

Summary

-Accounting-



Hoofdstuk 1

Users of accounting information:

- Individuals
- Business
- Investors
- Creditors
- Taxing authorities
- Financial accounting / management accounting

Audit: accountant tells whether or not the Financial statements are fair.

Types of business organizations

	Proprietorship	Partnership	Corporation	LLC
Owners	1 owner	≥ 2 owners	stockholders	Members
Life of the organization	Choice / death owner	Choice / death owner	Indefinite	Indefintie
Personal liabilities for business's debts	Proprietor is personally liable	Partners are personally liable (if not LLP)	Stockholders are not personally liable	Members are not personally liable

If a proprietorship / partnership cannot pay its debts., lenders can take the owner's personal assets to satisfy the obligations. But if the corporation goes bankrupt, the lenders cannot take the personal assets of the shareholders.

Proprietorship:

- Separate entity with no continuous life
- Unlimited liability of owner
- Unification of ownership and management
- Business tax (owner pays tax on the income of the business, it's all for the owner)
- Government regulation (easy to make own decisions)
- Easier to create than corporation (create corporation begins with a charter)

GAAP = Generally accepted accounting principles

- Entity concept (the entity concept applies to any economic unit that needs to be evaluated separately)
- Reliability principle (accounting information based on reliable / verifiable data)
- Cost principle (assets and services recorded at their actual costs=historical costs)
- Going-concern concept ?
- Stable monetary unit concept (assumption that the dollar purchasing power is stable)

Assets = Liabilities + owner's equity/capital

Owner's equity: revenues (↑ capital) and expenses (↓ capital)

Beginning capital

+ Owner investments

+ Revenues

- Expenses

= Net income / Net loss

- Withdrawals

= Ending capital

Accounting is based on actual transactions (only dollar amounts that can be measured reliable)

A '... payable' is always liability

Expenses should be recorded separately

Withdrawals do not represent an expense because they are not related to the earning of revenue. Therefore, withdrawals do not affect to the business net income or net loss.

Main users of financial statements: - Business owners and managers
- Lenders

Financial statements:

- Income statement / statement of earnings / statement of operations = revenues - expenses
- Statement of owner's equity = changes in owner's equity (net income ↑)(withdrawals / net loss ↓)
- Balance sheet = statement of financial position = list of entity's assets, liabilities and owner's equity
- Statement of cash flows = reporting of cash receipts and cash payments. Net cash inflow or net cash outflow.

Hoofdstuk 2

Account = detailed record of all the changes that have occurred in a particular asset, liability or owner's equity during a specified period. Cause is business transaction.

Ledger = the book holding all the accounts

Journal = the chronological record of transactions

Trial balance = List of all the balances

Asset = something the business owns that has value

- Cash
- Accounts receivable
- Notes receivable
- Prepaid expenses
- Land

- Building
- Equipment, Furniture and Fixtures

Liability = something you owe

- Accounts payable
- Notes payable
- Accrued liabilities (taxes payable, interest payable and Salary payable)

Owner's equity

- Capital
- Withdrawals
- Revenues
- Expenses

Chart of accounts (rekeningensstelsel) = every account (like cash) has its own number.

Businesses: service, merchandising and manufacturing.

Double-Entry system = recording the dual effects of each transaction

T-account = Account divided in debit (DR) and credit (CR)

Rules of debit and credit:

For asset (& Expenses & withdrawals):

- Increase: Debit
- Decrease: Credit

For Liabilities / owner's equity (& Revenues):

- increase: Credit
- decrease: debit

Debit/credit depends on the type of account.

Balance = what is the total on that account on a moment

Recording transactions in a journal (dollar signs are omitted):

1. Identify type of account
2. For each account: is it increased or decreased?
3. Record transaction in journal plus a short explanation.

To post = copying data from journal to ledger

Every transaction from journal from every account is posted in a ledger

Owner's equity = Capital
 + revenues
 - expenses
 - withdrawals

Service revenue is credit-balanced because it affects to capital

Journal = list, ledger = T-balance

Trial balance = summarize f ledgers by listen all the accounts with their balances (for company insiders!). Outsiders get only the company's financial statement.

If there is a difference between total debits and total credits:

1. Trace each account from the ledger to the trial balance and find the missing account
2. Divide the difference in 2 and find a missing transaction.
3. Divide the out of balance amount by 9 and find the wrong account.

With a journal/ledger you can prove your payments. Exhibit 2-12 (pg. 111)

Alternative to the T-account is the Four-column account: first pair of columns is transaction, second pair of columns blance of the account

Hoofdstuk 3

2 ways to do accounting:

1. Accrual accounting = transaction as it occurs (revenues when earned, expenses when incurred)
2. Cash-basis accounting = only cash receipts and cash payments (only very small businesses)
 - Cash receipts are treated as revenues
 - Cash payments are treated as expenses

Cash-basis revenues in the wrong period. Revenues should be recorded when it is earned. That's how the accrual accounting operates.

Accounting principles:

- Accounting period: Accounting year = January 1 – December 31
Fiscal year ends at the lowest point
- Revenue principle: Record revenue when the service is performed for client
Record revenue of the actual value
- Matching principle: Measuring of all expenses during a period
Matching expenses with revenue (Revenue – expenses)
- Time-Period concept: Information is reported often

Unadjusted = not reported all revenue and expenses transactions.

