixed costs for cost control and pricing analysis. Companies look to "spread" total fixed costs over each unit of production or sales for any given period. For example, if the total fixed costs for a company were $50,000 for a given month and that company produced 10,000 units of product, the fixed cost per unit would be $5:

$$\text{Fixed Cost/Unit} = \frac{\text{Total Fixed Costs}}{\text{\# Units}} = \frac{\$50{,}000}{10{,}000} = \$5/\text{FC Unit}$$

(Note too that fixed costs/unit will go down as production or sales units go up, and that fixed costs/unit will go up as production or sales units go down.)

Variable Costs: Monthly expenses that vary or change as production or sales increases or decreases: Expenses such as hourly labor, direct

materials or merchandise, supplies, utilities, maintenance, and others will go up and down as production or sales units go up or down, hence the name "variable costs"

Variable Costs per Unit: Once again, bookkeepers and managers convert total variable costs to per unit variable costs for cost control and pricing analysis. In this case, variable cost per unit stays the same as sales or production goes up or down. Total variable costs increase or decrease as sales or production goes up or down. The same formula is used here:

$$\text{Variable Cost/Unit} = \frac{\text{Total Variable Costs}}{\text{\# Units}} = \$/\text{VC Unit}$$

Mixed Costs: Annual/monthly expenses that include both fixed and variable cost components: These include monthly costs such as insurance, advertising, transportation, and others. Each of these contains both a fixed and variable component; hence the name "mixed costs." For management analysis and control purposes, all that matters is consistency in assigning these costs to various spreadsheets (this will be covered in detail in Chapter Two).

Creating and using a cost grid for the relevant range: The relevant range includes the minimum and maximum levels of sales or production that any business expects to realize on a month-to-month basis. This allows managers to see a "picture" of the cost behavior of a business for cost control and pricing analysis. Complete the cost grid for Joe T's Sub Cart.

	# Units Produced				
	1500	3000	6000	7500	9000
VC/Unit	$2.50				
FC/Unit	____	____	____	____	____
Total Cost/Unit	$ ____				
Total Variable Costs					
Total Fixed Costs	$3000	____	____	____	____
Total Costs	$ ____				

Describe the ways in which this information is useful to the manager or owner of this business.

All business students study both marketing and managerial accounting. Marketing is all about customer behavior relative to buying. Managerial Accounting is all about business behavior relative to cost. The object of the game is to maximize profits and income. Consider the following:

Your Business:	Sales	The Behavior of the Customer (Marketing)
	Expenses	The Behavior of the Business (Accounting)
	Profit (Loss)	$
Your Personal Life:	Income	The Behavior and Smarts of You
	Expenses	The Behavior and Smarts of You
	Disposable Income (Debt)	$

What have you just learned about the financial management and success of your business and your personal life?

> "Learn to 'behave' efficiently as this greatly enhances life and profitability!"

CHAPTER 2

Preparing and Understanding the Income Statement

Each year, most/all businesses generate the following income statement. While this information/format may be required for external reporting purposes, it is of little use to department managers and owners:

	Company Name
Sales/Revenues	$
Cost of Sales/Cost of Goods Sold	_____
Gross Margin/Gross Profit	$
Operating Expenses:	$
Payroll	$
Utilities	
Interest	
Depreciation	
Supplies	
Maintenance	
Advertising	
Legal/Professional	
Transportation	
Insurance	
Local/Property Taxes Selling	
Administrative	
Others/Miscellaneous	_____
Taxable Income	$
Tax	_____
Net Income	$_____

Notice that all revenues and all expenses are lumped together in a single column of information. Individual department and profit center managers and business owners have no idea how each profit center or department is performing.

Notice that all fixed costs and all variable costs are also lumped together. Again, this is not useful to department and profit center managers and business owners.

Every business is really several businesses under one roof. Each department or profit center must be isolated and all fixed and variable costs must be separated as follows:

Company Name

Profit Center Contribution Margin Income Statement

	Profit Center	Profit Center	Profit Center	Profit Center	Etc.... Etc....	Total Company
Sales	$	$	$	$	$	$
Cost of Goods Sold						
Gross Margin	$	$	$	$	$	$
Variable Costs:	$	$	$	$	$	$
Hourly Labor						
Utilities						
Supplies						
Maintenance						
Transportation						
Other Variable						
Contribution Margin	$	$	$	$	$	$
Fixed Costs:						$
Salaries						
Interest						
Depreciation						
Administrative						
Insurance						
Advertising						
Other Fixed						
Net Income						$

Sales – Variable Costs = Contribution Margin. You must memorize and understand this! This is arguably the most important thing you will ever know and use regarding the income statement. Sales and the directly related variable costs-only for each product line or profit center are separated and isolated from all others and from all fixed costs for analysis and action purposes. This is the only way to know if individual products or profit centers are profitable. Money-losers are easily "hidden" and may never be discovered if the single-column income statement is the only one that a company generates.

Cost of Goods Sold (CGS), a variable cost, should always be separated from all other variable costs, as these represent the products being bought and sold to make money! All other variable costs are just costs!

A Negative Contribution Margin means that you are selling a product or service for less than it costs you to produce it! Notice again that the single-column income statement will not allow you to see this! A product line or profit center with a negative contribution margin that cannot be fixed, or that is not a "loss leader," must be eliminated. This results in higher profits with less work!

Select a specific company (your current or future) and establish the column and row headings for your profit center contribution margin income statement:

	Your company name here
	Profit
	Center.…
Sales	$
Cost of Goods Sold	_____
Gross Margin	$
Variable Costs:	$

Personal Applications: Establish column and row headings for your future personal income statement:

- Don't make your paycheck your only source of income
- What other sources of personal income ("profit centers") can/will you create?
- Shop around for lower cost options
- Consider cost line items that can be eliminated

Other Related Uses of the Income Statement: Once a company creates the profit center contribution margin income statement, it becomes easy and useful to run the following tests and analyses:

- Per/Unit and sales revenue break-even analyses
- Per/Unit and sales revenue target profit analyses
- Unlimited what-if scenarios

Information from Tracey's Treadmills is used to demonstrate each technique:

Selling Price Per/Unit	$1000	100%	Total Monthly	
Total Variable Cost Per/Unit	$ 600	60%	Fixed Costs	$20,000
Per Unit Contribution Margin	$ 400	40%		

Note that contribution margin must also be presented as a percentage of sales in order to complete the following. This is known as the "contribution margin ratio" The CM Ratio is another useful tool that will addressed later in this chapter.

$$\text{Per/Unit Break-Even Point} = \frac{\text{Total Fixed Costs}}{\text{Per Unit CM}}$$

$$= \frac{\$20{,}000}{\$400} = 50 \text{ Units}$$

$$\text{Sales Revenue BEP} = \frac{\text{Total Fixed Costs}}{\text{CM \%}}$$

$$= \frac{\$20{,}000}{.40} = \$50{,}000 \text{ Sales}$$

Proof:			
	Sales (50 units @ $1000)	$50,000	
	VC (50 units @ $ 600)	30,000	
	Contribution Margin	$20,000	
	Total Fixed Costs	20,000	
	Net Income	$ 0	(The break-even point)

Tracey's goal is to earn a monthly profit of $8,000:

$$\text{Per/Unit Target Profit} = \frac{\text{Total Fixed Costs} + \text{Target Profit}}{\text{Per Unit CM}}$$

$$= \frac{\$28{,}000}{\$400} = 70 \text{ Units}$$

$$\text{Sales Revenue Target} = \frac{\text{Total Fixed Costs} + \text{Target Profit}}{\text{CM \%}}$$

$$= \frac{\$28{,}000}{.40} = \$70{,}000 \text{ Sales}$$

Proof:			
	Sales (70 units @ $1000)	$70,000	100%
	VC (70 units @ $ 600)	42,000	60%
	Contribution Margin	$28,000	40%
	Total Fixed Costs	20,000	
	Net Income	$ 8,000	(Target Profit)

There is no limit to the number of what-if scenarios that the management team of a company can consider and analyze in order to increase profits. Computer spreadsheets allow for these to be quickly calculated and viewed.

Tracey's Treadmills has achieved their goal of selling 70 treadmills and earning $8,000/month (current). The management team thinks that a 10% reduction in price ($1000 to $900) will result in the sale of 90 units per month (proposed). Should this what-if scenario be considered?

Sales (90 units @ $900)	$81,000	100%
VC (90 units @ $600)	54,000	66.6%
Contribution Margin	$27,000	33.3%
Total Fixed Costs	20,000	
Net Income	$ 7,000	

The answer in this case is no! Notice that even though sales increased from $70,000 to $81,000, profits decreased from $8,000 to $7,000. The increase in units sold did not justify the decrease in price being considered. **Always remember that's it's all about profits, not sales.**

The Contribution Margin Ratio (CM expressed as a percentage of sales): For any product or profit center that is making money, the CM ratio is a quick and accurate way to evaluate proposed changes. Using the example above:

What-if Sales Revenues × CM Ratio = What-if CM

$81,000 × .333 = $27,000 The answer is still no!

The Sales Mix and Profit Max: Most businesses have a collection of product and service lines and a limited amount of resources (space, personnel, equipment, and money). The sales mix is the percentage of total sales represented by each product and service line. The priority and focus for a profit-motivated business is simply to sell the most of what makes you the most, down to the least of what makes you the least. The combination of the profit center contribution margin income statement and the related what-if analyses enables any company to stay focused on profit maximization over time.

	Product A	Product B	Product C	Total Company
Sales	$250,000 (25%)	$250,000 (25%)	$500,000 (50%)	$1,000,000 (100%)
VC	125,000	50,000	400,000	575,000
CM	$125,000 (50%)	$200,000 (80%)	$100,000 (20%)	425,000 (42.5%)

Note that Product B is by far the biggest money maker and top priority (CM 80%); Product C makes the least (CM 20%) even though it currently generates the most sales!

Notice too that if this company were to increase sales of Product B by say $250,000 and decrease sales of either Product A or Product C by $250,000, total sales would remain the same, while profits would increase! This is what "sales mix management" is all about.

Consistency in report format and cost allocation: There are no rules in managerial accounting, or in other words, managers may create and use any spreadsheet or report that provides useful information. As long as revenue and cost reports are generated in a consistent manner from month to month, changes to the bottom line will be the result of changes in operations (customer and business behavior), not the result of bookkeeping practices.

"Learn to work less and make more."

CHAPTER 3

Monitoring Cash Flow

Cash flow is the ($) lifeblood of all businesses and people. If you learn to manage cash flow, you and your business will never be short of cash! Simply put, cash flow is all about the timing and amount of cash receipts and cash expenditures for any given period. If cash comes in faster than it goes out, and at a greater rate, you and your business will never be short of cash!

Learn and understand the distinction between the income and cash flow statements: The income statement reports all revenue and all expense transactions when they are occur, but it does not indicate whether or not the cash was actually received or spent. If a sales transaction occurs and the corresponding payment is not simultaneously made, this creates an accounts receivable. If an income statement expense is reported but not actually paid for, this creates an accounts payable. There is a big difference between the two-cash flow!

Sales	$	Cash In	$
– Expenses	$	– Cash Out	$
= Net Income	$_____	= Net Cash Flow	$_____

Net cash flow is arguably "net income" for all businesses and people (and bankers). Whether it is a loan officer evaluating a financing request, a business owner evaluating a proposed new venture, or a private individual planning for the future, net cash flow is almost always a key deciding factor in those decisions.

Start by preparing the following report for your business and your personal life:

Annual Cash Flow Planner—Company Name/You

		Jan Feb Mar Apr May June July Aug Sep Oct Nov Dec Total Year
Cash In:	$	(for your personal life this will include all forms and sources of income)
Cash Sales		
A/R's		(include a row heading for A/R current month, 1 month, 2 months, etc.)
Other		
– **Cash Out:**	$	
All payments	_____	(include a row heading for all cash expenses/line items)
= **Net Cash Flow:**	$_____	
+ Beginning Balance:	$	(include a notation for cash flow from investing, financing, or other sources)
= Ending Balance:	$_____	

A negative net cash flow for any given period is not necessarily a bad thing. This does not mean that you are losing money for that period. All businesses and people experience seasonal fluctuations in cash flow.

Learn about and master Inventory and Accounts Receivables management: Two of the major causes of a business going out of business are inventory not selling and customers late-paying or not paying for products and services purchased on credit. Either or both of the above will quickly drain the cash out of any business.

