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 = $2,000,000 = 50,000 units  
$40  
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

IMXAMPLE, 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

\[
\text{Current Ratio} = \frac{\text{Total Current Assets}}{\text{Total Current Liabilities}}
\]

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

### Acid Test or Quick Ratio

\[
\text{Acid Test or Quick Ratio} = \frac{(\text{Cash} + \text{Securities} + \text{AR} - \text{BadDebt})}{\text{Total Current Liabilities}}
\]

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

<table>
<thead>
<tr>
<th>Total Fixed Assets/Total Assets</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>$12,000,000</td>
<td>= 0.64</td>
</tr>
<tr>
<td>$18,610,000</td>
<td></td>
</tr>
</tbody>
</table>

### Debt to Total Asset

<table>
<thead>
<tr>
<th>Total Liabilities/Total Assets</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>$ 8,789,000</td>
<td>= 0.47</td>
</tr>
<tr>
<td>$18,610,000</td>
<td></td>
</tr>
</tbody>
</table>
### Times Interest Earned

**Operating Profit/Interest Expense**

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

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### Example, Inc.

**Balance Sheet**

**As of 12/31/04**

<table>
<thead>
<tr>
<th>ASSETS</th>
<th>LIABILITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Assets</strong></td>
<td><strong>Current Liabilities</strong></td>
</tr>
<tr>
<td>Cash</td>
<td>Accounts payable $300,000</td>
</tr>
<tr>
<td>Mkt. Sec</td>
<td>Notes payable $300,000</td>
</tr>
<tr>
<td>Acc. Rec</td>
<td>Aved. Line $400,000</td>
</tr>
<tr>
<td>Less: Allocated</td>
<td>Taxes payable $1,200,000</td>
</tr>
<tr>
<td>(Due Date)</td>
<td>Div. payable $200,000</td>
</tr>
<tr>
<td>Inventory</td>
<td></td>
</tr>
<tr>
<td>Total Current Assets</td>
<td>Total Current Liabilities $2,900,000</td>
</tr>
<tr>
<td></td>
<td><strong>Fixed Assets</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Long Term Liabilities</strong></td>
</tr>
<tr>
<td></td>
<td>Total Real Estate $9,000,000</td>
</tr>
<tr>
<td></td>
<td>Bonds $4,000,000</td>
</tr>
<tr>
<td></td>
<td>Equipment $4,000,000</td>
</tr>
<tr>
<td></td>
<td>Debentures $1,800,000</td>
</tr>
<tr>
<td></td>
<td>Less: Dep't $1,000,000</td>
</tr>
<tr>
<td></td>
<td>Total Long Term $5,889,000</td>
</tr>
<tr>
<td></td>
<td><strong>Total Liabilities</strong> $8,789,000</td>
</tr>
<tr>
<td></td>
<td><strong>Total Assets</strong> $18,610,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OWNERS' EQUITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stock</td>
</tr>
<tr>
<td>Preferred</td>
</tr>
<tr>
<td>Common</td>
</tr>
<tr>
<td>Additional</td>
</tr>
<tr>
<td>Retained Earnings</td>
</tr>
<tr>
<td>Total Equity</td>
</tr>
</tbody>
</table>
Profit Margin on Sales

Net Profit/Sales

\[
\frac{\$2,120,000}{\$12,000,000} = 0.178
\]

Net Operation Profit

Operating Profit/Total Fixed Assets

\[
\frac{\$3,800,000}{\$12,000,000} = 0.32
\]
Return on Equity

Net Profit After Taxes/Total Equity

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