Adjusting entries to measure net income on the income statement and assets/liabilities on balance

- Never involve cash
- They increase revenue earned or increase an expense
- 'accrued' means you must journalize whatever amount you are being told about

Adjusting entries (exhibit 3-6 pg. 176):

- Prepaid expenses (cash payment occurs before an expense is recorded)
Prepaid expenses are assets.
Value of supplies decreases with 'supplies used'

- Depreciation (on buildings, equipment and furniture) = value decline with use
Accumulated depreciation is sum of all depreciations recorded for the asset = contra account:
 - is paired with and follows its related account
 - its normal balance is opposite balance of related account
- Cost – accumulated depreciation = book value
- Accrued expenses (expense before cash payment = opposite of prepaid)
Accrued expense always creates a liability
- Accrued revenues (earned revenues but not collected in cash yet)
- Unearned revenues (receiving cash before earn it)
Because of this delay also called deferred revenue
It is a liability, not a revenue

<i>Category of Adjusting Entry</i>	<i>Debit</i>	<i>Credit</i>
Prepaid expense	Expense	Asset
Depreciation	Expense	Contra asset
Accrued expense	Expense	Liability
Accrued revenue	Asset	Revenue
Unearned revenue	Liability	Revenue

Unadjusted trial balance -> adjustments -> adjusted trial balance

Order to prepare the financial statements:

1. Income statement (net income / net loss)
2. Statement of owner's equity (why owner's equity changed)
3. Balance sheet (assets, liability, owner's equity)

Income statement expenses order in descending by amount

Trace net income/loss from income statement to statement of owner's equity, than trace ending capital to the balance sheet

Hoofdstuk 4

Completing the accounting circle with setting the accounting scoreboard back to zero

During the period: Journalizing transactions - Posting to the accounts

End of the period: Adjusting the accounts - Closing the accounts

- Preparing the financial statements

Making a work-sheet:

- Enter the account titles and their unadjusted balances in the Trial Balance columns of the work sheet, and total the amounts
- Enter the adjusting entries in the Adjustments column, and total the amounts
- Compute each account's adjusted balance by combining the trial balance and adjustment figures. Enter each account's adjusted amount in the Adjusted Trial Balance column.

- Draw an imaginary line above the first revenue account. Every account above that line is copied from the Adjusted Trial Balance to the balance sheet columns. Every account below the line is copied from the Adjusted Trial Balance column to the Income Statement column.
- Compute with the Income Statement the net income (loss) and enter it on the Income statement as the balance amount and on the Balance sheet. Total the financial statement columns

The working sheet shows the amount of net income or net loss for the period, but it is an internal document. After completing the worksheet: business's financial statements

Revenues and expenses: temporary accounts

All temporary accounts are zeroed (revenues, expenses and withdrawals)

Permanent accounts are NOT zeroed (assets, liability and capital)

First summarize net income/net loss in account titled Income Summary, then transfer it to the Capital account.

Capital: Debit = Withdrawals
 Credit = Beginning balance + Net income

Postclosing Trial Balance = list of the accounts and their adjusted balances after closing.

Liquidity = how quickly and easily an asset can be converted to cash (list in classified balance sheet)

Operating circle: acquire goods/services with cash – goods/services sold to customers – collect cash

- Assets:
- Current asset = converted to cash in 12 months
 - Long-Term assets = will not be converted to cash with the operating circle
- Liabilities:
- Current liability = must be paid within one year or within operating circle
 - Long-Term liabilities = Do not need to be paid with the operating circle

Account form = assets, liabilities + owner's equity right

Report form = one list

Current Ratio = a company's ability to pay its current liabilities:

$$\frac{\text{total current assets}}{\text{total current liabilities}}$$

Current ratio is 1,50 then the current ratio is strong

Debt ratio = an organization's overall ability to pay its debts.:

$$\frac{\text{Total liabilities}}{\text{Total assets}}$$

Low debt ratio is good: below 0,6 is safe, above 0,8 is on high risk

Hoofdstuk 5

Merchandisers are businesses that sell a product.

Additional: Inventory
Sales revenue
Cost of goods sold / expenses

Inventory accounting systems:

1. Periodic inventory system: counting inventory periodically to determine the quantities on hand
2. Perpetual system: running record of inventory and cost of goods sold – inventory is constantly updated (Barcodes)

Records: Units purchased, units sold and the quantity of inventory on hand

Invoice = bill

3/15, n/30 = 3% deduct in 15 days or pay in 30 days full price

Discount is credited to Inventory on the Balance sheet

To return merchandise = purchased return

To get a deduct (keeps the inventory!) = purchase allowances

Who pays the freight: - FOB Shipping point: buyer pays the freight

- FOB Destination: Seller pays the freight

Freight in/out = IN or OUT transportation

If FOB shipping point, which is most common, costs are added to Inventory and paid with cash.

Freight out = delivery expense (operating expense) for the seller

Inventory – purchase returns and allowances – purchase discounts + freight in = Inventory

Sale of inventory:

Receiving cash for sale: + cash and – sales revenue.

Sale cost the business money: Cost of goods sold. Cost of goods sold is always based on the entity's cost, not the selling price.

Most sales are on account

- Sales discounts and sales returns and allowances:
Sales revenue – Sales R&A – Sales discounts = Net sales revenue
- Gross profit = Net sales – Cost of goods sold

On balance sheet Inventory after physical count (1 x year) because theft, damage and errors.

Adjustment is difference between unadjusting balance sheet and actual situation.

Closing process for a merchandising company:

1. Make the revenue accounts equal zero via the income summary account.
2. Make expense accounts and contra revenues equal zero via the Income summary account
3. Make the income summary equal to zero via the Capital account
4. Make the withdrawal account equal to zero via the Capital account

Operating expenses:

- Selling expenses: related to marketing the company's product
- General expenses: not related to marketing the company's product

Operating income = Gross profit - Operating expenses

Net income (Bottom line) = Total revenues and gains - Total expenses and losses

2 ratios for decision making (evaluate the operations):

1. Gross Profit (/margin) Percentage = Gross profit / Net sales revenue
2. Rate of inventory Turnover (how rapidly inventory is sold) = (Cost of goods sold)/((beginning inventory+ending inventory)/2), high rate is desirable.