Learn about and develop the privilege of the bank line of credit, also known as the credit line (Notes Payable). Most businesses must sell their inventory (and collect that cash) in order to pay for it. If suppliers cannot or will not provide direct materials or merchandise on credit (Accounts Payable), most businesses must turn to their bank for a short-term loan in order to purchase inventory (Notes Payable). This is an important privilege that must be earned through timely (re) payments on those loans.

Trends and the management of cash flow from day-to-day operations: All industries that (must) extend credit develop norms and trends over the years with regard to cash collections from sales and the physical conversion of accounts receivables to cash. This is also known as "cash flow from operations."

The following example from Tracey's Treadmills is used to present this information and the analysis that managers should conduct and act on each month as necessary:

February Sales	$80,000	Payment Trends:	Cash Sales	20%
March Sales	$90,000		A/R Current Month	10%
April Sales	$55,000		A/R 1 Month	60%
			A/R 2 Months	10%

Company Policy: All payments due in 30 days or less (net/30)

How much cash should Tracey expect to collect in April?

Cash Sales (20% of $55,000/April)	$11,000
A/R Current Month (10% of $55,000/April)	$ 5,500
A/R 1 Month (60% of $90,000/March)	$54,000
A/R 2 Months (10% of $80,000/February)	$ 8,000
April Cash-In:	$78,500

Notice the difference between April Sales and April Cash-In/Cash Flow!

What, if anything should Tracey do with this information?

There are two other categories of cash flow that should be recorded but kept separate:

- Cash flow from Investing Activities: These primarily include the purchase or sale of fixed assets, such as land, buildings, and equipment. Note that these are relevant, as they involve cash flow into or out of a business, but are typically not relevant to day-to-day operations.
- Cash flow from Financing Activities: These include primarily the receipt or payment of cash related to loans. These too are relevant as they involve cash flow into or out of a business, but are again typically not relevant to day-to-day operations.

Refer back to the cash flow planner on page 20. The author's format is different than virtually all other accounting books in that the beginning

and ending balances of cash are kept separate from day-to-day operations. Cash flow from investing or financing activities are easily distinguished using this format and also allow for better cash planning by managers, as net cash flow from day-to-day operations are reported separately for each period.

Personal Applications and Practice: Short- and long-term financial planning starts with useful information and a bit of discipline! Please take the time to record all expenditures that you make for an entire month. Record each as a need or a want:

	Monthly Cash Expenditures	
	Want	Need
Date and Item:	$	$
Examples:		
3/2 Gasoline		$40
3/3 Restaurant Tab	$75	
Monthly Totals:	$	$

The results of this exercise are very revealing and useful to most people. This information will be useful in budgeting, investing, and retirement planning, all of which are covered in subsequent chapters.

CHAPTER 4

Preparing and Understanding the Balance Sheet

This is the third and last of "the big three" financial statements or reports-the income statement, cash flow planner, and balance sheet. Once you understand each of these and their relationship to one another, you will be on the road to financial success!

The balance sheet is often misunderstood by students, business owners, and managers. The author has developed a way to effectively teach the concept, application, and many uses of the balance sheet through the following step-by-step process that begins with the purchase or construction of a business. This traditionally requires a piece of land, one or more buildings, some equipment, and rolling stock. The business owner traditionally pays for and/or finances this through a combination of savings, bank loans, and private investors/ stockholders. This establishes the lower portion of the start-up balance sheet:

The Lower Portion of the Business Start-Up Balance Sheet:

Fixed Assets:		**Long-Term Debt and Owner Equity:**	
Land	$	Long-Term Debt	$
Buildings	$	Owner(s)	$
Equipment	$	Stockholders	$
	$ This Total =		$This Total

The actual costs of the land, buildings, and equipment are simply entered onto this business start-up balance sheet along with the corresponding sources and amounts of the necessary funds. The Physical Plant is now established.

The next step of the process is to ready the business for opening. This traditionally requires adequate start-up cash and inventory and the establishment of adequate credit for the continued purchase of inventory. The business owner once again pays for this through a combination of savings, short-term bank loans, and private investors. This establishes the upper portion of the balance sheet:

The Upper Portion of the Business Start-Up Balance Sheet:

Current Assets:		**Current Liabilities:**	
Cash	$	Accounts Payables	$
Inventory	$	Notes Payable	$ (line of credit)
Accounts Receivables	$ 0 (not yet!)		
Other Current Assets	$ (such as prepaid insurance)		
	$ This Total =		$ This Total

The upper portion above also establishes and reports key aspects of the Day-to-Day Operations of the business. Notice the repetition that is created as cash should continuously "spill out" of the top portion of the balance sheet. Inventory is sold, which generates the Gross Margin for each profit center and for the total business. These proceeds spill out to purchase additional inventory, to pay for all other expenses, and to generate profit.

The business owner must be sure that there is enough cash in the checkbook and/or enough of a line of credit (notes payable) to carry the business until it begins to carry itself, and must be able to continuously acquire inventory. Lack of adequate capital/cash is a leading cause of business failure, especially for new businesses. Do not let this happen to you! Be sure to have enough cash to cover personal living expenses for the start-up period as well. Always work to establish and grow a larger line of credit than you will likely ever need, as payments are made only on borrowed funds.

The business owner must work hard to purchase the "right" inventory (per your never-ending market analysis). This may be paid for with cash, with a short-term loan from suppliers (accounts payables) or through the line of credit (notes payable).

Over time, as the business establishes a strong and good financial reputation with suppliers and banks, it becomes easier to acquire inventory on credit. The suppliers and banks know that these loans will be repaid through sales. Each business strives to become a low risk and a good investment to creditors.

Accounts Receivables are monies owed to the business by customers who have taken possession of goods and services but not yet paid. The previously mentioned building of a strong and good financial reputation works both ways. Customers strive to become a low risk and good investment to businesses that offer credit. Many businesses and industries require credit sales. As you will learn and experience throughout your entire personal and business life, everyone is waiting to get paid!

The Complete Business Start-Up Balance Sheet:

Current Assets:		**Current Liabilities**	
Cash	$	Accounts Payables	$
Inventory	$	Notes Payable	$
Accounts Receivables	$		
Other Current Assets	$		
Fixed Assets:		**Long-Term Debt and Owner's Equity:**	
Land	$	Long-Term Debt	$
Buildings	$	Owner(s)	$
Equipment	$	Stockholders	$
	$ Total Assets =		$ Total Liabilities and Owner's Equity

Unlike the income and cash flow statements that represent a period of time (month, quarter, year), the balance sheet represents a moment in time (start-up date, end-of-month, end-of-quarter, end-of-year).

At the end of each period, the business owner/manager/controller carefully analyzes the results of each of the three statements with a focus on changes from one period to the next. The mindset is always on maximizing profits and looking for ways to improve. There are many balance sheet tests and ratios that provide insight to the management team.

A partial list with illustrations relevant to managerial accounting and day-to-day operations includes:

- Inventory Turnover
- Accounts Receivables Turnover
- The Current Ratio
- The Debt-to-Equity Ratio
- The Maintenance and Growth of the Physical Plant

$$\text{Inventory Turnover} = \frac{\text{Period CGS}}{\text{Average Inv.}} = \frac{\$600{,}000}{\$40{,}000} = 15 \text{ Times per year}$$

$$\frac{365}{15} = \text{Every 24 days}$$

The analysis of these results depends entirely on the type of products in question. Perishable inventory such as fresh food must obviously be turned over almost daily, whereas big ticket items such as diamond rings or luxury cars can have much slower but still satisfactory rates of turnover. One thing that all businesses have in common is that moving inventory is a major key to success.

$$\text{Accounts Receivable Turnover} = \frac{\text{Period Sales}}{\text{Average A/R}}$$

$$= \frac{\$1{,}200{,}000}{\$100{,}000} = 12 \text{ Times per year}$$

$$\frac{365}{15} = \text{Every 24 days}$$

These illustration numbers are selected as most business have an accounts receivables policy of net/30, meaning that payments for products and services sold are expected in 30 days or less. Notice that as the A/R Turnover goes up, the number of days goes down—this is good! Notice that as the A/R Turnover goes down, the number of days goes up—this is not good. Note too that these are averages, not individual customers. Every business that must extend credit should strive to collect cash from every sale as soon as possible (cash flow!). A frequently used incentive is the 2/10/net/30 policy, meaning that a 2% discount is offered for all payments made within

10 days of a sale. Business owners are also encouraged to communicate and work closely with customers to maintain early and steady payments over time (cash flow!). Another thing that all businesses have in common is that moving inventory and getting paid is a major key to success.

$$\text{The Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{\$200{,}000}{\$100{,}000} = 12 \text{ to } 1$$

Or in other words, this business has $2.00 in current assets for every $1.00 in current liabilities. While the analysis of these results depends in part on the type and nature of the specific business, it goes without saying that this ratio must always be greater than one. A current ratio of less than one would mean that the business has less than $1.00 in current assets for every $1.00 in current liabilities-this is not good.

$$\text{The Debt-to-Equity Ratio} = \frac{\text{Total Liabilities}}{\text{Stockholders' Equity}} = \frac{\$800{,}000}{\$1{,}000{,}000} = 0.80$$

This ratio reports the proportion of debt to equity. In this illustration, the business is reporting that creditors provide $.80 (eighty cents) of debt for every $1.00 provided by stockholder funds. The analysis of these results again varies by industry, degree of risk, and current costs of financing. Simply put, this illustrates the balance between the use of borrowed funds and owner/ investor funds.

The Maintenance and Growth of the Physical Plant:

There is no specific formula for this balance sheet analysis. This requires a look at the trends in a company's balance sheet over a period of years with a focus on fixed assets: land, buildings, equipment, and rolling stock. It is important to maintain, upgrade, and replace buildings, equipment, and rolling stock over time in order to maintain and grow the business, and to best position the business for sale.

Personal Applications and Practice: Each one of us establishes and grows a personal balance sheet over time. This is always a component of the bank loan application process. Create your personal balance sheet

now. For young, traditional college students, it may be easier to create your parents' balance sheet:

Your Name
Current Date

Current Assets:	**Current Liabilities:**
Fixed Assets:	**Long-Term Debt and Owner's Equity**
Total Assets	**Total Liabilities and Net Worth**

Now is a great time to set some short- and long-term balance sheet goals for your personal life:

CHAPTER 5

The Business Plan: Development and Applications

For those planning to build or buy a business, the process should always begin with the creation of a formal, professionally written business plan. A business plan is an all-inclusive document that describes and illustrates all components of a proposed business venture. A formal business plan includes:

- Summary Description of the Business
- Permits, Approvals, and Licenses
- Market Analysis
- **Financial Plan**
- Personnel Plan
- Day-to-Day Operations and Administration
- Appendices-Supporting Documentation

Our coverage of chapters two through four includes the major components of the financial plan portion of any business plan: the income statement, cash flow statement, and balance sheet. The complete financial plan includes:

- The Sources and Uses Statement
- Year One and Year Two Projected Income Statements
- Year One and Year Two Projected Cash Flow Statements
- Start-Up and End-of-Year Balance Sheets

The Sources and Uses Statement is presented and illustrated as follows:

Sources		Uses	
Bank Mortage	$ 560,000	Physical Plant	$ 700,000
Owner	200,000	Renovations	100,000
Seller Mortage	340,000	Start-Up Cash and Inventory	300,000
Other Investor		Other Uses	
	$1,100,000		$1,100,000

The Sources and Uses Statement (Continued): Footnotes:

- Bank Mortgage: Traditionally, banks will finance up to 80% of the assessed value of the real estate. There are exceptions and special programs that come and go.
- Owner: The owner is expected to "put something significant on the table" Work hard to save early in your career while acquiring experience.
- Seller Mortgage: The seller is often the only one who can make up the difference in the funding required to complete the transaction. This can be a win-win.
- Other investors: Opportunities exist for private funding sources, such as "venture capitalists," "angel investors," and others.
- Start-Up Cash and Inventory: As previously discussed, be sure to have enough cash on hand and/or available to carry the business until it can carry itself, and for personal living expenses for that period as well.

The Sources and Uses Statement is the last to be prepared and the first to be presented as the "cover page" for the financial plan section of the business plan.

SECTION SUMMARY

Your	Sales	Your	Income
Business:	– Expenses	Personal	– Expenses
	= Profit (Loss)	Life:	= Disposable Income (Debt)

We finish where we started! The financial side of both your business life and your personal life is all about consistently taking in more than you spend and always trying to widen the gap between the two. This occurs and grows through a combination of maximizing and managing revenues and income, minimizing and managing expenses, managing cash flow, and establishing a routine of analyzing results and effecting change. You have now learned all of the fundamentals required to achieve all of your lifetime financial goals. Practice, experience, ambition, and a little luck are all that are required!

