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PART I. ART OF FINANCE AND WHY IT MATTERS

Chapter 1: What is FI?

Financial intelligence, or wisdom about the financial aspects of a business involves the abilities to do three things
• Interpret the three main financial statements (income statement, balance sheet, cash flow statement)
• Understanding the assumptions, the judgements, the possibilities of cooking the books.
• Analyze the numbers; make decisions, interpret, ....

Chapter 2: Art of Finance

P1: Toolbox

Three generic sources of financing:
• Owner financing
• Getting others the invest equity
• Debt financing

Financial Officers
• Small Organizations
  • Bookkeeper: Record all financial transactions in an organized system
  • Accountant (outsourced). Taxes, financial reports, set up of accounting system
• Large Organizations
  • Financial Tech (bookkeeper). Record all financial transactions in an organized system.
  • CFO. Chief Financial Officer. Oversee management and strategy from a financial perspective.
  • Controller (Comptroller). Like a CFO but more focused on management from a financial perspective
  • Treasurer. Financial person who communicates and relates with the outside world.

PART II. INCOME STATEMENT

1. Accountancy

Accountancy is the profession (process) of managing financial information about a business entity. This profession is concerned with:
• Setting up financial record keeping systems
• Decision making about how to record and interpret the resulting data
• Organizing the data into reports
• Communicating the reports and financial information

2. Cash-based and Accrual Accounting

Two kinds of accounting systems
• Cash Based. Revenues are recognized when cash is received and expenses are recorded when cash is paid. (same as a checkbook).
• Accrual Based. Each item (sale, purchase,) is entered as it happens regardless of when actual payments are received or made.

Accrual based accounting is the system used by nearly all businesses because this gives a more accurate picture of how the business is working.
3. The Matching Principle

**Matching Principle:** Match the revenue earned during an accounting period with the expenses incurred in generating the revenue.

4. Income Statement

An **income statement** shows how much profit a business entity has made during a period of time based on the formula:

\[ \text{(sales)} - \text{(expenses)} = \text{(net profit)} \]

The income statement is presented as a table of numbers as shown in Fig. xx

![Income statement from Dummies book](image)

The overall purpose of the income statement is to show whether the company made or lost money during the period being reported. Notice that the income statement (Fig. xx) shows 4 things:

1. Sales made
2. Expenses and what these expenses are for
3. The bottom line profit
4. Various measures of how much money was made

The income statement goes by many different names:
- Profit and loss statement (P&L)
- Revenue statement
- Statement of financial performance
- Earnings statement
- Operating statement
- Statement of operations

**Facts**
- Way more detailed in practice
- Often numbers need to be multiplied by 1,000 or 1,000,000
- Footnotes describe details; look for these
- Many different names are used for items; depends on the company. This makes learning about the income statement and other financial statements much more difficult.

**Main Ideas of the Income Statement**

**Sales (Revenue).** The $ value of all goods/services a company provides for its customers.

**Earnings Per Share (EPS).** Total revenue divided by number of shares outstanding. A number that strongly effects the value of stock.

**COGS (Costs of Goods Sold).** All the costs directly involved in producing a product.
COS (Costs of Services). All the costs directly involved in providing a service.

Operating Expenses. Expenses of running a business (e.g. selling, administrative, staff, insurance, advertising, marketing, utilities) that are not part of the COGS or COS.

GAAP (Generally Accepted Accounting Principles). Defines the standards for preparing financial reports.

Depreciation. A reduction in the value of an asset with the passage of time, due in particular to wear and tear. Example: Cost of a milling machine is spread out over the predicted life of the machine, with a portion of the cost being expensed each accounting year.

Amortization. The reduction of the value of an asset by prorating its cost over a period of years. Example, cost of gaining a patent is spread out over the life of the patent, with each portion being recorded as an expense on the company’s income statement.

Amortization versus Depreciation:
- Amortization usually refers to spreading an intangible asset’s cost over that asset’s useful life.
- Depreciation, on the other hand, refers to prorating a tangible asset’s cost over that asset’s life.

Profit (earnings, earned income, income, net income, net, net profit): Amount left over after all the expenses are subtracted from revenue.