Hoofdstuk 6

Accounting principles that affect inventory:

1. Consistency principle: Businesses should use the same accounting methods from period to period.
2. Disclosure principle: company should report enough information for outsiders to make wise decision about the company. (relevant, reliable and comparable).
3. Materiality concept: Company must perform strictly proper accounting only for significant items
4. Accounting conservatism: exercising caution in reporting items in the financial statements:
 - Anticipate no gains, but provide for all probable losses
 - If in doubt, record an asset at the lowest reasonable amount and a liability at the highest reasonable amount.
 - When there is a question, record an expense rather than an asset.

GAAP allows 4 costing methods:

1. Specific unit/identification cost = specific cost of each unit of inventory. Best for businesses that sell unique, easily identified inventory items.
2. FIFO = cost of goods sold is based on the oldest purchases. (highest gross profit, use when you want to attract investors and want to borrow in a period of rising prices).
3. LIFO = cost of goods sold is based on the most recent purchases. (lowest gross profit, use when you want to pay the lowest income taxes. Downside: it reports low net income).
4. Average-cost method = new average cost per unit after each purchase (middle-ground between the extremes of FIFO and LIFO)

Lower-of-cost-or-market rule = if the value of inventory is lower than the market value or the historical cost of inventory, the difference must be placed on the financial statement and the inventory must be at the actual value on the balance sheet.

One period's ending inventory becomes the next period's beginning inventory so an error in inventory carries over to the next period. An inventory error cancels out after 2 periods.

Gross profit percentage = gross profit / net sales revenue

Beginning inventory

+ Net purchases

= Cost of goods available

- cost of goods sold (sales - gross profit)

= Ending inventory

Hoofdstuk 8

Receivable = sell good/service on account or loan money to another party = right to receive cash
= asset

Each receivable 2 parties: - Creditor (gets a receive -> asset)
 - Debtor (takes an obligation -> liability)

Types of receivables:

1. Accounts receivable = Amount to be collected from customer from sales on credit
2. Notes receivable = Longer in term than accounts receivable, right to receive a certain amount of cash in the future (v.b. charge for interest)

Benefits selling on credit: increase revenues/profit

Cost selling on credit: some customers do not pay:

- Uncollectible-account expense
- Doubtful-account expense
- Bad-debt expense

2 methods of accounting for uncollectible receivables

1. Allowance method: Collecting in the same period as sales revenue (using past experience)

Estimate uncollectibles: - Percent-of-sales method: percentage of net credit sales (income statement approach)
 - Aging-of-accounts-receivable method: Different percents of uncollectibles = Target balance (balance approach)

Target balance = before the year-end adjustments allowance for uncollectible accounts.

Accounts receivable - net accounts receivable = net realizable value

Mostly together: interim statement = percent-of-sales method

End of year: aging-of-accounts-receivable method

2. Direct Write-off method: Write-off uncollectibles after identifying bad debts. Customer still owes money. Used by small non-public companies. You wait until you determine that you will never receive the cash from that customer. Use when uncollected receivables are very low. Defective because:
 - Always reports accounts receivable at their full amount -> assets are overstated at the balance sheet
 - Writes off the uncollectibles in a different period: first net income is overstated, in the write off period net income is understatedIf company owes money, unexpected, than uncollectibles decrease and cash increases. Accounts receivable –uncollectible receivables on the balance sheet.

Credit-cards: seller do not receives whole price, part is for credit-card discount expense. Same with bankcard sales, with debit-card there is no card discount expense

Computing interest:

Amount of interest = principal x interest rate x time (principal is loaned out money)

Report on balance as interest receivable and interest revenue

When the creditor does not pay the note, Accounts receivable, Notes receivable and Interest revenue will be removed by credit/debit the amounts.

Acid-Test Ratio/Quick Ratio (=ability to pay the current liabilities, ≥ 1.00):

$(\text{Cash} + \text{Short term investments} + \text{Net current receivables}) / \text{Total current liabilities}$

Days' sales in average accounts receivable (how many days does it takes to to collect the average level of receivables) = $(\text{Average net receivables} / \text{Net sales}) * 365$

If it is long, less cash is available for operations.

Hoofdstuk 9

Tangible assets: longer than one production-circle:

- Real / Tangible assets = building, desk and equipment (expense: depreciation)
- Intangible assets = software, copyright, goodwill, trademarks etc (expense: depletion)
- Natural resources assets = oil, diamonds and coal (expense: amortization)

Cost of a plant asset = purchase price + taxes + all other amounts paid to ready the asset for its intended use

Land is not depreciated, land improvement IS depreciated.

If there is one price paid for several assets use the relative-sales-value method (market value computed in the amount paid for the assets)

Spending made on plant assets:

- Capital expenditures (debit on an asset): They increase the asset's capacity of efficiency or extend the asset's useful life
- Expenses (not debited to an asset): They maintain the assets in working order.

Depreciation matches expense against revenue over its useful life

Useful life = length of the service period expected for the asset

Depreciable cost = cost - estimated useful life

Depreciation methods:

- Straight-line depreciation = $(\text{cost} - \text{residual value}) * (1/\text{useful life}) * (\#/12)$
Every year same amount of depreciation. For an asset that generates revenue evenly over time
- Units -of-production method = $(\text{cost} - \text{residual value}) * (1/\text{life in units})$
Units differ every year so UOP depreciation differs every period. Asset that devalue due wear and tear rather than obsolescence
- Double-declining-balance method $(\text{Cost} - \text{Accumulated depreciation}) * (2/\text{life}) * (\#/12)$
Residual value is not included in formula, but the last year depreciation is the depreciation of the year before minus the residual value. Asset that produces more revenue in the early years

Revised straight line depreciation = $(\text{cost} - \text{accumulated depreciation} - \text{new value}) * (1 / \text{new remaining life}) * (\#/12)$

Asset never goes below residual value, even if company continues using it.

