Finance and Accounting For Non-Financial Managers

Accounting/Finance

- Recording, classifying, and summarizing financial transactions in terms of dollars and their interpretation

Key Accounting Terms

- Accounting equation
- Revenue and expenses
- Capital and withdrawals
- Fixed cost and variable cost

Accounting Equation

Assets=Liabilities + Owner's Equity

$$A = L + OE$$

Transactions

- Any business event or activity that involves monetary value

Accounts

- Used to record and summarize business transactions

Revenue and Expenses

- Becomes a portion of owner's equity
- Revenue
  - Money earned from selling goods or services
  - Increases owner's equity

Revenue and Expenses

- Expense
  - Cost of goods or services that a business buys and uses to earn revenue
  - Decreases owner's equity

Revenue and Expenses

- Result in net profit or net loss

  Revenue – Expenses

- Incorporated as
  - Assets = Liabilities + Owner's Equity + Revenue – Expenses

    A = L + OE + R - E

Capital and Withdrawals

- Determines the owner's equity
- Capital
  - Owner's investment
  - Increases owner's equity
- Withdrawals
  - When an owner withdraws assets

Fixed and Variable Costs

- Fixed costs do not vary with the amount of activity in a business
  - Property taxes, administration salaries, etc.
- Variable costs vary with the activity
  - Cost of direct material, direct labor and variable overhead, etc.

Accounting Records

- Chart of Accounts
  - Detailed list of all accounts
    - Coded according to respective class of accounts
      - Assets:1
      - Liabilities: 2
      - Owner’s equity: 3
      - Revenue: 4
      - Expenses: 5

Cash Basis and Accrual Basis

- Cash basis of accounting
  - Records transaction only when money is realized or paid
  - Does not accurately reflect period profit/loss
- Accrual basis of accounting
  - Records transaction when revenue is earned or expense is incurred, not strictly when money has changed hands
  - Presents a truer picture of period profitability/loss

Financial Statements

Financial statements:

- Income Statements
- Balance Sheet
- Cash Flow Statement
- Statement of Stockholder's Equity

Revenue

- Sales-based income
- Service-based income
- Fees income

Expenses

- Cost of goods sold
- Operating expenses
- Interest expenses
- Income tax

Types of Expenses

- Cost of goods sold
  - Cost of products sold in an accounting period
- Cost of goods sold = Beginning inventory + Purchases – Ending inventory
- Manufacturing cost of goods sold = Direct Material + Direct Labor + Variable Overhead + "Allocated" Factory Overhead

Types of Expenses

- Operating expenses
  - Expenditures that are necessary for the daily operations of a business
    - Marketing expenses
    - Administrative expenses
    - Other general expenses
    - Depreciation
    - Depletion

Types of Expenses (cont.)

- Interest expenses
  - Result of the financial structure of a business
  - Incurred if a company has taken a loan to support its asset investment
- Income tax (Federal, state & local)

Profit and Loss

- Gross profit on sales
  - Gross profit on sales = Total revenue – Cost of goods sold
- Operating profit
  - Operating profit = Gross profit on sales – Operating expenses
- EBIT (Earnings Before Interest and Taxes)
  - EBIT = Operating profit + Other revenue
    - Other revenue: Dividends, Interest, etc.

Profit and Loss (cont.)

- Income before taxes
  - Income before taxes = EBIT – Interest expenses
- Net profit or Net loss
  - Net profit or Net loss = Income before taxes – Income taxes

Interpret Income Statements

- Ratios used to interpret Income
  - Net operating margin
  - Profit margin on sales

Net Operating Margin

- Net Operating Margin = Operating profit/sales
- Expressed in percentage
- Compared to previous years' percentage to determine financial health

Profit Margin on Sales

- Profit Margin on Sales = Net Profit/Sales
- Expressed in percentage
- Financial health determined by comparing this percentage with the percentages of:
  - Previous years
  - Other companies

Inadequate Level of Gross Profit on Sales

- The reasons could be:
  - Product volume
  - Price structure
  - Product costs

Balance Sheet

- Assets
  - Current
  - Fixed
- Liabilities
  - Current
  - Long-term
- Owner’s equity
  - Capital Stock
    - Preferred
    - Common
    - Retained earnings

Interpret Balance Sheets

- Liquidity
- Debt-to-total assets ratio

Liquidity

- Ability to generate adequate amounts of cash to meet current obligations
- Compared by calculating:
  - Working capital
  - Current ratio

Working Capital

- Working Capital = Current Assets – Current Liabilities
- Value should be neither too small nor too large

Current Ratio

- Reflects whether a company has sufficient current resources to meet obligations
- Current Ratio = Current Assets / Current Liabilities
- Expressed as a decimal
- Value should not be below 1