The remaining chapters and lessons of this book focus on a variety of specific industries, specialized management tools, and perspectives.

"Always remember that it's all about profits, not sales."

CHAPTER 6

Making a Product

Manufacturing is a major driving force behind developing nations and communities and a source of great wealth. The driving force behind development relates to the large number of jobs that are required by most manufacturing facilities. The source of great wealth relates to the high-volume nature of most manufacturing facilities. Unlike a retail or service business, manufacturers have the potential to continuously produce thousands to millions of units of product that can generate very large profits.

Management positions in manufacturing provide all-inclusive experience-get ten years of experience in just two or three years! Manufacturing facilities are unique in that almost every aspect of business management is present and must be incorporated and effectively applied to achieve success. These include: raw materials purchasing and inventory management, production systems (efficiency, quality control and safety), maintenance, utilities, transportation, marketing and sales, personnel management, legal, financial, international, and other administrative functions.

"The best companies sell more than they produce."

There are three (accounting) components of a manufactured product-these represent the costs of making the product (the factory):

Direct Materials: For many manufacturers, direct (or raw) materials represent the number-one cost of the entire enterprise. Direct materials are defined as all of the physical components contained in a finished good. Management must ensure that the right person and the right program are in place to both minimize costs and maximize revenues. Assuming good markets for products, direct materials management alone can be the difference between success and failure.

Direct Labor: For many manufacturers, direct labor is the number-one or number-two cost of the entire enterprise. Direct labor includes all employees who actually make the product, whether by hand or by operation of manufacturing equipment. This is arguably an even more crucial ingredient for success, as the management and motivation of people results in astounding differences in performance. A team of people who are properly placed, trained, and motivated can and will out-produce and outperform a poorly placed/ trained/motivated group by two- or three- or even four-fold or more!

Manufacturing Overhead: This category includes all of the remaining day-to-day operating costs of the manufacturing facility. These costs include but are not limited to: indirect labor (all non-manufacturing employees), factory supplies, utilities, maintenance, interest, depreciation, and insurance. The combination of direct materials, direct labor, and manufacturing overhead represent the total costs required to produce finished goods ready for sale.

The Factory

DIRECT MATERIALS →	DIRECT LABORS → MANUFACTURING OVERHEADS →	FINISHED GOODS

The fourth (accounting) component is **Selling and Administrative** expenses ("S&A"): These represent the costs of selling the product (the office). It is extremely important to record and report these expenses separately from all manufacturing costs.

Marketing and Selling: All personnel and other expenses directly associated with marketing and selling finished goods are reported here. These include but are not limited to: advertising, promotion, public relations, sales managers, and sales associates. (Note that these costs have nothing to do with making the product.)

Transportation and Distribution: Many finished products are sold "FOB Mill" The transportation and distribution function includes the

total costs of physically moving, storing, and delivering finished goods from the factory to the customer. This may include trucks, trains, planes and ships, distribution centers, personnel, and other related costs. Transportation and distribution are large and important industries of their own. Manufacturers may choose to be directly engaged in some, all, or none of these activities.

Other Office/Administrative Requirements: This includes costs and functions such as secretarial, bookkeeping and financial, insurance, taxes, permits, licenses, and other office functions required to operate the company, both short and long term.

The income statement of a manufacturing company is very different from that of a retail or service business, both internally (managerial) and externally (taxes):

	Sales	$
*(Product Costs)	Cost of Goods Sold	
	Gross Margin	$
*(Period Costs)	Selling and Administrative	
	Net Income	$

Cost of Goods Sold: Includes the direct materials, direct labor, and manufacturing overhead required to produce **the now-sold product**. Note that this version of CGS includes both fixed and variable costs. This is required by law (and other external forums) and is known as "absorption costing" As we now know, this is not useful information for managers (internal–contribution margin!). This is why we must also generate "variable costing" or contribution margin reports.

Selling and Administrative: As discussed, these include the marketing and selling, transportation, distribution, and office/administrative expenses for the given **period**.

*Product Costs (CGS) are reported when finished goods are sold.
*Period Costs are reported at the end of each period.

Manufacturers track the costs of making a product by use of the schedule of costs of goods manufactured:

Company Name
Schedule of Costs of Goods Manufactured (CGM)

Direct Materials Used	$*	Beginning Inventory of Direct Materials	$
Direct Labor	$	Plus DM Purchases	$
Manufacturing Overhead	$	Less Ending Inventory of Direct Materials	$
Indirect Labor			
Supplies		Direct Materials Used	$*
Utilities			
Maintenance			
Interest			
Depreciation			
Insurance			
Total Manufacturing Costs	$		
Add Beginning Work-in-Process	$		
Subtract Ending Work-in-Process			
Costs of Goods Manufactured	$		

Cost of Goods Manufactured (CGM) represents the total cost of manufactured finished goods for the period. This is "transferred" to the balance sheet and becomes part of the finished goods inventory where it remains until sold.

Work-in-Process (WIP) represents the total cost to date of the direct materials, direct labor, and manufacturing overhead invested in unfinished products. These products are no longer in Direct Materials form and are not yet in Finished Goods form, hence the name "Work-in-Process."

CGM Report	Balance Sheet	Income Statement
	Direct Materials	
	Work-in-Process	
CGM	**Finished Goods**	**Cost of Goods Sold**

Note that all manufacturing companies have three inventory accounts on the balance sheet: direct materials, work-in-process, and finished goods. (Retailers have just one—finished goods.)

Note that the costs of direct materials, direct labor, and manufacturing overhead remain on the balance sheet until the finished products are sold. This is an IRS requirement and can create significant cash flow and tax problems for manufacturing companies. One way to manage this is to align your fiscal end-of-year with your traditionally lowest levels of inventory. Most/all inventory is therefore expensed onto the income statement, resulting in the lowest possible taxable income.

The following report from Clip Clue Manufacturing illustrates both total and per unit product cost calculations for a given period:

Clip Clue Manufacturing
Schedule of Cost of Goods Manufactured (CGM)

Direct Materials Used (V)	$ 500,000*	Beginning Inventory of Direct Materials	$300,000
Direct Labor (V)	$ 300,000	Plus DM Purchases Less	$300,000
Manufacturing Overhead	$ 200,000	Less Ending Inventory of Direct Materials	$100,000
Indirect Labor (V)	$ 45,000	Direct Materials Used	$500,000*
Indirect Labor (F)	50,000		
Supplies (V)	18,000		
Utilities (V)	21,000		
Maintenance (V)	16,000		
Interest (F)	25,000		
Depreciation (F)	15,000		
Insurance (F)	10,000		
Total Manufacturing Costs	$1,000,000		
Add Beginning WIP	$ 0	(Assume no Beginning or	
Subtract Ending WIP	0	Ending WIP for this illustration)	
CGM	$1,000,000		

The company produced 100,000 units of Finished Goods for a Total Cost of $1,000,000.

The per unit product costs for the period are as follows:

$$\text{Fixed Cost/Unit} = \frac{\text{Total Fixed Costs}}{\text{\# Units}} = \frac{\$100{,}000}{100{,}000} = \$1.00/\text{Units}$$

$$\text{Variable Cost/Unit} = \frac{\text{Total Variable Costs}}{\text{\# Units}} = \frac{\$900{,}000}{100{,}000} = \$9.00/\text{Unit}$$

$$\text{Total Cost Unit} = \$10.00$$

Other related manufacturing applications:

Focus on Direct Materials waste (%) and yield (%). Given that DM is often the number-one cost for manufacturers, a major focus and key to profitability is to have as much of the original Direct Materials as possible wind up as part of Finished Goods. While there will almost always be some waste, all manufacturers must continuously strive to maximize yield and minimize waste.

Focus on converting "waste" into other/new finished products. The waste from the production of one product can often be used as the direct materials for another, such as using food scraps for soup or converting trash into energy. Your imagination and marketing skills are your only limits!

Consider "value-added" processing. This means converting a finished good into a higher-value finished good through an additional step in the production line, such as converting unfinished furniture into finished furniture. Again, your imagination and marketing skills are your only limits!

Focus on labor and automation. Labor is often the number-one or number-two cost for all manufacturing companies. There are many opportunities to replace people with machines. Machines do not call in sick or take vacations and can work up to 24 hours per day!

Focus on other major cost line items such as utilities, maintenance, or transportation: In addition to materials and labor, most manufacturers experience significant monthly costs in one or more of the above. Layout efficiency, energy audits, maintenance programs, and transportation and distribution option analysis can significantly reduce these costs.

PART II

SPECIAL TOPICS AND APPLICATIONS

CHAPTER 7

How to Plan, How to Budget

"An individual or company with no goals wanders aimlessly into the future."

Perspectives on Planning and Budgeting

This process begins by writing down specific long- and short-term personal and business goals. Long term means 3-5-10+ years; short term means 3-6-12 months. The establishment of long-term goals (strategic planning) sets the table for the series of annual goals (tactical planning) that will culminate to achieve those long-term measureable outcomes. What are your specific, documented goals?

You cannot do a goal. Setting goals is fast and easy. Achieving goals requires a plan of action with measureable outcomes.

Time Line

Set		Achieve
	>>> Take & Track Actions >>>	
Goals		Goals

A little bit of structure and discipline goes a long way. Setting and working to achieve goals is one of the simplest and most powerful habits to adopt. Setting and achieving personal and business goals will greatly enhance your life as well as the lives of your family, friends, and business associates. A well-managed planning and budgeting program builds teamwork and communication within families and organizations. Always remember that people working together is the key to our success.

The vast majority of everything that we learn and use in accounting focuses on the past. We study spreadsheets and reports from last month, last quarter, or last year. Planning and budgeting is about the future. We are now working to create spreadsheets and reports as we expect them to appear in the future!

The annual budgeting process begins about three to four months prior to the start of the fiscal year. Consider the following as you formulate each year's budget:

- Business and personal goals
- Market conditions
- Economic factors
- Past history
- Employee Input—This is arguably the most important ingredient. If your employees are on board and motivated, the likelihood for success is high.

The first budget for all businesses and organizations is the sales forecast. All other budgets follow. Once a sales forecast is established, all related expense line items (budgets) can be created.

Rocky's Custom Candles has completed their annual pre-budget analysis and established a sales forecast of $8,000,000 for their upcoming fiscal year (1,000,000 units of product @ $8/unit). We will use Rocky's sales forecast to illustrate some of the budgets that follow.

The basic formula for the monthly direct materials purchasing budget, production budget, labor budget, and manufacturing overhead budget is:

Sales Forecast (in units)
Plus Desired End-of-Month Inventory
Less Beginning Inventory
Required Purchases (or Production/Labor/Overhead)

Rocky's sales forecasts for the first two months of their fiscal year are: January 70,000 units and February 100,000 units. Company policy dictates that 20% of the next month's sales forecast should be included in

each month's production budget. The ending inventory of finished goods on December 31 is 14,000 units (20% of the January forecast). Use the basic formula provided to create Rocky's Production Budget for January:

	January
Sales Forecast (in units)	70,000
Plus Desired End-of-Month Inventory (1/31)	20,000 (20% of February's Sales Forecast)
Less Beginning Inventory (1/1)	14,000
Required January Production	76,000 units

The Production Manager now has a specific and measureable production budget/goal for the month.

It requires one-quarter hour (15 minutes) of direct labor to produce one unit of finished product. The total hourly cost of Direct Labor for Rocky is $16. Prepare a Labor Budget for January in both hours and dollars:

	January
76,000 units @ .25 hours	19,000 hours
19,000 hours @ $16/hour	$304,000 DL Cost

The Production Manager (and Controller) now have a specific and measureable labor schedule and target labor cost (budget/goal) for the month.

Note how each of these budgets (Production, DL hours, and DL cost) are derived from the sales forecast. Note how all other budgets for this company (manufacturing overhead, marketing and sales, distribution, administrative, others) are derived from the sales forecast as well. In other words, how much will it cost to generate $8,000,000 in sales?

The so-called Master Budget is simply next year's projected income statement (and cover page) for all individual department budgets that come together to achieve the overall goals established by the company.