If an asset wears out and becomes obsolete:

- Trade the asset for non-like property
- Trade the asset for another asset that has similar functionality

4 steps for journalizing disposals:

1. Bring the depreciation up to date
2. Remove the old, disposed of asset from the books
3. Record the value of any cash paid/received for the asset
4. Determine the difference between the total debits and total credits made in the journal entry

If a part of natural resources is used up -> Depletion

Depletion expense = $(\text{cost} - \text{residual value}) \times \left(\frac{1}{\text{estimated total units of natural resources}} \right) \times \text{number of units removed}$

Natural resources have no residual value

Amortization is computed like the straight-line method. Residual value is mostly zero.

Indefinite life = no amortization

Goodwill only when a company buys another company. Goodwill is NOT amortized

R&D assets are not reported on the balance sheet.

Hoofdstuk 10

Current liabilities of a known amount:

Current portion of Long-Term Notes Payable = Long-term notes are mostly paid in terms.

Current portion of notes payable (current maturity) will be paid within 1 year = current liability.

Remaining portion = long term.

Accrued expenses are accrued liabilities because it has been incurred but is not paid yet.

Unearned revenue = received cash in advance of performing work.

Current liabilities that must be estimated:

Estimated warranty payable: Debit warranty expense, credit estimated warranty expense.

When claims are made estimated warranty payable and cash decrease.

Contingent liabilities are potential, for example a lawsuit or cosign a note payable.

Contingent liabilities are divided into 3 categories:

- Remote: lawsuit
- Reasonably possible: outcome of lawsuit is unknown
- Probable: warranty expense

Bonds payable = long term notes

The amount borrowed by the company is the principal/maturity value/par value, amount that must be paid back on the maturity day

Types of bonds:

- Term bonds (all matured at the same time)
- Serial bonds (mature in installments at regular intervals)
- Secured bonds (right to take assets when issuer fails to pay)
- Debentures (backed up by the good will of the bond issuer)

Issuing bonds:

- Par value
- Discount (lower than par)
- Premium (above par)

Present value is the amount that a person wants to invest today, future value is the maturity value

2 interest rates:

- Stated interest rate: Does not change from year to year, cash interest the borrower pays each year.
- Market interest rate: rate investors demand to earn for loaning their money, varies daily

If stated interest rate < market interest rate: Investors only want to buy at a price less than MV

SI = MI → Maturity value of the bond

SI < MI → Discount

SI > MI → Premium

Discount is divided and accumulated with the interest

Stated interest – amortization of the premium = interest expense

Leverage = earning more income on borrowed money than the related interest expense.

Hoofdstuk 11

Owner's equity of a corporation is called stockholder's equity. Two basic sources:

1. Paid-in capital/contributed capital = amounts received from the stockholders
2. Retained earnings = capital earned by profitable operations

Rights of stockholders:

- Vote on corporate matters
- Dividends
- Receiving proportionate share of any asset remaining if corporation liquidates
- Preemption: opportunity to buy same percent (which you already have) of new shares

Some shares do have a par-value, other ones don't. If a share has no par, it may have a stated value

Unwritten: buys all the stock a company cannot sell to its clients

Most corporations set par value low and issue value above par

A company can have no profit or loss when buying or selling its own stocks

Difference between par and issue value on balance as: Paid-in capital in excess of par

If shares have no-par: Debit cash and credit common stock at issue value

Stated value same as par

Most preferred stock is issued at par value

Retained earnings is difference between debit and credit of income summary. Closing this entry is gain or loss retained earnings

Deficit: loss, reported as a negative amount in stockholders' equity

Dividends decrease assets and equity (retained earnings). 3 relevant days for paying interest:

- Declaration day
- Date of record
- Payment date

Dividend rate of preferred stock is often percentage of preferred-stock par value

Dividend rate of common stock is always in dollars, not in percentage

Dividend of common stock is paid after preferred stock, they get the left over

If a company cannot pay the preferred dividends the dividends are in arrears and have to be pay in the next year (cumulative). If the stocks are noncumulative the shareholders do not get their dividends if the company hasn't got the money. Dividends in arrears is NOT a liability

Preferred equity = Book value attributed to preferred stock (1) + Any dividends that are in arrears

$$1 = \begin{array}{l} - \text{Number of outstanding preferred shares} \times \text{liquidation value per share} \quad \text{OR} \\ - \text{Book value of preferred equity (preferred stock)} \end{array}$$

Rate of return on total assets (= success in using assets to earn income)=

$$(\text{Net income} + \text{Interest expense}) / \text{Average total assets}$$

In most industries 10% is good.

Rate of return on common stockholders' equity (= relation between Net income available to the common stockholders and their average common equity) =

$$(\text{Net income} - \text{Preferred dividends}) / \text{Average common stockholders' equity}$$

More than 15% is good

Income tax expense = Income before tax from the income statement x Income tax rate

Income tax payable = Taxable income from the tax return filed with the Internal Revenue Service
x

income tax rate

Hoofdstuk 12

Stock dividends: retained earnings decrease and common stock increase, total equity is unchanged

Why stock dividends: - Continue dividends while save conserve cash

- Reduce market price
- Reward investors

Liability is claim on assets so stock dividends are no liabilities

Small stock dividend (20-25 percent) = accounted for at their market value & total equity is unchanged.

Large stock dividends (>25%) = accounted for at their par value

Stock split: for example split 1 stock into 2 stocks: Par value changes, amount of shares issued and authorized changes, amount balances do not change -> memorandum entry

Figure 12-7 important

Treasury stock: previously issued, later reacquired. Reasons:

- Increase net assets by buying low and selling high
- Support company's stock price
- Avoid a takeover by an outside party
- Reward valued employees with stock

Treasury is a contra equity, on the DEBIT side, recorded at cost

Outstanding stock = Issued stock - Treasury stock

Sell treasury stock at, above or below cost, which is paid for is.
Difference is accounted for Paid-in capital

Restriction on retained earnings to restrict dividends. This restricts stock which ensures a minimum level of equity. A company is allowed to appropriate a part of their retained earnings contingencies.

