



## BUSN1001 Exam Notes

Business Reporting and Analysis (Australian National University)

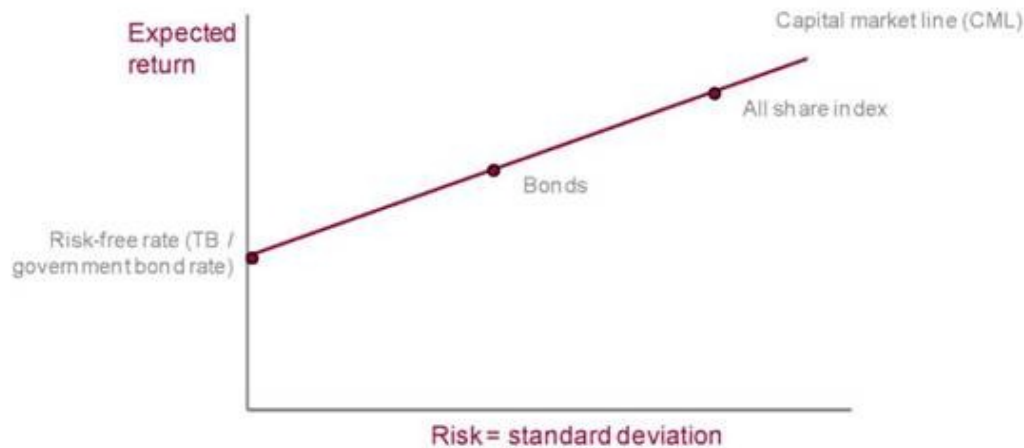


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## BUSN 1001 Exam Notes

What is the main financial objective of a business?

- ENHANCE THE WEALTH OF ITS OWNERS – relating to both this years and future years profits
- Satisfying other groups such as customers and employees is often consistent with the main objective (Disaffected customers = loss of shareholder wealth, Dissatisfied workforce = lower productivity, strikes  
Pollution = bad publicity, loss of customers, fines)



At zero risk there is a required level of return. Higher risk for owners = higher required return.

Accounting – “The process of identifying, measuring and communicating economic information to permit judgement and decisions by users of the information.”

2 main roles of accounting information:

Stewardship – Providing accountability reports of transactions for a given period.

Decision usefulness – assisting users with making informed choices about issues.

Main purposes of accounting information:

External Reporting: regulatory/legal requirements and reports to shareholders etc.

Internal Reporting: Information needs within organisation, e.g. information for cost planning, performance evaluation and strategic planning. Used by managers and employers.

Characteristics of accounting information:

Faithful representation: Accounting information should represent what it is supposed to represent – should be complete, neutral and free from error.

Comparability: Helps users identify similarities and differences between information.

Timeliness: information should be made available early enough to be of use to users.

Verifiability: information should be able to be checked and verified.

Understandability: Information must be clearly set out to facilitate understanding.

Relevance: To be relevant, accounting information must be able to influence decisions

Legal and accounting entity – From an accounting standpoint, a business is separate from the

Financial accounting

- Purpose of financial statements is to provide a picture of the overall financial position and performance of the business

### Three main financial reports

Statement of cash flows – The statement that shows the sources and uses of cash for a period.

	\$
Opening balance (cash introduced)	600
Sale of wrapping paper	660
	1260
Purchase of wrapping paper	(600)
Closing balance	660

... began the venture with \$600 cash -> OPENING BALANCE IS \$600

... purchased ... for \$600 -> STOCKS OR INVENTORY and - \$600

Later in the day ... sold three quarters of his inventory for \$660 -> + \$660

Wealth generated = difference between sales made and the cost of the goods sold

Statement of financial performance/income statement/profit and loss statement – reports how much wealth/profit has been generated in a period.

Limited companies produce a statement of comprehensive income instead.

Sales	660
Cost of goods sold (3/4 of \$600)	(450)
Profit	210

ONLY THE COST OF THE SOLD ASSETS IS MATCHED AGAINST THE SALES TO FIND THE PROFIT, NOT ALL OF THE ASSET ACQUIRED

Statement of financial position/balance sheet – Shows assets and the claim on them at a point in time.

Cash (closing balance)	660
Inventory (stock of goods for resale: $\frac{1}{4}$ of 600)	150
Total assets held	810
= Paul's wealth in the business (equity)	810

Profit has led to an increase in wealth (\$210). All of the business's wealth is the entitlement of Paul.

Cash increased by \$60 + \$150 stock (inventory)

Statement of financial performance and statement of cash flows are both concerned with measuring flows (of wealth and cash respectively) over time.