Once all budgets are established and the new calendar year begins, the focus now shifts to monitoring and achieving desired measureable outcomes. Department managers and owners prepare and focus on the following reports each month:

$$\text{Line item} \quad \frac{\text{Budget}}{\text{units/\$s}} \text{ vs. } \frac{\text{Actual}}{\text{units/\$s}} = \frac{\text{Variance}}{\text{units/\$s}}$$

Rocky's Custom Candles is now one full month into their new budget cycle and reports the following results for the month of January:

	Budget	vs.	Actual	=	Variance
Production (units)	$76,000		82,350		6,350 Favorable
Labor Hours	19,000		19,100		(100) Unfavorable
Labor Cost	$304,000		$305,600		($1,600) Unfavorable

Department managers and owners focus and (possibly) act on the variances of each line item. What is your analysis of each of the above, and what, if anything would you do?

Fixing any and all significant unfavorable variances is the focus for all managers and owners. This allows for timely/monthly corrections to deviations from specific budgets. Work with your team to get back on track.

Other Budget Tools and Concepts

Setting Practical vs. Ideal standards and budgets: Common sense and practical experience go a long way. For example, if a machine is designed to produce 1000 units of product per hour (8000 units for an eight-hour shift), you will likely never produce 8000 units in an eight-hour shift (the ideal!). Production workers need breaks, machines break down, and direct materials are never perfect. Common sense and experience might lead you to expect about 7700 units in an eight-hour shift (the practical!).

Flexible budgets and the relevant range: It is also not practical to be rigidly locked into a single budget. Many variables such as the economy, the competition, finances, and personnel issues change during the budget period. It is therefore useful to have a range of budgets for the range of production or sales that you may experience during any given year.

Incentive plans and other HR strategies: As discussed in Chapter Six, Manufacturing, the potential output and performance of your workforce is directly related to their motivation, and that is directly related to your ability to lead. Applying The Golden Rule in the workplace is often all it takes to far exceed budget and profit expectations.

Personal applications: Once again, this process begins by writing down specific long- and short-term goals. Think about how you would like to position yourself in 3-5-10+ years and think about the specific goals that you want to achieve during that same time period. Consider your needs, wants, and income and investment goals as you formulate your next budget.

The first annual budget for all individuals is projected income; view this as your personal "sales forecast." Consider sources of income beyond your paycheck, such as business ventures, investments, and other sources of income. Once your total income goals are established, all related expense line items (budgets) can be created, just like our business model! Your personal master budget or income statement is now established. You are now in a position to track measureable outcomes each month and to act on any "unfavorable variances"!

CHAPTER 8

Personal Investment and Capital Budgeting

The planning and budgeting concepts and applications from Chapter Seven focus primarily on annual budgets and action plans to achieve short-term operational goals. Our focus now shifts to long-term investments (3-5-10-20-30+ years).

From the management side, capital budgeting means investments in:

- Buildings
- Equipment
- Rolling Stock
- New Product Lines
- New Locations

From the people side, personal investing means investments in:

- Retirement funds
- Business start-up funds
- Home construction/purchase funds
- College funds

Traditional managerial accounting courses focus only on capital budgeting. The author is pleased to have this opportunity to introduce and direct students on ways to achieve long-term personal financial wealth.

On the business side, this chapter will introduce you to the concept of Net Present Value, the best technique available to select the best investment option. Net Present Value allows a business to "level the investment analysis playing field" and "compare apples to apples" by discounting

or bringing back all future revenue and cost estimates to today's dollar equivalents.

On the personal side, this chapter will introduce you to mutual funds and other sources of supplemental and long-term income. Investors project fund balances and income streams by use of compound interest tables. Compound interest can be a bad thing that destroys people's financial lives (credit cards and other high-interest-rate debt). Compound interest is a beautiful thing when it works in your favor (high-interest return on investments!).

The study of all long-term investment options includes the variables of time, inflation, knowledge, rates of return, financing, risk, liquidity, cash flow, and taxes. These topics are covered in depth in subsequent accounting classes. The goal of this chapter is to encourage you to acquire more knowledge and to act!

Perspectives on Net Present Value: Business and private investors almost always have a finite amount of money to invest and several options to choose from at any given time. Each option usually has its own initial costs, its own revenue and expense flows over time, and its own payoff at the end of the project, market, or term.

Given that money received and money spent in the future is not worth the same as money in hand (present value), the revenue and expense flows and the payoffs of each investment option cannot simply be added up to determine which one is best. Net Present Value is the technique that allows business and private investors to determine the best option by discounting all costs, revenues, and payoffs to their present value equivalent. **The investment option with the highest NPV is the best!**

Present	Inflows	Inflows	Inflows	Inflows	Inflows	Inflows	**Future**	
0	Year 1	2	3	4	5	6	→	Years-→
Value (Now)	Outflows	Outflows	Outflows	Outflows	Outflows	Outflows	Inflows/Outflows	

Think about the following questions:

- Is $100 in hand now worth more or less than $100 five years ago?
- Is $100 in hand now worth more or less than $100 in five years?

The NPV technique is the exact opposite of something that you have done your entire life. All you need to do to understand NPV is to reverse your thought process and retrain your brain! The following two examples illustrate this:

1. If you deposit $1,000 in the bank today at 6% interest, how much can you withdraw and/or how much will that be worth in five years? (Refer to the "future value of a present sum". This provides compound interest multipliers for various interest rates and periods of time.)
   Solution: $1,000 × 1.338 = $1,338 Withdrawal value in five years
   You have been doing this for your entire life, right?
2. If an investment option promises a return of $1,338 in five years and your investment criterion is 6%, how much is that worth today (**Net Present Value**)? (Refer to the "net present value of a future sum". This provides compound interest multipliers for various interest rates and periods of time.)
   Solution: $1,338 × 0.747 = $1,000 Present value
   The example in #2 is the exact opposite of the example in #1, get it?

   - The basic NPV spreadsheet or model is as follows:

	Net Present Value (NPV)		
	Option A	**Option B**	**Option C.....Etc.**
Inflows:	$	$	$
Annual net cash flows			
Other inflows of cash			
Outflows:	$	$	$
Initial investment			
Other outflows of cash	_____	_____	_____
Net Present Value (NPV)	$_____	$_____	$_____

All NPV values will be greater than, equal to, or less than zero. This indicates whether each option will return more than, exactly the same as, or less than the return criterion (%), assuming that all inflow and outflow assumptions are correct.

Stip Brothers Movers must invest in another moving van in order to keep up with increasing demand for services. The following investment analysis illustrates the use of the NPV technique:

> Option 1: Invest in Used Moving Van: Cost $350,000; Expected Annual NCF $80,000 for 5 years; Expected Salvage Value in 5 years $50,000
> Option 2: Invest in New Moving Van: Cost $700,564; Expected Annual NCF $120,000 for 10 years; Expected Salvage Value in 10 years $70,000
> Option 3: Invest in New Hybrid Moving Van: Cost $900,000; Expected Annual NCF $150,000 for 12 years; Expected Salvage Value in 12 years: None

Use the NPV technique to evaluate these options. Stip Brothers benchmark is 12%.

	Net Present Value (NPV)		
	Option 1	Option 2	Option 3
Inflows:			
($80,000 × 3.6048)	$288,384		
($50,000 × 0.567)	28,350		
($120,000 × 5.6502)		$678,024	
($70,000 × 0.322)		22,540	
($150,000 × 6.1944)			$929,160
Outflows:	$350,000	$700,564	$900,000
NPV	($ 33,266)	$ 0	$ 29,160

Investment Analysis: **Assuming that all future projections are correct:**

- Option 3 will exceed the 12% benchmark and is the best choice.
- Option 2 will return exactly 12%.
- Option 1 will earn less than 12%.

Note that the NPV dollar amounts above are not "traditional, real dollar amounts." The focus is strictly relative to a NPV of "$0," which indicates an exact return of the investment criterion and/or values less than or greater than "$0," which indicate a return of less than or greater than the criterion.

Personal Investment Perspectives

The two most important things that you can learn today are that time is on your side and that you must act now (otherwise you lose the advantage of time).

- The sooner you invest, the more you will earn
- The sooner you invest, the less risky you need to be

Answer the following three questions regarding your retirement planning:

- At what age would you like to be able to retire?
- For how long do you hope to be retired?
- How much retirement income do you want to receive every month?

Consider each of the following investment variables and the ways in which each one connects to your plans and your personality:

- Risk
- Rate of Return
- Liquidity
- Knowledge

Consider the "cost of waiting" (not acting now)

Jo is a 24-year-old college graduate who has seized the opportunity to invest $200 per week into a mutual fund/retirement program that promises to return 12%. How much money will Jo have earned in 25 years (age 49)?

$200 per week × 52 = $10,400 annually
$10,400 × 133.33 = $1,386,632

Shmo is a 24-year-old college graduate who is full of excuses and has decided to wait 10 years before enrolling in the same program as Jo. How much money will Shmo have earned in 15 years (age 49)?

$200 per week × 52 = $10,400 annually
$10,400 × 37.28 = $387,712

The cost of waiting is $1, 386,632 – $387,632 = $998,920!!
Will you be a Jo or a Shmo??

Present Value of a Future Sum.

Top row shows interest rate. Left column shows periods.

	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	21%	22%	23%	24%
1	0.962	0.952	0.943	0.935	0.926	0.917	0.909	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833	0.826	0.820	0.813	0.806
2	0.925	0.907	0.890	0.873	0.857	0.842	0.826	0.812	0.797	0.783	0.769	0.756	0.743	0.731	0.718	0.706	0.694	0.683	0.672	0.661	0.650
3	0.889	0.864	0.840	0.816	0.794	0.772	0.751	0.731	0.712	0.693	0.675	0.658	0.641	0.624	0.609	0.593	0.579	0.564	0.551	0.537	0.524
4	0.855	0.823	0.792	0.763	0.735	0.708	0.683	0.659	0.636	0.613	0.592	0.572	0.552	0.534	0.516	0.499	0.482	0.467	0.451	0.437	0.423
5	0.822	0.784	0.747	0.713	0.681	0.650	0.621	0.593	0.567	0.543	0.519	0.497	0.476	0.456	0.437	0.419	0.402	0.386	0.370	0.355	0.341
6	0.790	0.746	0.705	0.666	0.630	0.596	0.564	0.535	0.507	0.480	0.456	0.432	0.410	0.390	0.370	0.352	0.335	0.319	0.303	0.289	0.275
7	0.760	0.711	0.665	0.623	0.583	0.547	0.513	0.482	0.452	0.425	0.400	0.376	0.354	0.333	0.314	0.296	0.279	0.263	0.249	0.235	0.222
8	0.731	0.677	0.627	0.582	0.540	0.502	0.467	0.434	0.404	0.376	0.351	0.327	0.305	0.285	0.266	0.249	0.233	0.218	0.204	0.191	0.179
9	0.703	0.645	0.592	0.544	0.500	0.460	0.424	0.391	0.361	0.333	0.308	0.284	0.263	0.243	0.225	0.209	0.194	0.180	0.167	0.155	0.144
10	0.676	0.614	0.558	0.508	0.463	0.422	0.386	0.352	0.322	0.295	0.270	0.247	0.227	0.208	0.191	0.176	0.162	0.149	0.137	0.126	0.116
11	0.650	0.585	0.527	0.475	0.429	0.388	0.350	0.317	0.287	0.261	0.237	0.215	0.195	0.178	0.162	0.148	0.135	0.123	0.112	0.103	0.094
12	0.625	0.557	0.497	0.444	0.397	0.356	0.319	0.286	0.257	0.231	0.208	0.187	0.168	0.152	0.137	0.124	0.112	0.102	0.092	0.083	0.076
13	0.601	0.530	0.469	0.415	0.368	0.326	0.290	0.258	0.229	0.204	0.182	0.163	0.145	0.130	0.116	0.104	0.093	0.084	0.075	0.068	0.061
14	0.577	0.505	0.442	0.388	0.340	0.299	0.263	0.232	0.205	0.181	0.160	0.141	0.125	0.111	0.099	0.088	0.078	0.069	0.062	0.055	0.049
15	0.555	0.481	0.417	0.362	0.315	0.275	0.239	0.209	0.183	0.160	0.140	0.123	0.108	0.095	0.084	0.074	0.065	0.057	0.051	0.045	0.040
16	0.534	0.458	0.394	0.339	0.292	0.252	0.218	0.188	0.163	0.141	0.123	0.107	0.093	0.081	0.071	0.062	0.054	0.047	0.042	0.036	0.032
17	0.513	0.436	0.371	0.317	0.270	0.231	0.198	0.170	0.146	0.125	0.108	0.093	0.080	0.069	0.060	0.052	0.045	0.039	0.034	0.030	0.026
18	0.494	0.416	0.350	0.296	0.250	0.212	0.180	0.153	0.130	0.111	0.095	0.081	0.069	0.059	0.051	0.044	0.038	0.032	0.028	0.024	0.021
19	0.475	0.396	0.331	0.277	0.232	0.194	0.164	0.138	0.116	0.098	0.083	0.070	0.060	0.051	0.043	0.037	0.031	0.027	0.023	0.020	0.017
20	0.456	0.377	0.312	0.258	0.215	0.178	0.149	0.124	0.104	0.087	0.073	0.061	0.051	0.043	0.037	0.031	0.026	0.022	0.019	0.016	0.014
21	0.439	0.359	0.294	0.242	0.199	0.164	0.135	0.112	0.093	0.077	0.064	0.053	0.044	0.037	0.031	0.026	0.022	0.018	0.015	0.013	0.011
22	0.422	0.342	0.278	0.226	0.184	0.150	0.123	0.101	0.083	0.068	0.056	0.046	0.038	0.032	0.026	0.022	0.018	0.015	0.013	0.011	0.009
23	0.406	0.326	0.262	0.211	0.170	0.138	0.112	0.091	0.074	0.060	0.049	0.040	0.033	0.027	0.022	0.018	0.015	0.012	0.010	0.009	0.007
24	0.390	0.310	0.247	0.197	0.158	0.126	0.102	0.082	0.066	0.053	0.043	0.035	0.028	0.023	0.019	0.015	0.013	0.010	0.008	0.007	0.006
25	0.375	0.295	0.233	0.184	0.146	0.116	0.092	0.074	0.059	0.047	0.038	0.030	0.024	0.020	0.016	0.013	0.010	0.009	0.007	0.006	0.005
26	0.361	0.281	0.220	0.172	0.135	0.106	0.084	0.066	0.053	0.042	0.033	0.026	0.021	0.017	0.014	0.011	0.009	0.007	0.006	0.005	0.004
27	0.347	0.268	0.207	0.161	0.125	0.098	0.076	0.060	0.047	0.037	0.029	0.023	0.018	0.014	0.011	0.009	0.007	0.006	0.005	0.004	0.003
28	0.333	0.255	0.196	0.150	0.116	0.090	0.069	0.054	0.042	0.033	0.026	0.020	0.016	0.012	0.010	0.008	0.006	0.005	0.004	0.003	0.002
29	0.321	0.243	0.185	0.141	0.107	0.082	0.063	0.048	0.037	0.029	0.022	0.017	0.014	0.011	0.008	0.006	0.005	0.004	0.003	0.002	0.002
30	0.308	0.231	0.174	0.131	0.099	0.075	0.057	0.044	0.033	0.026	0.020	0.015	0.012	0.009	0.007	0.005	0.004	0.003	0.003	0.002	0.002