On income statement: Continuing operations + Special Items gives Net income, Earnings per share gives an own net income

Earnings per share = net income for each share of the company's outstanding common stock (basic)

$EPS = (\text{Net income} - \text{Preferred dividends}) / (\text{Average number of common shares outstanding})$

EPS diluted = net income for each share of the company's outstanding common stock plus the additional shares of common stock that would arise if convertible preferred stock were exchanged for common shares.

Diluted EPS < Basic EPS

Beginning retained earnings + Net income - Dividends = Ending retained earnings

Errors are corrected as prior-period adjustments, which changes beginning balance of Retained earnings

Comprehensive income = company's change in total stockholders' equity from all sources other than its owners

Hoofdstuk 13

Statement of cash flows: Reports cash receipts and payments, where it came from and spend.

- It helps predict future cash flows
- It helps evaluate manager decisions
- It helps predict ability to pay debts and dividends

Activities:

- Operating: reflects day-to-day operations that determine the future of an organization, create revenues, expenses, gains and losses.
- Investing: affect long-term assets, includes purchases and sales of these assets, plus loans receivables and loan collections.
- Financing: Affect long-term liabilities and equity, include issuing stock, paying dividends, buying/selling treasury stock, borrowing money and paying off loans.

2 formats for operating activities: Direct and Indirect.

Indirect: Net income (from Income statement) and adjusts it to net cash provided by operating activities

Adjustments for operating activities:

- + depreciation
- Gain on sale of plant assets
- Increase in current asset
- + decrease in current asset
- Decrease in current liability
- + Increase in current liability

Figure 13-10 for investing activities

Figure 13-11 for financing activities

Noncash Investing & Financing activities: partial of statement of cash flows.

Free cash flow is amount of cash available from operations after paying for investments in long-term assets: (Net cash provided by operating activities) – (Cash payment planned for investments in plant, equipment, and other long-term assets)

Hoofdstuk 14

Financial statement analysis:

- Horizontal: year-to-year comparison
- Vertical: compare different companies

Horizontal: Increase/decreases in percents, compare percents.

Trend percentages: indication the direction a business is taking.

Trend % = ((Any year \$) / (Base year \$)) x 100 → to predict the future

Vertical: ((Each income-statement item) / (Revenues or Net sales)) x 100

Vertical analyse of balance: Total assets and Total liabilities and equity is both 100%

Benchmarking = practice of comparing a company with other leading companies:

- Benchmarking against a key competitor
- Benchmarking against the Industry Average

Measuring Ability to Pay Current Liabilities

1. Working capital = Current assets – Current Liabilities
2. Current ratio = (current assets) / (current liabilities) Ability to pay current liabilities with current assets
> 1.50 → too high = inefficient
3. Acid test Ratio = (Cash + Short-term investments + Net current receivables) / Current Liabilities
Whether the entity could pay all its current liabilities if they came due immediately
0.90 – 1.00

Measuring Ability to sell Inventory and Collect Receivables

1. Inventory Turnover = (cost of goods sold) / (Average Inventory)
Measures the number of times a company sells its average level of inventory during a year.
How much it should be differs from each industry
2. Accounts receivable Turnover = (Net credit sales) / (average net accounts receivable)
Measures the ability to collect cash from credit customers
Too high = credit to thigh
3. Days' Sales in Receivables:
One day's sales = (net sales) / (365)
Days 'sales in average accounts receivable = (Average net accounts receivable) / (One day's sales)
Measures the ability to collect receivables

Measuring ability to pay Long-Term Debt

1. Debt ratio = Total liabilities / Total assets
How much of the assets is financed with debts?
The lower the debt ratio the higher the risk
2. Times-Interest-Earned Ratio = (Income from operations) / (Interest expense)
Measures the number of times operating income can cover interest expense

Measuring profitability

1. Rate of return on net sales = (Net income) / (Net sales)

- Percentage of each sales dollar earned as net income
2. Rate of return on Total Assets = $(\text{Net income} + \text{Interest expense}) / (\text{Average total assets})$
Measures a company's success in using assets to earn a profit
 3. Rate of return on Common Stockholders' Equity = $(\text{Net Income} - \text{Preferred dividends}) / (\text{Average common stockholders' equity})$
How much income is earned for each \$1 invested by the common stockholders
15% - 20% is good
 4. Earnings per share of Common stock = $(\text{Net income} - \text{Preferred dividends}) / (\text{Issued common stock} - \text{Treasury common stock})$
Amount of Net income earned for each share of the company's outstanding COMMON stock
Annual increase of 10% - 15%

Analyzing Stock dividends

1. Price/Earnings ratio = $\text{Market price per share of common stock} / \text{Earnings per share}$
The market price of \$1 earnings
2. Dividend Yield = $(\text{dividend per share of common stock}) / (\text{Market price per share of common stock})$
Dividend per share to the stock's market price per share, measures the percentage of a stock's market value that is returned annually as dividends, can be calculated for common or preferred stock
3. Book value per share of common stock = $(\text{Total stockholders' equity} - \text{preferred equity}) / \text{number of shares of common stock outstanding}$

Trouble signals:

- Movement of Sales, Inventory and Receivables
- Earnings problems
- Decreased Cash Flow
- Too much Debt
- Inability to collect receivables
- Buildup of inventories

Hoofdstuk 15

Financial accounting is for external reporting, management accounting for internal planning and control (Exhibit 15-3).