Debt-to-Total-Assets Ratio

- Debt-to-Total Assets Ratio = Total Liabilities / Total Assets
- Indicates:
  - Liabilities per $1 of assets
  - Measure ability to absorb a reduction in assets without hindering its ability to pay creditors
- Value should be low

Cash Flow Statement

- Includes three categories of accounts:
  - Operating activities
  - Investing activities
  - Financing activities

Operating Activities

- Cash inflows and outflows that relate to daily operations
- Generally result from purchase and sale of product or service
- Example:
  - Collecting from customers
  - Collecting interest and dividends
  - Paying suppliers
  - Paying employees
  - Paying interest and tax

Investing Activities

- Involve the acquisition and sale of long-term assets
- Example:
  - Purchasing stocks
  - Selling fixed assets
  - Selling debt or stocks
  - Loaning money
  - Purchasing fixed assets

Financing Activities

- Result from issuance and repayment of long-term liabilities and capital stock
- Example:
  - Issuing stock certificates
  - Buying back your own stock
  - Issuing loans
  - Making loan payments

Fundamentals of Budgeting

- Budgeting is the process of planning and controlling the financial activities for an upcoming accounting period by:
  - Analyzing present performance
  - Setting objectives for improving its future financial health

Importance of Budgeting

- Outlines a plan for managers and employees
- Fortifies effective pricing and spending efforts
- Benefits
  - Requires planning
  - Enhances communication
  - Reinforces accountability
  - Identifies problems
  - Motivates employees

Analyze Financial Statements

- Methods of analysis
  - Horizontal analysis
  - Trend analysis
  - Vertical analysis
  - Ratio analysis

Horizontal Analysis

- Analyzes month-to-month or year-to-year changes for each line item on a financial statement
- Determines the method, the reason, and the outcome of change

Trend Analysis

- Analyzes changes for three or more years
  - Shown in dollar amount and percentage
  - With first year as base year and subsequent years as percentage of base year amount

Vertical Analysis

- Concentrates on the relationships between various items in the same period
- Top-down budgeting

Ratio Analysis

- Studies relationships between multiple items on financial statements
- Identifies strong and weak areas
- Compares business operations of similar companies

Information Provided by Ratio Analysis

- Liquidity ratios
  - Determine a company's ability to generate cash
- Activity ratios
  - Evaluate how well a company uses its assets
- Leverage ratios
  - Determine a business's ability to meet its long-term obligations
- Profitability ratios
  - Determine returns for investors

Information used in Budgeting

- Working Capital
- Current ratio
- Acid test
- Inventory turnover ratio
- Days sales outstanding
- Total assets turnover ratio
- Debt-to-total-assets ratio
- Times-interest-earned ratio
- Net operating margin
- Profit margin on sales

Current Ratio

- Liquidity ratio
- Current Ratio = Current Assets / Current Liabilities
- Expressed as a decimal
- Value should not be below 1
- Generally 2:1 satisfactory

Acid Test or Quick Asset Rate

- More Restrictive
- Cash, marketable securities and accounts receivable to current liabilities

Inventory Turnover Rate

- Activity ratio
- Calculates the frequency of inventory to be sold out and restocked, per year
- Inventory Turnover Ratio = Cost of Goods Sold / Average Inventory
  - Average Inventory = (Beginning Inventory + Ending Inventory) / 2
- Value should be high

Days Sales Outstanding

- Activity ratio
- Indicates the length of time a business must wait after making a sale before receiving cash
- Days Sales Outstanding = Accounts Receivable / Average Sales Per Day
  - Average Sales Per Day = Annual Sales / 360
- Value should be low

Total Assets Turnover Ratio

- Activity ratio
- Indicates a business's ability to generate sales in relation to its total assets
- Total Assets Turnover Ratio = Sales / Total Assets
- Value should be high

Total Debt-to-Total Assets Ratio

- Leverage ratio
- Indicates a company's
  - Liabilities per $1 of assets
  - Ability to absorb a reduction in assets without hindering its ability to pay creditors
- Total Debt-to-Total-Assets Ratio = Total Liabilities / Total Assets
- Value should be low

Times-Interest-Earned Ratio

- Leverage ratio
- Measures ability to meet its annual interest payments
- Times-Interest-Earned Ratio = Operating Profit / Interest Charges
- Value should be high

The Profit Margin on Sales

- Profitability ratio
- Indicates how satisfactory business activities have been
- Profit Margin on Sales = Net Profit / Sales
- Value should be high

The Break-Even Point

- Occurs when
  - Total sales = Total expenses, with nothing left over for profit
  - Operating income = zero
- Break-Even Point = Total Fixed Operating Expenses / Contribution Profit Margin per unit