Present Value of an Annuity.

Present Value of an Annuity of $1 per Period for N Periods (PVIFA) Top row shows interest rate. Left column shows periods.

Period	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.9009	0.8929	0.8850	0.8772	0.8696	0.8621	0.8547	0.8475	0.8403	0.8333
2	1.8861	1.8594	1.8334	1.8080	1.7833	1.7591	1.7355	1.7125	1.6901	1.6681	1.6467	1.6257	1.6052	1.5852	1.5656	1.5465	1.5278
3	2.7751	2.7232	2.6730	2.6243	2.5771	2.5313	2.4869	2.4437	2.4018	2.3612	2.3216	2.2832	2.2459	2.2096	2.1743	2.1399	2.1065
4	3.6299	3.5460	3.4651	3.3872	3.3121	3.2397	3.1699	3.1024	3.0373	2.9745	2.9137	2.8550	2.7982	2.7432	2.6901	2.6386	2.5887
5	4.4518	4.3295	4.2124	4.1002	3.9927	3.8897	3.7908	3.6959	3.6048	3.5172	3.4331	3.3522	3.2743	3.1993	3.1272	3.0576	2.9906
6	5.2421	5.0757	4.9173	4.7665	4.6229	4.4859	4.3553	4.2305	4.1114	3.9975	3.8887	3.7845	3.6847	3.5892	3.4976	3.4098	3.3255
7	6.0021	5.7864	5.5824	5.3893	5.2064	5.0330	4.8684	4.7122	4.5638	4.4226	4.2883	4.1604	4.0386	3.9224	3.8115	3.7057	3.6046
8	6.7327	6.4632	6.2098	5.9713	5.7466	5.5348	5.3349	5.1461	4.9676	4.7988	4.6389	4.4873	4.3436	4.2072	4.0776	3.9544	3.8372
9	7.4353	7.1078	6.8017	6.5152	6.2469	5.9952	5.7590	5.5370	5.3282	5.1317	4.9464	4.7716	4.6065	4.4506	4.3030	4.1633	4.0310
10	8.1109	7.7217	7.3601	7.0236	6.7101	6.4177	6.1446	5.8892	5.6502	5.4262	5.2161	5.0188	4.8332	4.6586	4.4941	4.3389	4.1925
11	8.7605	8.3064	7.8869	7.4987	7.1390	6.8052	6.4951	6.2065	5.9377	5.6869	5.4527	5.2337	5.0286	4.8364	4.6560	4.4865	4.3271
12	9.3851	8.8633	8.3838	7.9427	7.5361	7.1607	6.8137	6.4924	6.1944	5.9176	5.6603	5.4206	5.1971	4.9884	4.7932	4.6105	4.4392
13	9.9856	9.3936	8.8527	8.3577	7.9038	7.4869	7.1034	6.7499	6.4235	6.1218	5.8424	5.5831	5.3423	5.1183	4.9095	4.7147	4.5327
14	10.5631	9.8986	9.2950	8.7455	8.2442	7.7862	7.3667	6.9819	6.6282	6.3025	6.0021	5.7245	5.4675	5.2293	5.0081	4.8023	4.6106
15	11.1184	10.3797	9.7122	9.1079	8.5595	8.0607	7.6061	7.1909	6.8109	6.4624	6.1422	5.8474	5.5755	5.3242	5.0916	4.8759	4.6755
16	11.6523	10.8378	10.1059	9.4466	8.8514	8.3126	7.8237	7.3792	6.9740	6.6039	6.2651	5.9542	5.6685	5.4053	5.1624	4.9377	4.7296
17	12.1657	11.2741	10.4773	9.7632	9.1216	8.5436	8.0216	7.5488	7.1196	6.7291	6.3729	6.0472	5.7487	5.4746	5.2223	4.9897	4.7746
18	12.6593	11.6896	10.8276	10.0591	9.3719	8.7556	8.2014	7.7016	7.2497	6.8399	6.4674	6.1280	5.8178	5.5339	5.2732	5.0333	4.8122
19	13.1339	12.0853	11.1581	10.3356	9.6036	8.9501	8.3649	7.8393	7.3658	6.9380	6.5504	6.1982	5.8775	5.5845	5.3162	5.0700	4.8435
20	13.5903	12.4622	11.4699	10.5940	9.8181	9.1285	8.5136	7.9633	7.4694	7.0248	6.6231	6.2593	5.9288	5.6278	5.3527	5.1009	4.8696
21	14.0292	12.8212	11.7641	10.8355	10.0168	9.2922	8.6487	8.0751	7.5620	7.1016	6.6870	6.3125	5.9731	5.6648	5.3837	5.1268	4.8913
22	14.4511	13.1630	12.0416	11.0612	10.2007	9.4424	8.7715	8.1757	7.6446	7.1695	6.7429	6.3587	6.0113	5.6964	5.4099	5.1486	4.9094
23	14.8568	13.4886	12.3034	11.2722	10.3711	9.5802	8.8832	8.2664	7.7184	7.2297	6.7921	6.3988	6.0442	5.7234	5.4321	5.1668	4.9245
24	15.2470	13.7986	12.5504	11.4693	10.5288	9.7066	8.9847	8.3481	7.7843	7.2829	6.8351	6.4338	6.0726	5.7465	5.4509	5.1822	4.9371
25	15.6221	14.0939	12.7834	11.6536	10.6748	9.8226	9.0770	8.4217	7.8431	7.3300	6.8729	6.4641	6.0971	5.7662	5.4669	5.1951	4.9476
26	15.9828	14.3752	13.0032	11.8258	10.8100	9.9290	9.1609	8.4881	7.8957	7.3717	6.9061	6.4906	6.1182	5.7831	5.4804	5.2060	4.9563
27	16.3296	14.6430	13.2105	11.9867	10.9352	10.0266	9.2372	8.5478	7.9426	7.4086	6.9352	6.5135	6.1364	5.7975	5.4919	5.2151	4.9636
28	16.6631	14.8981	13.4062	12.1371	11.0511	10.1161	9.3066	8.6016	7.9844	7.4412	6.9607	6.5335	6.1520	5.8099	5.5016	5.2228	4.9697
29	16.9837	15.1411	13.5907	12.2777	11.1584	10.1983	9.3696	8.6501	8.0218	7.4701	6.9830	6.5509	6.1656	5.8204	5.5098	5.2292	4.9747
30	17.2920	15.3725	13.7648	12.4090	11.2578	10.2737	9.4269	8.6938	8.0552	7.4957	7.0027	6.5660	6.1772	5.8294	5.5168	5.2347	4.9789
35	18.6646	16.3742	14.4982	12.9477	11.6546	10.5668	9.6442	8.8552	8.1755	7.5856	7.0700	6.6166	6.2153	5.8582	5.5386	5.2512	4.9915
40	19.7928	17.1591	15.0463	13.3317	11.9246	10.7574	9.7791	8.9511	8.2438	7.6344	7.1050	6.6418	6.2335	5.8713	5.5482	5.2582	4.9966
45	20.7200	17.7741	15.4558	13.6055	12.1084	10.8812	9.8628	9.0079	8.2825	7.6609	7.1232	6.6543	6.2421	5.8773	5.5523	5.2611	4.9986

Future Value of a Present Sum.

Top row shows interest rate. Left column shows periods.