- Planning: choose goals and decide how to achieve them
- Controlling: Implementing plans and evaluating operations by comparing actual results to the budget

Trends in the business environment

1. Shift toward a service economy
2. Global competition
3. Time-based competition, 3 time saving responses:

- Advanced information systems
 - E-commerce
 - Just-in-Time management
4. Total quality management

How do different types of companies use management accounting? (exhibit 15-8)

Service companies:

High quality, reasonable prices and timely delivery
 Simplest accounting because no inventory
 All costs are period costs
 Unit cost met service helps to determine the price

Merchandising Companies

Largest costs = Cost of Goods Sold (Beginning inventory + Purchases + Freight in – Ending Inventory)
 Inventoriable product costs ≠ period costs
 Unit costs per Item = Total costs of goods sold / Total number of items sold (to know which product is most profitable)

Manufacturing companies

3 kinds of inventory:

1. Materials inventory
2. Work in progress inventory
3. Finished goods inventory

Inventoriable product costs:

1. Direct materials
2. Direct labor
3. Manufacturing overhead (indirect materials, indirect labor and other indirect manufacturing costs)

Manufacturing overhead is only related to the manufacturing operation, SO NOT DELIVERY ETC.

Costs of goods manufactured summarizes the activities and the costs that take place in a manufacturing plant over the period

Gross profit– nonmanufacturing activity costs = Operating income

Costs of goods manufactured = Beginning WIP + Direct materials used + Direct labor + Manufacturing overhead – Ending WIP

For every inventory account: ending amount is beginning amount in next inventory stage

Unit product cost = Cost of goods manufactured + total units produced

Hoofdstuk 16

- Unit costs
- set selling prices that will lead to profits
 - Compute cost of goods sold (income statement)

- compute costs of inventory (balance sheet)

2 cost accounting systems:

1. Job order costing = accumulates costs for each product
2. Process costing = accumulated costs for each process needed to complete the product

Job order costing system for a manufacturing company:

Direct materials, direct labor and manufacturing overhead

Purchasing of materials: Materials inventory = sum of the balances in the subsidiary materials ledger

Using materials: split to direct and indirect

Accounting for labor: zeroes out manufacturing labor and is split in work in progress inventor (direct) and Manufacturing overhead (indirect) → conversion costs

Assign overhead costs to specific jobs:

1. Compute predetermined overhead rate = $(\text{total estimated manufacturing overhead costs}) / (\text{Total estimated quantity of the manufacturing overhead allocation base})$
2. Allocate manufacturing overhead costs to jobs as the company makes its products:
Allocated manufacturing overhead costs = Predetermined manufacturing overhead rate from step 1 x Actual quantity of the allocation base used by each job

Summary (Exhibit 16-8)

Service companies do not have inventory so direct labor is most significant cost

Hoofdstuk 17

Allocating indirect costs:

1. Activity based costing (focuses on activities) = using separate allocation rate for each activity
 - Identify activities and estimate their total indirect costs
 - Identify the cost driver for each activity, then estimate the total quantity of each driver's allocation base
 - Compute the allocation rate for each activity.
 - Allocate indirect costs to the cost object

Using ABC for decision making:

- Pricing and product mix:
Selling price must cover all costs and provide a profit. If it is no, you can raise the selling price but if the customers do not want to pay that price, drop the product.
Differences between ABC and traditional system is very important in this decision.
- Cost cutting: (Exhibit 17-12)
Cutting costs to benefit more

Sale prices are based on target prices. Instead of starting with product cost and then adding a profit to determine the sale price, target pricing does just the opposite: Target sales price – Desired profit = Target cost

To lower inventory costs: Just-In-Time Systems

A customer's order / customer demand triggers manufacturing

Purchasing only what customers demand reduces inventory → Help to reduce waste

Problem of JIT: JIT users lose sales when they cannot get materials on time or when poor-quality materials arrive just in time.

JIT costing starts with output that has been completed and then assigns manufacturing costs to units sold and to inventories

Differences between JIT and traditional:

1. No difference between materials inventory, work in progress inventory and finished goods inventory
2. Materials and work in progress inventory = Raw and in progress inventory
3. Workers perform many tasks

Total quality management = provide customers with superior products and services

Four types of Quality Costs:

1. Prevention costs (to avoid poor quality)
2. Appraisal costs (to detect poor quality)
3. Internal failure costs (to avoid poor quality before delivery to customer)
4. External failure costs (to make things right with the customer after delivery)

Hoofdstuk 18

Cost-Volume-Profit analysis expresses the relationship among costs, volume and profit.

3 different types of costs:

- Variable costs: Total variable costs fluctuate with changes in volume, but the variable cost per unit remains constant.
- Fixed costs: Total fixed costs remain constant, but the fixed costs per unit is inversely proportional to volume.
- Mixed costs: Part of total costs is variable, other part is fixed.

High-Low Method to separate fixed and variable costs:

1. Calculate the variable cost per unit
2. Calculate the total fixed costs
3. Create and use an equation to show the behavior of a mixed cost.

Relevant range = the band of volume where total fixed costs and variable costs per unit remains constant. Needed to estimate costs. Different costs because of capacity.

CVP analysis assumes that managers can classify variable and fixed costs and that the only factor that affects costs is change in volume. Fixed costs do not change.

2 methods to figure the breakeven point (Operating income = 0):

1. The Income Statement Approach

Sales revenue – Variable costs – Fixed costs = operating income

2. The Contribution Margin Approach

Units sold = (Fixed costs + Operating income) / (Contribution margin per unit)

Contribution margin per unit = sales revenue – variable costs.

Compute the BEP in Sales dollars:

Contribution margin ratio = (Contribution margin) / (sales revenue)

BEP sales in dollars = (fixed costs) / (Contribution margin ratio)

These methods can also be used to calculate a number of units sold to earn a certain profit.

Graphing CVP Relations to estimate the profit or loss earned at different levels of sales quickly.