The Break-Even Example

Fixed Cost = \$2,000,000
R = \$100 VC = \$60/unit
Profit Contribution
PC = \$100-\$60 = \$40/unit

$$BE = \frac{\$2,000,000}{\$40} = \underline{50,000 \text{ units}}$$

at 50,000 units

R = 50,000 (\$100)	=	\$5,000,000
VC = 50,000 (\$60)	=	\$3,000,000
FC =	=	\$2,000,000
Total Cost		\$5,000,000
Profit		0

Budget Objectives

- Relevant
  - To your business's vision
- Measurable
  - In quantitative terms
- Realistic
  - Challenging but not impossible

Monitor Performance

- Record the actual performance of the business on "pro forma" statements
- To compare actual performance with the budgeted amount

"Pro Forma" Financial Statements

- Forward-looking documents
- Created when setting a budget
- Used to establish the projected financial activity for an upcoming accounting period
- Used only for internal purposes and not viewed by external parties

IMXMPLE, INC.
Income Statement
For year ending 12/31/04
(01/01/04 – 12/31/04)

Sales		$12,000,000
Cost of Goods Sold		7,000,000
Gross Profit on Sales		5,000,000
Operating Expenses		
Selling	$300,000	
Gen & Adm	400,000	
Dep & Depl	500,000	
Total Operating Expenses		1,200,000
Operating Profit		3,800,000
Other Revenue		
Dividends & Interest		20,000
Earnings before Int. & Taxes		3,820,000
Other Expenses		
Interest Expense		500,000
Income Before Taxes		3,320,000
Provision for all taxes		1,200,000
Net Profit for year		**$2,120,000**

Accounting Equation

Total Assets =

Total Liabilities + Total Equity

$18,610,000 = $8,789,000 + $9,821,000

$18,610,000 = $18,610,000

Working Capital

Current Assets – Current Liabilities

$6,610,000 – $2,900,000 = $3,710,000

Current Ratio

$$\frac{\text{Total Current Assets}}{\text{Total Current Liabilities}}$$

$$\frac{\$6{,}610{,}000}{\$2{,}900{,}000} = 2.28$$

Acid Test or Quick Ratio

$$\frac{\text{(Cash+Securities+AR-BadDebt)}}{\text{Total Current Liabilities}}$$

$$\frac{\$4{,}310{,}000}{\$2{,}900{,}000} = 1.49$$

Inventory Terms

COGS/Inventory

$$\frac{\$7{,}000{,}000}{\$2{,}300{,}000} = 3.04$$

Days Sales Outstanding

Average Sales:

$$\frac{\$12{,}000{,}000}{360} = \$33{,}333.33$$

Accounts Receivable / Average Sales Per Day

$$\frac{\$3{,}210{,}000}{\$33{,}333.33} = 96.30 \text{ days}$$

Total Asset Turnover

Total Fixed Assets/Total Assets

$12,000,000 = 0.64
$18,610,000

Debt to Total Asset

Total Liabilities/Total Assets

$ 8,789,000 = 0.47
$18,610,000

Times Interest Earned

Operating Profit/Interest Expense

$$\frac{\$3,800,000}{\$500,000} = 7.6$$

IMXMPLE, INC.
Balance Sheet
As of 12/31/04

ASSETS			LIABILITIES	
Current Assets			Current Liabilities	
Cash		$400,000	Acct payable	$500,000
Mkt. Sec		700,000	Notes payable	300,000
Acct Rec	$3,250,000		Accrued Lin	400,000
Less Allocated (Bad Debt)	40,000	3,210,000	Taxes payable	1,200,000
Inventory		2,300,000	Div. payable	500,000
Total Current Assets		6,610,000	Total Current Liabilities	2,900,000
Fixed Assets			Long Term Liabilities	
Real Estate		9,000,000	Bonds	4,000,000
Equipment	4,000,000		Debentures	1,889,000
Less Depr.	1,000,000	3,000,000		
Total Fixed Assets		12,000,000	Total Long Term	5,889,000
Total Assets		$18,610,000	Total Liabilities	$8,789,000
			OWNERS EQUITY	
			Stock	
			Preferred	1,000,000
			Common	4,000,000
			Additional	4,000,000
			Retained Earnings	821,000
			Total Equity	$9,821,000

Profit Margin on Sales

Net Profit/Sales

$ 2,120,000 = 0.178

$12,000,000

Net Operation Profit

Operating Profit/Total Fixed Assets

$ 3,800,000 = 0.32

$12,000,000

Return on Equity

Net Profit After Taxes/Total Equity

$$\frac{\$2{,}120{,}000}{\$9{,}821{,}000} = 0.216$$