Three basics types of profit:
- Gross Profit. (Revenue) - (COGS); Making your product in a cost effective way.
- Operating Profit: (Revenue) - (COGS) - (Operating Expenses) ==> Making your product + running your operation profitably.
- Net Profit: (Revenue) - (COGS) - (Operating Expenses) - (Interest) - (Taxes) ==> Bottom line amount.

PART III. THE BALANCE SHEET

5. The Balance Sheet

The balance sheet is a financial document that essential describes
- The $ value of a company (in accounting terms) at a specific instant in time
- Who these $’s belong to (the owner) or (others)

Fig. 2. An example of a balance statement
6. The Accounting Balance Equation
The accounting balance equation defines and relates three concepts
(owners equity in the business) = (assets of the business) - (liabilities of the business)

7. Owner’s Equity
Owner’s Equity is the owners (shareholders) stake in the company as measured by accounting rules.

8. Assets
Assets are what the company owns that can be turned into cash. Examples:
• Cash, bonds, stock
• Machinery and equipment
• Patents, trade secrets
• Inventory

• Current assets: an asset on the balance sheet which is expected to be sold, turned over, or used up in the near future, usually within one year. A current asset is liquid (it is easy to convert to cash). A current asset can be used to meet existing liabilities.
  • Money in the bank
  • Petty cash
  • Money received but not yet banked (see ‘cash in hand’)
  • Money owed to the business by its customers
  • Raw materials for manufacturing
  • Stock bought for re-sale.
• Long term assets: Those things with a useful life of more than one year. May be difficult to turn into cash in one year or less.
  • PPE (plant, property, equipment)
  • Vehicles
  • Furniture
  • Office equipment, computers, fixtures and fittings, and plant and machinery

PART IV. THE CASH FLOW STATEMENT

10. Cash is King
Cash keeps a company alive. Cash flow is a critical measure of its financial health.

You need people to run the business—any business. You need a place of business, telephones, electricity, computers, supplies, and so on.

And you can’t pay for all these things with profits because profits aren’t real money. Cash is. Cash is king.

11. The Burn Rate
Burn rate (negative cash flow measured in $/time as in $/month) measures how fast a company will use up its shareholder capital. If the shareholder capital is exhausted, the company will either have to start making a profit, find additional funding, or close down.

12. The Warren Buffet Rules
Warren Buffett is generally considered to be the world’s most successful investor.  
1. WB evaluates a business based on its long-term rather than its short-term prospects.  
2. WB looks for businesses he understands.  
3. WB places the greatest emphasis on a measure of cash flow that he calls owner earnings.

**Owner Earnings:**  
- Money an owner could take out of his business and spend, say, at the grocery store for his own benefit.

The value of a company is the total of the net cash flows (owner earnings) expected to occur over the life of the business, discounted by an appropriate interest rate.  
- Reported earnings + depreciation, amortization, other non-cash items - average annual amount of capitalized spending on plant, machinery, equipment (and presumably research and development).

### 13. The Cash Flow Statement
A financial statement that shows the changes in amount of cash (or cash equivalent) on hand.

**PART V. RATIOS**
Four categories to analyze performance:  
- Profitability ratios:  
- Leverage ratios:  
- Liquidity ratios:  
- Efficiency Ratios

**The 5 Profitability Ratios**

14. **Gross Profit Margin**  
\[
GM = \frac{\text{gross profit}}{\text{revenue}} \\
gross profit = (\text{sales}) - (\text{GOGS})
\]

Shows the basic profitability of your product or service; if you cannot make this # good => little chance of success; perhaps the most important ratio for the entrepreneur.

downward trends reveal problems (discounting to get sales, COGS rising)
15. **Operating Profit Margin**

\[ OM = \frac{\text{operating profit} = \text{EBIT}}{\text{revenue}} \]

operating profit = (sales) - (COGS) - (operating expenses)

EBIT = earnings before income and taxes

shows how well business is being run

16. **Net Profit Margin Percentage**

Bottom line: how many dollars do you get to keep for every sales dollar

\[ \text{ROS} = \frac{\text{Return on Sales} = \text{Net Margin}}{\text{net profit/revenue}} \]