Sensitivity analysis = what results are likely if selling price or costs change, or if an underlying assumption changes

Using CVP for comparing situation before and after the change (formulas above)

Margin of safety = the drop in sales a company can absorb without incurring a loss

Margin of safety in units = expected sales – breakeven sales

Margin of safety in dollars = margin of safety in units x sales price

3 steps for computing breakeven sales in units for both product lines (if there are 2 for example):

1. Calculate the weighted-average contribution margin per unit (contribution margin per unit x part of total sales for that unit, accumulate contribution margins and divide them by number of sales)
2. Formula: (Fixed costs + Operating income) / number calculated by point 1
3. Total units x part of total sales for that product line.

These methods can also be used to calculate a number of units sold to earn a certain profit.

Hoofdstuk 19

Make decisions by gathering and analyzing relevant cost information (= expected future data that differs among alternatives)

Sunk costs (costs that were incurred in the past and cannot be changed regardless of which future action is taken) are always irrelevant to your decision.

Only relevant data affect decisions.

Nonfinancial information is important but also has to be in the future and differ among alternatives.

Key to make short-term special decisions: 1. Focus on relevant revenues, costs and profits, 2. Use a contribution margin approach that separates variable and fixed costs.

6 decisions:

1. When to accept a special price order

- Is there enough capacity?
- The special order must provide a positive contribution margin
- Is the special sales price high enough to cover the (eventually) additional fixed costs?
- will the special order affect regular sales in the long run?
- Revenues > expenses of special order = ACCEPT
- Expenses < revenues of special order = REJECT

2. How to set regular prices

- What is the company's target profit?
- How much will customers pay?
- Is the company a price-taker or a price-setter for this product?
- Price taker: Revenue at market price – desired profit = Target full cost
- In setting regular sales prices, companies must cover all of their costs – whether Inventoriable or period, fixed or variable
- Price setter: Full cost + Desired profit = Cost-plus price

When to drop a product:

- Will the fixed costs continue to exist even if the product line is dropped
- Are there any direct fixed costs that can be avoided if the product line is dropped

3. Dropping products under various assumptions

- If fixed costs continue to exist (so fixed costs are irrelevant) and will not change, you have to compare the loss before and after dropping. If you drop, you will lose the contribution margin.
- Dropping a production line could include loss for another production line

4. Product mix: Which product to Emphasize?

- What is the constraint?
- which products offer the highest contribution margin per unit of the constraint?
- Would emphasizing one product over another affect fixed costs?
- Decision rule: emphasize the product with the highest contribution margin per unit of the constraint

5. When to outsource

- How best to use available resources
- How do the company's variable costs compare to the outsourcing cost?
- Are any fixed costs avoidable if the company outsources?
- What could the company do with the freed capacity?

6. Sell as is or process further

- How much revenue will the company receive if we sell the product as is?
- How much revenue will the company receive if we sell the product after process it further?
- how much will it cost to process the product further?

Hoofdstuk 20

Process of making capital investment decisions = capital budgeting

4 popular methods of analyzing potential capital investments:

1. Payback period
2. Accounting rate of return (ARR)
3. Net present value (NPV)
4. Internal rate of return (IRR)

1&2 for investments that have a relatively short life span, first step in investment decision

3&4 longer term investments (include the time value of money), second step in investment decision

1. Payback Period

- the length of time it takes to recover, in net cash inflows, the cost of the capital outlay
- The shorter the payback period, the more attractive the asset, only if all factors are the same (like cash inflows after PP)
- Total net cash inflows until the amount invested is recovered
- PP only focus on time, not on profitability

2. Accounting Rate of Return

- Profitability on an asset
- $(\text{Average annual operating income from an asset}) / (\text{Average amount invested in an asset})$
- $(\text{total net cash inflows} - \text{total depreciation}) / (\text{Assets operating life in years}) = \text{Average annual operating income from an asset}$
- Average amount invested: $(\text{investment} + \text{residual value}) / 2$
- Every company has a minimum acquired accounting rate of return

Time value of money = the fact that invested money earns income over time

P = principal amount (amount of the investment or borrowing)

N = number of periods

I = interest rate

Annuity = a stream of equal installments made at equal time intervals under the same interest rate

Future value = Present value + interest earned

Present value = Future value - interest earned

Future value (one amount) = $p \times (1 + i)^n$

Future value (annuities) = annuity $\times ((1 + i)^n) / (1 + i)$

Present value (one amount) = future value / $(1 + i)^n$

Present value (annuities) = $\frac{1 - (\frac{1}{1+i})^n}{1 - \frac{1}{1+i}} \times \frac{1}{1+i} \times \text{Annuity}$

Companies use the present value to make their decisions

3. Net Present Value

- net difference between the present value of the investment's net cash inflows and the investment's cost
- Use formulas above to measure present value
- Present value - investment amount is positive, Invest.
- NPV also means the maximum amount a company can invest
- If cash flows differ every year you have to compute for every year the present value and measure them.
- Profitability index = present value of net cash inflows / investments, means how many dollars you receive back from every dollar invested
- Residual value: compute present value and accumulate this with other present value.

4. Internal rate of return

- Rate of return a company can expect to earn by investing in the project
- Present value of the investment's net cash inflows - Investment's cost (Present value of cash outflows) = 0
- interest rate that makes the cost of the investment equal to the present value of the investment's net cash inflows
- IRR < required rate of return: No not invest.

Comparison between methods: pg. 1094 and 1095

Hoofdstuk 21

Budget to control your expenses

Large international profit and non-profit organizations use budgets to control and plan actions and the relevant revenues and expenses

This chapter is about short term budgeting (1 year or less)

Master budget includes 2 types of budget:

1. Operating budget, prepare budget income statement that projects operating income for the period
2. Capital expenditures budget: presents company's plan for purchasing long-term assets (chapter 20)
3. Financial budget: budgeted statement of cash flows.