	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	21%	22%	23%	24%
1	1.04	1.05	1.06	1.07	1.08	1.09	1.10	1.11	1.12	1.13	1.14	1.15	1.16	1.17	1.18	1.19	1.20	1.21	1.22	1.23	1.24
2	1.08	1.10	1.12	1.14	1.17	1.19	1.21	1.23	1.25	1.28	1.30	1.32	1.35	1.37	1.39	1.42	1.44	1.46	1.49	1.51	1.54
3	1.12	1.16	1.19	1.23	1.26	1.30	1.33	1.37	1.40	1.44	1.48	1.52	1.56	1.60	1.64	1.69	1.73	1.77	1.82	1.86	1.91
4	1.17	1.22	1.26	1.31	1.36	1.41	1.46	1.52	1.57	1.63	1.69	1.75	1.81	1.87	1.94	2.01	2.07	2.14	2.22	2.29	2.36
5	1.22	1.28	1.34	1.40	1.47	1.54	1.61	1.69	1.76	1.84	1.93	2.01	2.10	2.19	2.29	2.39	2.49	2.59	2.70	2.82	2.93
6	1.27	1.34	1.42	1.50	1.59	1.68	1.77	1.87	1.97	2.08	2.19	2.31	2.44	2.57	2.70	2.84	2.99	3.14	3.30	3.46	3.64
7	1.32	1.41	1.50	1.61	1.71	1.83	1.95	2.08	2.21	2.35	2.50	2.66	2.83	3.00	3.19	3.38	3.58	3.80	4.02	4.26	4.51
8	1.37	1.48	1.59	1.72	1.85	1.99	2.14	2.30	2.48	2.66	2.85	3.06	3.28	3.51	3.76	4.02	4.30	4.59	4.91	5.24	5.59
9	1.42	1.55	1.69	1.84	2.00	2.17	2.36	2.56	2.77	3.00	3.25	3.52	3.80	4.11	4.44	4.79	5.16	5.56	5.99	6.44	6.93
10	1.48	1.63	1.79	1.97	2.16	2.37	2.59	2.84	3.11	3.39	3.71	4.05	4.41	4.81	5.23	5.69	6.19	6.73	7.30	7.93	8.59
11	1.54	1.71	1.90	2.10	2.33	2.58	2.85	3.15	3.48	3.84	4.23	4.65	5.12	5.62	6.18	6.78	7.43	8.14	8.91	9.75	10.66
12	1.60	1.80	2.01	2.25	2.52	2.81	3.14	3.50	3.90	4.33	4.82	5.35	5.94	6.58	7.29	8.06	8.92	9.85	10.87	11.99	13.21
13	1.67	1.89	2.13	2.41	2.72	3.07	3.45	3.88	4.36	4.90	5.49	6.15	6.89	7.70	8.60	9.60	10.70	11.92	13.26	14.75	16.39
14	1.73	1.98	2.26	2.58	2.94	3.34	3.80	4.31	4.89	5.53	6.26	7.08	7.99	9.01	10.15	11.42	12.84	14.42	16.18	18.14	20.32
15	1.80	2.08	2.40	2.76	3.17	3.64	4.18	4.78	5.47	6.25	7.14	8.14	9.27	10.54	11.97	13.59	15.41	17.45	19.74	22.31	25.20
16	1.87	2.18	2.54	2.95	3.43	3.97	4.59	5.31	6.13	7.07	8.14	9.36	10.75	12.33	14.13	16.17	18.49	21.11	24.09	27.45	31.24
17	1.95	2.29	2.69	3.16	3.70	4.33	5.05	5.90	6.87	7.99	9.28	10.76	12.47	14.43	16.67	19.24	22.19	25.55	29.38	33.76	38.74
18	2.03	2.41	2.85	3.38	4.00	4.72	5.56	6.54	7.69	9.02	10.58	12.38	14.46	16.88	19.67	22.90	26.62	30.91	35.85	41.52	48.04
19	2.11	2.53	3.03	3.62	4.32	5.14	6.12	7.26	8.61	10.20	12.06	14.23	16.78	19.75	23.21	27.25	31.95	37.40	43.74	51.07	59.57
20	2.19	2.65	3.21	3.87	4.66	5.60	6.73	8.06	9.65	11.52	13.74	16.37	19.46	23.11	27.39	32.43	38.34	45.26	53.36	62.82	73.86
21	2.28	2.79	3.40	4.14	5.03	6.11	7.40	8.95	10.80	13.02	15.67	18.82	22.57	27.03	32.32	38.59	46.01	54.76	65.10	77.27	91.59
22	2.37	2.93	3.60	4.43	5.44	6.66	8.14	9.93	12.10	14.71	17.86	21.64	26.19	31.63	38.14	45.92	55.21	66.26	79.42	95.04	113.57
23	2.46	3.07	3.82	4.74	5.87	7.26	8.95	11.03	13.55	16.63	20.36	24.89	30.38	37.01	45.01	54.65	66.25	80.18	96.89	116.90	140.83
24	2.56	3.23	4.05	5.07	6.34	7.91	9.85	12.24	15.18	18.79	23.21	28.63	35.24	43.30	53.11	65.03	79.50	97.02	118.21	143.79	174.63
25	2.67	3.39	4.29	5.43	6.85	8.62	10.83	13.59	17.00	21.23	26.46	32.92	40.87	50.66	62.67	77.39	95.40	117.39	144.21	176.86	216.54
26	2.77	3.56	4.55	5.81	7.40	9.40	11.92	15.08	19.04	23.99	30.17	37.86	47.41	59.27	73.95	92.09	114.48	142.04	175.94	217.54	268.51
27	2.88	3.73	4.82	6.21	7.99	10.25	13.11	16.74	21.32	27.11	34.39	43.54	55.00	69.35	87.26	109.59	137.37	171.87	214.64	267.57	332.95
28	3.00	3.92	5.11	6.65	8.63	11.17	14.42	18.58	23.88	30.63	39.20	50.07	63.80	81.13	102.97	130.41	164.84	207.97	261.86	329.11	412.86
29	3.12	4.12	5.42	7.11	9.32	12.17	15.86	20.62	26.75	34.62	44.69	57.58	74.01	94.93	121.50	155.19	197.81	251.64	319.47	404.81	511.95
30	3.24	4.32	5.74	7.61	10.06	13.27	17.45	22.89	29.96	39.12	50.95	66.21	85.85	111.06	143.37	184.68	237.38	304.48	389.76	497.91	634.82

Future Value of an Annuity.

Future Value of an Annuity Due of $1 per Period at the End of N Periods (FVIFAd)") **Top row shows interest rate. Left column shows periods**

Per.	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2	2.03	2.04	2.05	2.06	2.07	2.08	2.09	2.10	2.11	2.12	2.13	2.14	2.15	2.16	2.17	2.18	2.19	2.20
3	3.09	3.12	3.15	3.18	3.21	3.25	3.28	3.31	3.34	3.37	3.41	3.44	3.47	3.51	3.54	3.57	3.61	3.64
4	4.18	4.25	4.31	4.37	4.44	4.51	4.57	4.64	4.71	4.78	4.85	4.92	4.99	5.07	5.14	5.22	5.29	5.37
5	5.31	5.42	5.53	5.64	5.75	5.87	5.98	6.11	6.23	6.35	6.48	6.61	6.74	6.88	7.01	7.15	7.30	7.44
6	6.47	6.63	6.80	6.98	7.15	7.34	7.52	7.72	7.91	8.12	8.32	8.54	8.75	8.98	9.21	9.44	9.68	9.93
7	7.66	7.90	8.14	8.39	8.65	8.92	9.20	9.49	9.78	10.09	10.40	10.73	11.07	11.41	11.77	12.14	12.52	12.92
8	8.89	9.21	9.55	9.90	10.26	10.64	11.03	11.44	11.86	12.30	12.76	13.23	13.73	14.24	14.77	15.33	15.90	16.50
9	10.16	10.58	11.03	11.49	11.98	12.49	13.02	13.58	14.16	14.78	15.42	16.09	16.79	17.52	18.28	19.09	19.92	20.80
10	11.46	12.01	12.58	13.18	13.82	14.49	15.19	15.94	16.72	17.55	18.42	19.34	20.30	21.32	22.39	23.52	24.71	25.96
11	12.81	13.49	14.21	14.97	15.78	16.65	17.56	18.53	19.56	20.65	21.81	23.04	24.35	25.73	27.20	28.76	30.40	32.15
12	14.19	15.03	15.92	16.87	17.89	18.98	20.14	21.38	22.71	24.13	25.65	27.27	29.00	30.85	32.82	34.93	37.18	39.58
13	15.62	16.63	17.71	18.88	20.14	21.50	22.95	24.52	26.21	28.03	29.98	32.09	34.35	36.79	39.40	42.22	45.24	48.50
14	17.09	18.29	19.60	21.02	22.55	24.21	26.02	27.97	30.09	32.39	34.88	37.58	40.50	43.67	47.10	50.82	54.84	59.20
15	18.60	20.02	21.58	23.28	25.13	27.15	29.36	31.77	34.41	37.28	40.42	43.84	47.58	51.66	56.11	60.97	66.26	72.04
16	20.16	21.82	23.66	25.67	27.89	30.32	33.00	35.95	39.19	42.75	46.67	50.98	55.72	60.93	66.65	72.94	79.85	87.44
17	21.76	23.70	25.84	28.21	30.84	33.75	36.97	40.54	44.50	48.88	53.74	59.12	65.08	71.67	78.98	87.07	96.02	105.93
18	23.41	25.65	28.13	30.91	34.00	37.45	41.30	45.60	50.40	55.75	61.73	68.39	75.84	84.14	93.41	103.74	115.27	128.12
19	25.12	27.67	30.54	33.76	37.38	41.45	46.02	51.16	56.94	63.44	70.75	78.97	88.21	98.60	110.28	123.41	138.17	154.74
20	26.87	29.78	33.07	36.79	41.00	45.76	51.16	57.27	64.20	72.05	80.95	91.02	102.44	115.38	130.03	146.63	165.42	186.69
21	28.68	31.97	35.72	39.99	44.87	50.42	56.76	64.00	72.27	81.70	92.47	104.77	118.81	134.84	153.14	174.02	197.85	225.03
22	30.54	34.25	38.51	43.39	49.01	55.46	62.87	71.40	81.21	92.50	105.49	120.44	137.63	157.41	180.17	206.34	236.44	271.03
23	32.45	36.62	41.43	47.00	53.44	60.89	69.53	79.54	91.15	104.60	120.20	138.30	159.28	183.60	211.80	244.49	282.36	326.24
24	34.43	39.08	44.50	50.82	58.18	66.76	76.79	88.50	102.17	118.16	136.83	158.66	184.17	213.98	248.81	289.49	337.01	392.48
25	36.46	41.65	47.73	54.86	63.25	73.11	84.70	98.35	114.41	133.33	155.62	181.87	212.79	249.21	292.10	342.60	402.04	471.98
26	38.55	44.31	51.11	59.16	68.68	79.95	93.32	109.18	128.00	150.33	176.85	208.33	245.71	290.09	342.76	405.27	479.43	567.38
27	40.71	47.08	54.67	63.71	74.48	87.35	102.72	121.10	143.08	169.37	200.84	238.50	283.57	337.50	402.03	479.22	571.52	681.85
28	42.93	49.97	58.40	68.53	80.70	95.34	112.97	134.21	159.82	190.70	227.95	272.89	327.10	392.50	471.38	566.48	681.11	819.22
29	45.22	52.97	62.32	73.64	87.35	103.97	124.14	148.63	178.40	214.58	258.58	312.09	377.17	456.30	552.51	669.45	811.52	984.07
30	47.58	56.08	66.44	79.06	94.46	113.28	136.31	164.49	199.02	241.33	293.20	356.79	434.75	530.31	647.44	790.95	966.71	1181.88
35	60.46	73.65	90.32	111.43	138.24	172.32	215.71	271.02	341.59	431.66	546.68	693.57	881.17	1120.71	1426.49	1816.65	2314.21	2948.34
40	75.40	95.03	120.80	154.76	199.64	259.06	337.88	442.59	581.83	767.09	1013.70	1342.03	1779.09	2360.76	3134.52	4163.21	5529.83	7343.86
45	92.72	121.03	159.70	212.74	285.75	386.51	525.86	718.90	986.64	1358.23	1874.16	2590.56	3585.13	4965.27	6879.29	9531.58	13203.42	18281.31

CHAPTER 9

Decision-Making, Cost, Cost Allocation and Revenues

Over time, many business and personal situations and crossroads arise that require a financial decision. In almost all of these instances, learning to focus on a small number of relevant-only factors or line items will lead to fast, accurate, and smart decisions. This chapter will teach you to become a consistently good decision-maker.

Typical business-related decisions include:

- Adding or dropping a product or service line
- Keeping existing or purchasing new equipment
- Producing or buying-in a manufactured product
- Selling as is or processing further
- Determining the best use of limited resources
- Accepting or rejecting a one-time or unusual order/request

Typical personal-related decisions include:

- Real estate investments
- Vehicle purchasing
- Retirement plan options and withdrawls
- Other supplemental investment options
- Vendor options for household products and services

The major skill required to become a consistently good financial decision-maker is simply to understand and master the meaning of relevance. Fast, accurate, and smart decisions will always result when relevant-only factors or line items are considered.

A line item is relevant:

- If it is avoidable
- If costs or revenues will change **(focus only on the change)**

A line item is not relevant:

- If it is unavoidable
- If costs or revenues will not change

Line items that will not change and that are unavoidable are not relevant. Line items that are not relevant should almost never be included in financial decision-making.

Cost-Allocation Perspectives

Most businesses and organizations include a combination of revenue- and non-revenue-producing departments or functions.

Revenue-producing departments and functions include manufacturing facilities, retail outlets, service departments, and sales associates.

Non-revenue-producing departments include top to bottom administrative staff and related office functions, maintenance, security, and other organizational activities. All businesses require some level and expenditure of these in order to function. These costs are usually allocated to revenue-producing departments as a line item on the profit center income statement.

In most if not all financial decision-making situations, these costs are not relevant simply because they are unavoidable and will not change. If a revenue-producing department or function is dropped, those non-revenue-producing department costs will simply be allocated to other profit centers.

You have now been introduced to one aspect of "creative accounting." You can see how easy it is to "create" any financial condition by simply manipulating cost or revenue line items. **You can also see how easy it is to make poor financial decisions by using inaccurate information.**

Some spreadsheets and reports must be presented in a specific format as required by law. Other spreadsheets and reports are presented for internal use only, with no specific rules or guidelines. The good news is that

you have this opportunity to understand cost and revenue behavior and its relevance to fast, accurate, and smart decision-making.

Business Applications and Additional Topical Perspectives

Drop or Add a Product Line: If an existing profit center (consistently) generates a negative contribution margin, it must be analyzed, fixed, or eliminated unless it is a loss leader. New profit centers should be analyzed by focusing only on new revenues and new expenses (changes/relevance).