17. **Return on Assets**

ROA shows how effective the company is in terms of using assets to generate profits

\[ \text{(net profits)}/(\text{total assets}) \]

18. **Return on Equity (ROE)**

\[ \text{ROE} = \frac{\text{net profits}}{\text{shareholders equity}} \]

Really important to investors ==> should be 10% or higher (versus bank)

**The 2 Leverage Ratios**

Leverage = ability to use a small force to generate a large force.
- Operating leverage = (fixed costs)/(variable costs);
  - The extent to which fixed costs are part of a company’s cost structure
  - The higher the proportion of fixed costs, the faster income increases or decreases with sales volumes.
- Financial leverage = extent to which a company’s asset base is financed by debt

Leverage
- Increases ability to make money
- Increases risk

1. **Debt to Equity**

\[ \text{Debt to Equity Ratio} = \frac{\text{Total liabilities}}{\text{Shareholder’s equity}} \]

Best value is a function of what industry
Used by bankers to determine what company to loan to

2. **Interest Coverage**

How much interest a company has to pay relative to how much it is making.
Shows how easy it is for a company to pay its interest

\[ \text{Interest Coverage} = \frac{\text{Operating profit}}{\text{Annual interest charges}} \]

Used by banks
Tricks (like operating leases used by airlines) used to make this ratio look-good.

\[
(\text{Debt to Equity Ratio}) = \frac{(\text{Total liabilities})}{(\text{Shareholder's equity})}
\]

**The 2 Liquidity Ratios**

Liquidity means being in cash or easily convertible to cash; debt paying ability.

In accounting current assets means assets that can be converted into cash in 1 year or less.

1. **Current Ratio**
   Too low when this gets near 1; barely able to pay bills.
   If this ratio gets too high, means you are holding onto too much cash
   \[
   (\text{Current Ratio}) = \frac{(\text{current assets})}{(\text{current liabilities})}
   \]

2. **Quick Ratio**
   a.k.a. acid test
   should be above 1
   \[
   (\text{quick ratio}) = \frac{(\text{current assets}) - (\text{inventory})}{(\text{current liabilities})}
   \]

**The 6 Efficiency Ratios**

How well you are managing the balance statement

Inventory is like frozen cash; the quicker you can get it out of your business, the better off you are.

1. **Days in Inventory (DII)**
   Measures how many days your inventory stays in your system
   \[
   (\text{Days in Inventory}) = \frac{((\$s \text{ of inventory @ start}) + (\$s \text{ of inventory @ end}))/2}{(\text{inventory sold per day measured in COGs/day})}
   \]

2. **Inventory Turns**
   Measures how many times your inventory turns over per year
   \[
   (\text{Inventory Turns}) = \frac{(360 \text{ days})}{(\text{DII})}
   \]

3. **Days Sales Outstanding (DSO)**
   Measures how fast your customers pay their bills
   \[
   (\text{Days sales outstanding}) = \frac{(\text{ending accounts receivable (A/R)})}{(\text{revenue/day})} = 54.4 \text{ day}
   \]
   This means that on average it takes your customers 54.4 days to pay their bills.

4. **Days Payable Outstanding**
5. Property Plant and Equipment Turnover (PPE turnover)
A measure of how many $'s of sales your company gets for each $ invested in PPE

\[
\text{(PPE turnover)} = \frac{\text{Revenue}}{\text{PPE (from balance statement)}} = 3.9
\]

6. Total Asset Turnover
A measure of how many $'s of sales your company gets for each $ invested in (all assets). How efficiently is company using all assets to generate revenue.

\[
\text{(Total asset turnover)} = \frac{\text{Revenue}}{\text{Total assets (from balance statement)}} = 1.7
\]

PART VI. RETURN ON INVESTMENT

Resources for capital expenditures are limited but there are an infinite # of choices. ROI is how decisions are made

1. How to Calculate ROI
   Step 1. Determine how much cash is needed.
   Step 2. Estimate future cash flows from the investment
   Step 3. Calculate the ROI, using 1 of 3 methods
     • Simple Payback Method
     • Net Present Value Method: Recommended Method
     • Internal Rate of Return Method

PART VII. MANAGING WORKING CAPITAL