Reports are often backward-looking for external users and are based on records of past events and transactions. -> this is useful as feedback for past performance and identifying trends and clues for previous performance.

### Three main types of businesses

Sole Proprietorship	<ul style="list-style-type: none"><li>• Individual is the sole owner of a business</li><li>• E.g. plumbing, picture framing, photography</li><li>• No separate legal entity</li><li>• Business will cease upon the death of the owner</li><li>• No legal requirement to produce legal information about the business</li></ul> <p>Advantages + simple and inexpensive to establish and operate + there is minimal financial reporting regulation + ownership and management are normally</p>
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	<p>combined</p> <p>+the financial rewards flow directly to the owner</p> <p>+timely decision-making is possible</p> <p>Disadvantages</p> <p>-Liability of the owner is unlimited, personal assets may have to be used to satisfy business debts</p> <p>-Access to ownership is restricted to personal resources of the proprietor</p> <p>-Experience and knowledge is limited to the extent that the sole owner is frequently the sole manager</p> <p>-Access to non-ownership funding (suppliers of goods and services on credit, external loans) is often limited</p>
Partnership	<ul style="list-style-type: none"> <li>• Two or more individuals with the aim of generating a financial profit</li> <li>• Usually quite small in size</li> <li>• Easy to set up</li> <li>• Can be established by a formal partnership agreement or informal agreement between partners</li> <li>• Separate accounting entity distinct from owners</li> <li>• No separate legal entity</li> <li>• Limited Life</li> <li>• Unlimited liability</li> <li>• All partners can represent the company's normal business operations</li> <li>• Co-ownership of assets</li> <li>• Limited membership</li> <li>• Increased regulation</li> <li>• Do not pay any tax</li> </ul> <p>Individual record: resource contributions (capital), resource withdrawals (drawings), share of undisputed profits (current or retained earnings)</p> <p>Advantages</p> <p>+Greater access to capital</p> <p>+partners bring different skills (professional, technical, administrative)</p> <p>+greater management flexibility</p> <p>+Taxation advantages</p> <p>Disadvantages</p> <p>Compared to prop:</p> <p>-Higher level of regulation</p> <p>-Giving up profit share</p> <p>-Reduced decision-making authority</p> <p>-Extra responsibility</p> <p>Compared to lim. Comp:</p> <p>-limited life may affect long term planning</p> <p>-greater risk for ownership investment</p> <p>-lack of a specialist management team</p>

	-extra responsibility -access to ownership funds and debt funds is limited
Limited companies	<ul style="list-style-type: none"> <li>• Owned by multiple investors, each of which own a share of the company</li> <li>• Can be quite small or very large</li> <li>• Can have unlimited part-owners/investors</li> <li>• Liability is limited</li> <li>• Limited risk and greater confidence to invest</li> <li>• Finance comes from owner (shareholders) investing cash or by leaving in the business profits to which they are entitled.</li> <li>• Larger companies tend to appoint a board of directors to manage the business on their behalf (set up the overall direction and strategy of the business, monitor and control the activities of the business, communicate with shareholders and others connected with the business)</li> <li>• Chairman and CEO</li> </ul>

## Business management

Strategic management – identifying, choosing and implementing activities that will enhance the long-term performance of an organisation.

### Steps in the planning process

1. Setting the objectives or mission of the business
2. Setting detailed short-term plans or budgets
3. Setting long-term plans

Control – Making planned events actually occur

### Steps in planning and control

1. Identify business objectives
2. Consider options
3. Evaluate options and select an option
4. Prepare short-term plans (budget)
5. Perform and collect information on actual performance
6. Respond to divergences between plans and actuals, and exercise control
7. Revise plans (and budgets) if necessary

## Changing face of business

The environment within which businesses operate has become increasingly turbulent and competitive

Causes:

- Increasingly sophisticated and demanding customers
- The development of a global economy where national frontiers is less important
- Rapid changes in technology
- The deregulation of domestic markets e.g. electricity, water and gas)

- Increasing pressure from owners for competitive economic returns
- The increasing volatility of financial markets
- Substantially increased awareness of the need to recognise the implications of the actions of businesses on the environment and society at large.

Financial reports must address the questions:

1. Who is using the information?
2. What kind of financial reports should be prepared?
3. How should items such as profit be presented and assets valued?