Keep existing equipment or purchase new equipment: Sunk costs are never relevant. A sunk cost is a cost incurred that no future action can change. Depreciation is never relevant. Once a depreciable fixed asset is purchased, the total write-off will take place no matter what happens to that asset (keeping it or selling it). Fixed costs are usually not relevant. THE most common error and misconception is that once a fixed asset is purchased, it must be used as intended, and/or that replacing something recently purchased doesn't make sense. These viewpoints are wrong! If something better comes along, i.e., a net gain from changes in revenues and changes in costs, the right decision is to make the change.

Continue to produce or buy-in manufactured products or components (Make or Buy): Manufacturers should always be on the lookout for outside vendors who can supply products or components at lower costs. Look for outside producers who are not at 100% capacity. **The best and smartest companies sell more than they produce.**

Sell as is or process further: Many manufactured products (finished goods) can be sold as is, or processed further for higher revenues. The correct factors to focus on in this situation are the changes in revenues and expenses required to create the higher value product (relevance) and the current capacity of both in-house and outside vendor facilities.

Accept or Reject a special or unusual order: Over time, a number and variety of outside requests and sales leads for products and services "outside the norm" will materialize. Never say no until the request or lead has been accurately analyzed. Again, focus only on changes in revenues and expenses and the current capacity of your in-house facility.

Determine the best use of limited resources: Most companies have a finite supply of labor, materials, production capacity, and cash. As companies grow, it is not uncommon to eventually have demand exceed supply. In other words, there is now more business on the table than you can handle. You find yourself limited by the amount of labor, materials, production capacity, or cash currently at your disposal. In the short term, you must rank or prioritize your most- to least-profitable options. Contribution margin must now be analyzed on a per man hour, per unit of materials, and/or per unit of production basis.

Illustration: (Keep or Drop a Product Line)

Two of the ten profit centers from Eli's Home and Garden Center are reported as follows:

		Product A		Product B
Sales		$300,000		$300,000
CGS		180,000		130,000
GM		$120,000		$170,000
VC:		$130,000		$ 85,000
Hourly Labor	110,000		70,000	
Supplies	10,000		5,000	
Utilities	5,000		5,000	
Maintenance	5,000		5,000	
CM		($10,000)		$ 85,000
FC		$65,000		$105,000
Salaries	30,000		35,000	
Depreciation	10,000		20,000	
General O/H	25,000		50,000	
NI		($75,000)		($ 20,000)

Should Product A be dropped? Why or why not?

YES, if this situation cannot be fixed or if Product A is not a loss leader. Dropping Product A will increase profits by $10,000 as it is now costing $310,000 ($180,000 + $130,000) to generate $300,000 in sales!

In addition, the Salaries of $30,000 for Product A may also be dropped/relevant

Should Product B be dropped? Why or why not?

NO, dropping Product B will decrease profits by $85,000 (CM)!

In both situations, management should closely analyze all line items and attempt to increase sales and/or decrease costs to improve profitability.

Illustration: Continue to produce or buy-in manufactured products or components(Make or Buy)

An outside supplier has offered to manufacture and provide HFLQ Bicycles with two of the components for their racing bike product lines for $10/unit. HFLQ's bookkeeper reports the following: (5000 units/month of each component are needed for the production line)

	Component A	Component B
DM/Unit	$ 5	$ 7
DL/Unit	2	4
Variable Mfg. O/H/unit	1	1
Fixed Mfg. O/H/unit	1	1
General O/H Allocation	3	3
Total Cost/Unit	$12	$16

Should either or both of the outside offers be accepted? Why or why not?

NO, HFLQ should continue to make Component A, as it actually costs $8/ unit to manufacture internally. ($5 + $2 + $1)

Yes, HFLQ should buy in Component B, as it actually costs $12 to manufacture internally. ($7 + $4 + $1)

Fixed Manufacturing Overhead and General Overhead are not relevant, as they will not change.

If you answered no to either of the above, under what conditions would you still accept the outside offer?

Buying in Component A would increase costs by $10,000 (5000 units × $10 vs. 5000 units × $8). If, however, an alternative use (new product or service) for the materials, labor, and/or space (Mfg O/H) can be developed that will generate profits in excess of $10,000 per month, then buying in Component A is an option after all. You need to think about this one for a minute!

Illustration: (Best use of Limited Resources)

Pants Painters has raised eyebrows given their rapid growth. In the short term, Pants finds himself with more work than he can handle (labor constraint) and the decision has been made to focus on the most profitable product/service lines. The following historical data are provided:

Product/Service	Avg.CM/Unit	Avg. Man Hours/Unit
Interior Painting–Residential	$2,400	20 hours
Exterior Painting–Residential	$7,200	144
Interior Painting–Commercial	$8,000	64
Exterior Painting–Commercial	$13,125	175

Rank each of the above in terms of profitability by converting CM/Unit to CM/Man Hour (the limited resource or constraint in this case):

Interior Painting–Residential:	$ 2,400/20	=	$120/Man Hour	#2
Exterior Painting–Residential:	$ 7,200/144	=	$ 50	#4
Interior Painting–Commercial:	$ 8,000/64	=	$125	#1
Exterior Painting–Commercial:	$13,125/175	=	$ 75	#3

Note that the product line with the highest contribution margin per unit ranks #3 in profitability.

Note that the product line with the lowest contribution margin per unit ranks #2 in profitability.

What additional advice would you offer Pants in terms of the best management of future growth and profitability?

Personal Applications and additional Topical Perspectives: Simply put, all of the business lessons that you have just learned and applied are easily transferred or plugged into the many personal financial decisions that you will encounter throughout your life.

Real estate investments: As you transition from renter to homeowner, what costs are relevant to this investment decision? What new tax implications enter into this decision?

Rent-to-Own Analysis:

Typically Relevant (Changes)	**Typically Not Relevant (Stays the Same)**
Principal and Interest (vs. Rent)	Food
Property Taxes	Cable/Internet
Water and Sewer	Car/Health Insurance
Maintenance	Utilities
Insurance	Gasoline
Tax Deductions/Savings (Interest and Property Taxes)	Discretionary Spending

Note how simple it is to accurately assess this option. You will also find that owning often costs about the same as renting (sometimes less). Owning is an investment. Renting is just a cost.

Vendor options for household products and services: Shop around. When sellers compete for your business, you win. What are the trade-offs of your choices; what is relevant?

Other supplemental investment options: Never stop looking around, researching, and learning.

"You can make a lot more money investing than you ever can working."

CHAPTER 10

Trend Analysis and Financial Trends

Once a business or household is established, patterns of financial behavior emerge. It is extremely useful to study both yearly and year-to-year results and patterns. Our goal is to create and sustain positive trends and to change undesirable patterns and unsatisfactory outcomes. Businesses and individuals study the income statement, cash flow statement, and balance sheet in four ways:

Vertical analysis: This is the study and analysis of a single statement (up and down-vertical). Always begin by converting dollars to percentages, as this provides far better insight and perspective. Dollar values are useful, but they do not present proportional or relative comparisons. Percentages also allow businesses and individuals to compare performances and outcomes with others in the same industry and with statistical data regarding individual growth, development, and wealth.

Horizontal analysis: This is the study and analysis of two or more statements (across—horizontal), preferably in three- to five-year sets. Again, convert dollars to percentages with the oldest statement serving as the benchmark or base year for the analysis.

Ratio analysis: This is the study and analysis of the relationship between any two variables, such as our earlier analysis of accounts receivables turnover, i.e., the relationship between sales and average receivables.

Industry comparisons: This is the study and analysis of the financial performance of your company or yourself relative to others in the same industry and/or to the population at large. The conversion of dollars to percentages allows businesses of different sizes to compare numbers.

Business owners and individuals are not the only ones looking at these analyses. Creditors, investors, prospective buyers, and others rely on these criteria, so in addition to focusing on patterns and trends within our own worlds, we must also incorporate long-term planning, vision, and exit strategies.

Financial and Trend Analysis is a skill that can be developed into a career as in-house controller, chief financial officer, or financial consultant. This chapter will introduce you to these options. You will begin to learn and see how to spot numbers that jump off the statement pages. This is the key skill to acquire for success in these careers.

Illustrations, Applications, and Actions

Vertical Analysis (single statement):

David's Restaurant

	Sales	$1,000,000	→	100%
	CGS	600,000	→	60 (and so on)
	GM	$ 400,000		40%
Selected Expenses:				
	Labor	250,000		25%
	Supplies	70,000		7
	All Others	60,000		6
	NI	$ 20,000		2%

Converting dollars to percentages: Sales is always 100% (total expenses plus profits = 100%). Divide each dollar line item by sales to convert to percentages ($600,000/$1,000,000 = .6 = 60%) (and so on).

The three numbers that jump off the page to the author are GM %, Labor %, and NI %. Depending on the specific industry or business, the "low" GM % and/or the "high" Labor % might explain the extremely low NI % (Pricing could also be an issue). Notice that every 1% increase in GM equals $10,000 that goes straight to the bottom line. This illustrates the value of the key skill mentioned above.

Horizontal Analysis (two or more statements):

David's Restaurant

	2008	2009	2010	2011
Sales	$1,000,000	$1,050,000	$1,134,000	$1,270,000
CGS	600,000	630,000	706,000	811,000
GM	$ 400,000	$ 420,000	$ 428,000	$ 459,000
Sales	100%	105%	113%	127%
CGS	100%	105%	118%	135%
GM	100%	105%	107%	115%

Converting dollars to percentages: The oldest statement is the benchmark or base year of the analysis. Each dollar value in that column is 100%. Divide each dollar line item in subsequent statements by the base year value to convert to percentages ($1,050,000/$1,000,000 = 1.05 = 105%) (and so on).

The two sets of numbers that jump off the page to the author are the CGS% and GM% for 2010 and 2011. The increase in the cost of merchandise for those years (CGS) was not offset by a corresponding or greater increase in price (Sales), resulting in an undesirable pattern in GM relative to the growth in Sales.

Notice how the conversion from dollars to percentages in these two illustrations provided much more revealing and useful information for analysis purposes.

Ratio Analysis (the relationship between any two variables): In addition to internal use by business owners, creditors and prospective buyers use this analysis to make decisions. Refer to pages 26–27 (Chapter Four: The Balance Sheet) for illustrations previously covered.

Industry Comparisons

Business owners and managers frequently lament about being "alone on an island." These individuals dedicate tremendous amounts of time and energy toward the success of their operations, often without the benefit

of being able to regularly confer with peers and/or to effectively measure and assess the results of their efforts. One solution is to regularly compare results with others in the same business or industry. This requires financial statements to be in percentage form.

Refer to the Vertical Analysis of David's Restaurant on page 66. David conducted some research on the restaurant business in his region through professional associations and other available data and discovered the following:

- Average Food Cost: 43% of Sales
- Average Labor Cost: 25%
- Average of Supplies and All Other Costs: 15%

1. Assess David's performance.
2. What changes, if any, would you recommend?
3. **What would happen to David's bottom line if he made changes that resulted in industry standard performance?**

1. David's food cost (CGS) is extremely high (60% vs. 43%) and/or his pricing is too low. David's labor and other costs are satisfactory relative to others in the same business.
2. David must identify which of the two are problematic and fixable (food cost, pricing) and take the appropriate actions with suppliers and/or marketing strategies and actions.
3. **Note that $1,000,000 in sales should generate a CGS of $430,000 (43%) and a GM of $570,000 (57%).**

Refer to the Horizontal Analysis of David's Restaurant on page 67. The GM values should be 57% of Sales as indicated above: $598,500 for 2009, $646,380 for 2010, and $723,900 for 2011!

Select an industry of your choice and research average income statement line item standards/percentages. Prepare an income statement with sales of $1,000,000 and the corresponding line item costs:

Other Perspectives and Applications

The Controller/CFO/Consultant's initial focus and actions: Many years ago, the author received some great advice from a world-renowned business consultant. As we walked up for the first time to a five-story furniture factory that employed 1,000 production workers, the question of where to begin or what to do first was raised. The answer: "look at the financials and focus on the biggest winner and/or biggest loser (numbers that jump off the page). Pushing and/or fixing those will have the greatest impact with the least amount of effort." Those words of wisdom have proved themselves true over and over for many years to the benefit of all parties.

Trends on one statement can affect trends on others: For example, if the amount of Accounts Receivables increases disproportionately over time, this may cause the Cash account to decrease and/or may cause the Current Liabilities account to increase, as too much money remains in the customer's pockets. The analyst must therefore look at the big picture and consider cause-effect situations.

The connection between your trends and the economy/market: The analyst must also think globally and look for outside causes to both favorable and unfavorable trends. For example, during recessionary periods, it is typical for annual sales to decrease by 15%-30% across the board. Another great lesson learned by the author is that one key to long-term success is the ability to survive recessionary periods that may last two or three years AND to position a business to take advantage of the many investment opportunities that recessions offer to those who have money.