Operating budget:

- Sales budget (sales price x expected number of units sold)
 - Inventory, purchases and cost of goods sold budget (Beginning inventory + Purchases – Ending inventory = Cost of goods sold)
 - Operating expenses budget
- Result in budgeted income statement

Financial budget:

- Cash budget: Cash collections from customers, Budget cash payments for purchases, Budgeted cash payments for operating expenses and cash payments for capital expenditures.
- Prepare the budgeted balance sheet
- Prepare the budgeted statement of cash flows
- Getting employees to accept the budget

Sensitivity analysis = what-if technique, important to compare different scenarios

Responsibility center = part or subunit of an organization whose manager is accountable for specific activities. Four types of responsibility centers:

1. Cost center, costs (expenses) only
2. Revenue center, revenues only
3. Profit center, both revenues and expenses and, therefore, profit
4. Investment center, investments, revenues and costs (expenses)

Hoofdstuk 22

A variance is the difference between an actual amount and a budget.

Flexible budget = summarizes costs and revenues for several different volume levels within a relevant range, it separates variable costs from fixed costs

Total cost = (number of output units x Variable cost per output unit) + Total fixed cost

Sales value variance = static budget of quantity – flexible budget of quantity

Flexible budget variance = Flexible budget for actually sold – Actual results for actually sold

Static budget is before the period, flexible budget is after the end of the period.

Standard cost = budget for a single unit

Variable overhead rate or price standard: (Estimated variable overhead costs) / (Estimated quantity of allocation base)

Fixed overhead rate or price standard: (Estimated fixed overhead cost) / (Estimated quantity of allocation base)

Why do managers use standard costs? It helps them

- Prepare the budget
- Set target levels of performance
- Identify performance standards
- Set sales price of products and services
- Decrease accounting costs

With standard costs, accountants avoid the LIFO, FIFO or average-cost computations

Variance analysis:

- Actual price x Actual quantity
- Standard price x Actual quantity
- Standard price x standard Quantity allowance

Price variance = $(AP - SP) \times AQ$

Efficiency variance = $(AQ - SQ) \times SP$

Static budgets play no role in the price and efficiency variances, is only used to compute the sales volume variance.

For direct materials: efficiency variance & price variance

For direct labor: efficiency variance & price variance

For manufacturing overhead: total variance is difference between actual overhead cost and standard overhead allocated to production, flexible budget variance & production volume variance

Overhead allocated to production = standard (predetermined) overhead rate x standard quantity of the allocation base allowed for actual output.

Standard overhead rate: $(\text{Variable overhead} + \text{fixed overhead}) / \text{budgeted direct labor hours}$

Overhead flexible budget variance = actual overhead cost - flexible budget overhead for actual output

Overhead production volume variance = Flexible budget overhead for actual output - standard allocated to actual production.

Record variances as soon as possible on the journal.

Standard cost income statement records the rice variances.

Hoofdstuk 23

Most companies decentralize as they grow because it is impossible for a single person to manage the entire organization's daily operations.

Advantages of decentralization:

- Frees top management time
- Supports use of expert knowledge

- Improves customer relations
- Provides training
- Improves motivation and retention

Disadvantages of decentralization:

- Duplication of cost
- Problems achieving goal congruence

Primary goals of performance evaluation systems:

- Promoting goal congruence and coordination
- Communicating expectations
- Motivating unit managers
- Providing feedback
- Benchmarking
- Limitations of financial performance measurement

Lag indicators are after the fact, lead indicators are future predictions.

Balanced scorecard = recognition that management must consider both financial performance measures and operational performance measures when judging the performance of a company and its subunits.

Customer satisfaction calculated with market share

Operational efficiency calculated with yield rate

Employee excellence calculated with employee training hours

Financial profitability calculated with revenue growth

4 perspectives of the balanced scorecard:

1. Financial perspective (How do we look to shareholders?)
2. Customer perspectives (How do customers see us?), important are price, quality, sales service quality and delivery time
3. Internal business perspectives (At what business process must we excel to satisfy customer and financial objectives?), important: innovation, operations and post-sales service
4. Learning and growth perspectives (How can we continue to improve and create value?), important: employee capabilities, information system capabilities and company climate for action.

Financial evaluation of the investment centers measures how much income is generated and how efficiently the division is using its assets

Performance measures for Investment centers (because if you have more assets you would earn more income.)

1. Return on investment (ROI) = (Operating income) / (Total assets)

Measures the amount of income an investment center earns relative to the amount of assets

Or: $ROI = \text{profit margin} \times \text{capital turnover}$

Profit margin = $\text{Operating income} / \text{sales}$

Capital turnover = $\text{sales} / \text{total assets}$

2. Residual income (RI) = $\text{Operating income} - \text{Minimum acceptable income}$

Measures the division's profitability and the efficiency with which the division uses its assets

Or: $RI = \text{Operating income} - (\text{target rate of return} \times \text{total assets})$

RI positive: exceeds top management's % target return expectations

3. Economic Value Added (EVA) = $\text{After-tax operating income} - ((\text{total assets} - \text{current liabilities}) \times \text{WACC}\%)$

Measures income available for stakeholders, assets used to generate this income and the minimum rate of return required by these stakeholders (weighted average cost of capital = WACC)

Exhibit 23-9 important

List of Knowledge and Skills

List of Knowledge

- Difference merchandising company/manufacturing company
- Difference debit/credit
- Difference assets/liabilities/equity
- Matching principle
- Adjusting journal entries
- Consistency principle
- Disclosure principle
- Accounting conservatism
- Difference periodic method/perpetual method
- Direct write-off method/allowance method
- Face value/discount/premium
- Pros and cons of a corporation
- Stockholder rights
- Preferred stock
- Stock split
- Treasury stock
- Formulas for ratio's (page 1060-1061 of the book)

List of Skills

- Compose an income statement
- Compose a statement of owner's equity
- Compose a balance sheet
- Compose a statement of cash flows
- Journalizing depreciation
- Journalizing issuing a stock

- Journalizing declaration/distribution of dividend

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Tips and remarks about the summary can be send to secretaris@esvnijmegen.nl