Business ethics – The study of proper business policies and practices regarding potentially controversial issues. To develop a positive ethical organisation a business must have:

- Leadership that is visibly ethical with explicit commitment to ethics
- Culture and informal systems that include values, role models, language, norms, symbols and heroes
- Formal systems that include codes of conduct, policies and rules, structure, performance management and reward systems, and decision-making processes

Measuring and reporting financial position (balance sheet)

Assets

An asset is a business resource that has these four characteristics:

1. A probable future economic benefit
2. The business has an exclusive right to control the benefit
3. The benefit must arise from some past transaction or event (already paid for)
4. The asset must be capable of reliable measurement in monetary terms

Operating cycle: represents the time between acquisition of assets and their realisation in cash.

Current assets: Held for trading or are expected to be consumed or converted to cash within 12 months or in the operating cycle.

Non-current assets: Held for wealth generation on a continuing basis for longer than one year.

Level of debt/equity – how the assets are financed

Solvency – ability to pay debts when due (solvency)

Liquidity – how quickly assets can be converted to cash in the normal course of a business (short-term)

Tangible assets: assets that have a physical component, e.g. plant and machinery

Intangible assets: assets that have no physical substance e.g. copyrights and patents

Examples of asset accounts: Cash, Short-term Investments, Accounts Receivable, Allowance for Doubtful Accounts (a contra-asset account)

Accrued Revenues/Receivables, Prepaid Expenses, Inventory, Supplies, Long-term Investments, Land, Buildings, Equipment, Vehicles, Furniture and Fixtures, Accumulated Depreciation (a contra-asset account)

Claims against assets

Claims: An obligation on the part of the business to provide cash to an outside party. External claims by individuals or organisations -> liabilities and internal/ownership claims -> equity/owners' equity/capital

Liabilities: Recognised if it is probable an outflow will occur and it is capable of monetary measurement

Current liabilities: Due for repayment within 12 months or within the operating cycle. Held principally for trading purposes.

Non-current liabilities: Not liable for repayment within the next 12 months and do not satisfy the criteria for current liabilities.

Provisions: An estimated liability for which there is uncertainty regarding the amount or timing.

Equity: Residual interest in the assets of the entity after deducting all of its liabilities.

Contingent liability: A potential liability that might arise if a particular event occurs

Examples of liability accounts: Accounts payable (creditors), bank overdrafts, personal loans, mortgages and provisions (estimates) for warranty, long-service leave, holiday pay and taxation

The Accounting Equation

$ASSETS = LIABILITIES + EQUITY$

Conventions

Business Entity Convention	The business and its owner are separate,
Historical cost convention	Asset value is based on their historic (acquisition) cost
Prudence convention	Caution should be exercised when making accounting judgments, actual and expected losses should both be recorded at once in full, profits are only recognised when they occur, greater emphasis on expected losses than expected profits
Objectivity convention	Each transaction has two aspects, both of which affect the statement of financial position => Double entry system
Money measurement convention	Accounting deals with only those items than can be expressed in monetary terms with a reasonable degree of reliability
Stable monetary unit convention	The fact that money will change in value over time is not well recognised
Consistency convention	Applying comparable methods from one period to the next.
Going concern convention	The assumption that a business will continue to operate in the future as it has in the past.
Realisation convention	That stringent conditions should be met before revenue can be recognised. The entity must have completed its contractual commitments and must have an unavoidable claim against the customer.
Objectivity convention	The recognition of transactions is to be based on reliable and verifiable measures.

• Ending Retained profits = Beginning retained profits (on beginning of period balance sheet) + Profits this period (or - Losses this period) - Dividends this period (and distributions)

Benefits of the statement of financial position

- ± Provides insights about how the business is financed and how its funds are deployed
- ± Provides insights into the liquidity of a business
- ± Provides a basis for assessing the value of the business
- ± Provides a means of assessing relationships between assets and claims
- ± Provides insight into the 'mix' of assets held by the business
- ± Can help users in assessing performance

## Deficiencies of the statement of financial position

- There are potential conflicts that may lead to such deficiencies
- Money is a good and thus is subject to supply and demand fluctuations
- Relevant information is not always entirely reliable
- Inventory on hand at the end of the period can be measured with FIFO, FILO or AVCO
- -various depreciation methods are acceptable

## Measuring and Reporting Financial Performance

Purpose: To measure and report how much and how profit has been generated.

Format: gross profit -> operating profit -> profit for the year

Income: Increases in economic benefits through the inflow of assets or the reduction in liabilities, which will increase equity (other than those relating to owners' equity contributions) for the particular reporting period.

Revenues: Represents the gross inflows of future economic benefits gained from the different categories of operating activities.

Other gains: Represents the net-operating activities e.g. the gain on sale of investments, or the gain on foreign currency transactions.

Expenses: The opposite of revenue. An expense represents the outflow of assets (or increase in liabilities) incurred in the process of carrying on a business and generating income.