Analyze your personal performance and trends: Take a look at your personal income statement for the last three to five years and the trends in both income and spending. The same principles apply. This is often an eye-opening experience and most importantly provides individuals and families with the opportunity to reverse unfavorable trends and patterns of behavior!

CHAPTER 11

Pricing and Managing Inventory

- In almost all retail and manufacturing businesses, inventory is the number-one expense. Inventory management should therefore be a continuously high priority for owners and managers (but it's not).
- Moving inventory and getting paid is arguably the major key to business success and profitability.

We begin this chapter with two boldfaced bullets; that must mean something! The subject of inventory management is almost nonexistent in traditional accounting textbooks. The practice of inventory management is also nonexistent or marginal, at best, in many small businesses. This is a great mystery to the author. The good news is that you are about to learn a few simple but powerful techniques that can lead to (inventory-management-related) financial wealth and business success. Let's begin with a pictorial view and short summary of the topic by focusing on relevant segments of the following statements:

Balance Sheet	Cash Flow Statement	Income Statement
Inventory	**Cash In:**	**Sales**
Accounts:		**Cost of Goods Sold**
		Gross Margin*
(Manufacturing)	**Cash Out:**	
Direct Materials	**Direct Materials/**	
Work-in-Process	**Merchandise**	
Finished Goods		
(Retail)		
Finished Goods		
Accounts Receivables		
Cash		

The goal for every business is to have a never-ending cycle of purchasing direct materials or merchandise inventory, selling it, and getting paid. The net of Sales minus Cost of Goods Sold, i.e., **Gross Margin* is the magic number that must be large enough to pay for all remaining bills and to consistently generate adequate profits.**

Managers can easily track the progress of moving inventory by use of the following spreadsheet that must be generated daily, weekly, or monthly (at the least):

XYZ Company
Daily/Weekly/Monthly Inventory Report

	Product A	Product B	Product C	Product D....Etc.	Total Co.
Beginning Inventory (in units and dollars)	units/$	units/$	units/$	units/$	units/$
Plus Purchases or Manufacture (CGM)					
Less Sales (@ CGS)					
Ending Inventory	units/$	units/$	units/$	units/$	units/$
Minimum Balance:					
Order Quantity:					

Managers now focus on winners, losers, and marginal movers. Managers also focus on the lowest cost and most timely ordering practices. Financial managers focus on cash sales and the collection of receivables.

Consider the following illustration and analysis from Gibb's Gifts (in units):

	Product A	Product B	Product C	Product D....Etc.	Total Co.
Beginning Inventory	300	300	300	150	units/$
Purchases	400	400	500	0	
Sales	200	600	600	15	
Ending Inventory	500	100	200	135	

Product A: An example of poor inventory management: Gibb did not even sell the amount in beginning inventory. Purchasing 400 units was unnecessary and costly.

Product B: Although sales were strong and purchases are justified, ending inventory may be too low, as it represents less than one week of average sales.

Product C: This appears to be well managed. Sales were strong, purchases are justified, and ending inventory is more than one week of average sales.

Product D: Although no purchases are justified, Gibb must decide whether it is worth keeping this product, given sales of only 15 units.

Specific circumstances (markets and products) will allow for more specific analysis; each of these scenarios is presented for illustration and learning purposes.

Minimum Balance and Order Quantity: The goal for all businesses is to never run out of inventory AND to never have too much inventory. In addition to patterns in sales, these decisions or company policies are based on:

- How long it takes for inventory to arrive
- How much it costs to transport, insure, and store inventory

Inventory shrink/theft management: Too many companies generate on- paper-only inventory reports. Consider the following illustration from Connie's Convenience Store (in units):

	(On-Paper Inventory Report) Product A	(Physical Inventory) Product A
Beginning Inventory	250	
Plus Purchases	300	
Less Sales	450	
Ending Inventory	100 units	65 units (the actual physical count)

What are the possible causes of this shortage (inventory shrink) of 35 units that appear to have "flown out the door"?

There are five possible causes: customer theft, employee theft, supplier theft (delivery), supplier/office errors (invoices/transactions), breakage. **The problem must be identified and fixed.**

What are the most common theft techniques? Students have collectively seen and heard about others practicing these techniques. Your instructor may lead a group discussion in order to bring these to life.

What can a business do to minimize inventory shrinkage and theft? Options ranging from effective human resource management to proper layout of the store or warehouse to theft prevention technology and devices can contribute to solving this problem. Though it may be impossible to completely eliminate, inventory shrinkage/theft can at least be minimized to tolerable levels (0%-2% of sales). Your instructor may elaborate on these and other solutions.

All retail and manufacturing businesses must conduct a physical inventory at least once a month. The author has heard every excuse in the book as to why "this is just not possible." All of those excuses are wrong and not valid. It is relatively simple to set up a routine procedure, such as on the last Friday of each month, where personnel physically count units of inventory and match those up with on-paper reports. This allows for discrepancies and problems to be identified and fixed sooner than later.

Other Inventory Management Topics

Subcontractors/vendors and Spec Purchasing: There is a well-established system and network of warehouses, distribution centers, and transportation services throughout the country. Depending on the specific location and nature of a business, it may be possible to "use other people's warehouses as your own." Or in other words, quick delivery of inventory may allow a business to operate efficiently with extremely low levels of in-house inventory. There are also many companies that specialize in custom products. As long as the quality and reliability is satisfactory, it may be possible to "sell (and collect) before you make." It is not uncommon to find vendors who can produce it for less than you can.

Related Careers: Given the high volume and high cost of inventory, many companies employ purchasing agents. Purchasing agents often spend more money than anyone else in the company and are therefore in a position to have the greatest impact on profitability.

Pricing

The topic of pricing is primarily a marketing and sales topic and function; the author includes the following learning perspectives, as pricing may

strongly effect moving inventory. The name of the game is making money. What combination of price and quantity (sales) will maximize profits for your profit centers and total business? Always remember that **it's all about profits, not sales**.

Too many businesses accept and use "formula pricing" as their method of setting prices. These techniques are strongly discouraged by the author, as they collectively serve to ignore the customer! Formula pricing techniques include:

1. Cost-plus pricing (unfortunately the most common (because it's easy?)):
   For example, if a product costs $8/unit and the "company policy" is to mark up all products by 50%, the price (formula) will be $8 × 1.5 = $12 (cost-plus). This raises some very important questions:

   Why?
   Is this the most profitable price?
   Would customers be happy to pay more?

2. Target pricing: This assumes a certain volume of sales, related total operating costs, and a desired or target profit. The formula then allows the company to "back into" a price. For example, if a company assumes sales of 20,000 units, related total operating costs of $500,000, and a desired or target profit of $200,000, the price would then be $35:

Sales ($35 × 20,000)	$700,000
Total Expenses	500,000
Profit	$200,000

   This raises some very important questions:

   Why?
   Is this the most profitable price?
   Would customers be happy to pay more?
   How safe is the assumption of selling 20,000 units?

3. Time and material pricing (labor and materials): This assumes a certain number of billable hours for labor, other operating/overhead costs to be covered by labor, and a target profit from labor.

   For example, if a company assumes 2,000 billable hours per year per employee, operating costs of $100,000 to be covered by each employee and a target profit of $50,000 to be generated by each employee, the hourly labor rate (Time) would then be $75: The Material pricing portion of this method is typically derived from the cost-plus technique previously illustrated and questioned.

Billable hours (2000 × $75)	$150,000
Operating Costs to Cover	100,000
Profit	$ 50,000

The same questions previously discussed are once again raised.

The author strongly recommends the never-ending use of smart marketing, elasticity analysis, and "psychological pricing" as the best techniques for setting prices and maximizing profits. These methods focus on the customer and the customer's behavior or reaction to various marketing programs and price points.

The subjects of Managerial Accounting and Marketing go hand in hand. Your instructors may interrelate and incorporate these techniques and applications throughout your learning in both subjects.

"Many products and services on the market today are virtually identical. At the same time, there are widely ranging levels of pricing and profitability for those as the result of product differentiation and smart marketing."

CHAPTER 12

Taxes and Their Implications for Your Business

(Disclaimer: The author is not a CPA or trained tax expert. This chapter is intended to provide you with an overview of the IRS form 1040, selected supporting worksheets, and annual filing procedures. The author recommends that all businesses and individuals find and retain a competent accountant and attorney close to your age to grow old with!)

This book began with the simplest income statement format for your business and your personal life. Throughout this book, there has been no mention of taxes, as that is not the focus of managerial accounting. A slightly expanded simple income statement follows:

Your Business	Sales
	– Expenses
	= **Taxable Income**
	– **Taxes**
	= Profit (Loss)

Your Personal Life	Income
	– Expenses
	= **Taxable Income**
	– **Taxes**
	= Disposable Income (Debt)

Taxes, of which there are many, collectively represent the largest lifetime expense for most of us. Our goal each year is to legally arrive at the lowest possible taxable income in order to pay the lowest possible taxes.

Each $1.00 of allowable and reported expenses saves about $.30 in taxes:

Expenses:	$1.00 Up
Taxable Income:	$1.00 Down
Taxes:	.30 Saved +/–
Profit/Disp. Income	$ .30 Up

Dollars add up quickly!

You will note that all of the expenses on each of the following forms are authored by the IRS. It is your responsibility to keep good records and to report those where and when appropriate.

Your instructor will distribute the following partial list of forms:

Schedule 1040	Schedule C	Schedule SE
Schedule A	Schedule B	

You may also go to <www.IRS.gov> to download these and other forms and to learn more about IRS rules and procedures.

This overview includes samples of the most common and current forms and supporting worksheets:

The IRS form 1040: This is essentially the "cover page or summary form" of our annual business and personal tax filing. Note the "starting line" 7 wages, and two possible "finish lines" 74a, refund, or 76, amount owed. Our goal each year is to either receive or pay an amount as close to $0 as possible. This means that the business or individual paid exactly the amount owed. A tax refund is merely a reimbursement of overpaid taxes at 0% interest! Note the many line items throughout the form 1040 that call for supporting worksheets, such as line 12, the "bottom line" of the Schedule C Profit or Loss/Income Statement.

Schedule C: Profit or Loss from Business: As you can see, this is the total company income statement that you are now familiar with! Note each of the allowable expenses beginning with line 8 and ending with line 27. These are the expenses that the IRS allows and that you must report and keep good records for. Note lines 31 and 32 on Schedule C that direct you to report business profit or loss on Form 1040 and how this serves as one of many supporting worksheets.

Schedule SE: Self Employment Tax: On your next paycheck stub, you will notice that your employer deducted a certain percentage from your wages for social security. Did you know that your employer must match that deduction as well? If you are self-employed, you must pay the full amount. This is a common unexpected and costly surprise for many small business owners. Note the reference to Form 1040 line 56 that appears on Schedule SE line 5.

Schedule A: Itemized Deductions: These represent the allowable deductions that you and I may report as individuals (expenses on our personal income statement). Peruse that list and note the many categories that represent allowable and reportable expenses such as real estate taxes, home mortgage interest, gifts, and job expenses. Note Schedule A line 29 that refers to Schedule 1040 line 40.

Schedule B: Interest and Ordinary Dividends: These represent other forms of income that you and I must report as individuals, such as interest and dividends (other sources of income on our personal income statement).

"Ignorance of allowable deductions is no longer an excuse!"

Government Programs and Incentives

Our lawmakers' job is to run the country like a business of sorts with a focus on maintaining a stable economy (low employment, safety and security, protection of the environment, social services, education, social security and medical benefits, foreign relations, public services, and many other social and public good programs). Our taxes pay for these programs. As situations arise and change, special programs and tax incentives come and go. It is your job to stay abreast of these opportunities for allowable deductions and/or tax credits. **Always be on the lookout for allowable and reportable tax credits—deductions straight off the tax bill.**

As business owners, we are often the middlemen between the government and the citizenry. As such, we are sometimes the beneficiary of special programs and incentives that are enacted to stimulate the economy, such as tax deductions or tax credits for hiring during periods of high unemployment. As individuals, many of these same programs and incentives come and go, such as tax deductions or tax credits for installing energy-saving devices and equipment in the home.

Finally, **do not mess with the IRS!** The IRS is one of our most powerful and important government agencies. We are all lucky and fortunate to be in the United States. The opportunity to acquire great wealth in a legal manner is available to us all.

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Effective Accounting for Small Business

A Guide to Business and Personal Financial Success

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