Expenses are classified as:

- Cost of sales
- Selling and distribution
- Administration and general
- Financial

Nature of the business will determine the type of expenses incurred.

Common types include:

- Costs of sales or costs of goods sold
- Rent and rates
- Motor vehicle running expenses
- Insurances
- Printing and stationary
- Heat and light
- Telephone and postage

Reporting period: the particular period for which the accounting information is prepared.

At the commencement of the business, a financial position will be produced to reveal the operating financial performance

$Abeg = OE_{beg} + L_{beg}$  where:

- $Abeg$  = assets at the beginning of the period
- $OE_{beg}$  = owners' equity (capital) at the beginning of the period
- $L_{beg}$  = Liabilities at the beginning of the period

At the end of an appropriate period, an income statement will be prepared to show the wealth generated over the period

$Profit (loss) = I_{period} - E_{period}$  where:

- $I_{period}$  = the income for the period



- $E_{period}$  = the expenses for the period

At the end of the period, a revised statement of financial position will be prepared to incorporate the changes in wealth that have occurred since the beginning financial position was drawn up

$Assets_{end} = OE_{beg} + Profit \text{ (or - loss) } +/- Other\ OE_{adj} + Liabilities_{end}$  where:

- $Assets_{end}$  = the assets at the end of the period
- $Other\ OE_{adj}$  = other adjustments to equity (i.e. injections and drawings or distributions)
- $Liabilities_{end}$  = Liabilities at the end of the period

Net assets: The difference between assets and external liabilities.

Gross profit: The difference between the revenues from sales and the cost of those sales.

$Gross\ profit = Revenue - Cost\ of\ Sales$

Operating profit: The increase in wealth for a period that is generated from operating the business.

$Operating\ Profit = Revenue - Operating\ Costs$

Profit for the period: The profit for the year after a reasonable estimate of tax likely for the year.

$Profit\ for\ the\ period = Non-operating\ income - expenses\ incurred\ in\ generating\ the\ sales\ revenue$

Cost of sales: Cost of goods that were sold by the business during the period

$Cost\ of\ sales = Goods\ available\ for\ resale\ (opening\ inventories + purchases\ (goods\ bought) - Closing\ inventories\ (or\ cost\ of\ goods\ sold))$

Main criteria for recognising revenue:

- The amount of revenue can be measured reliably
- It is probable that the economic benefits will be received
- Ownership and control of the items should pass to the buyer (when the revenue comes from the sale of the good)

Long term contracts are often broken down into small investments so revenue can be recorded frequently.

In the case where continuous services are provided, revenue is recognised evenly over the subscription period. When this is not possible, revenue is not counted until the service is completed.

Deferred revenue: Transactions in which the benefits are received in advance.

Accrued expenses: Expenses which are outstanding at the end of the accounting period.

Prepaid expenses: Expenses that have been paid in advance at the end of the reporting period.

Cash Accounting – Recognises income when cash is received.

Accrual Accounting – Recognises income when it is incurred regardless of when the cash is exchanged.

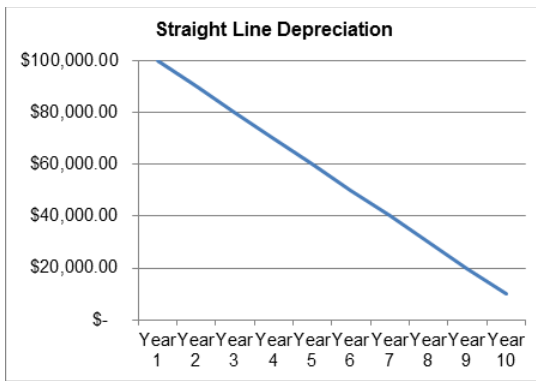
Recognition of expenses: Expenses should be matched to the revenue they helped generate.

Depreciation

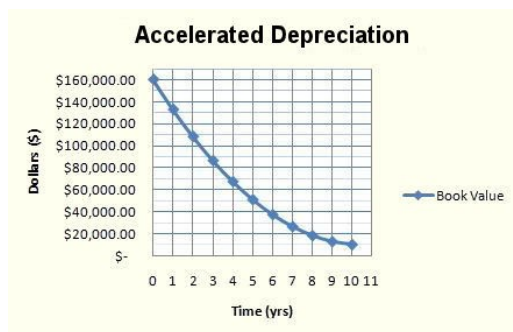
Depreciation – the amount of benefits of a non-current asset with a finite life used up over time. Total depreciation that has accumulated must be deducted from the assets cost.

Depreciation methods

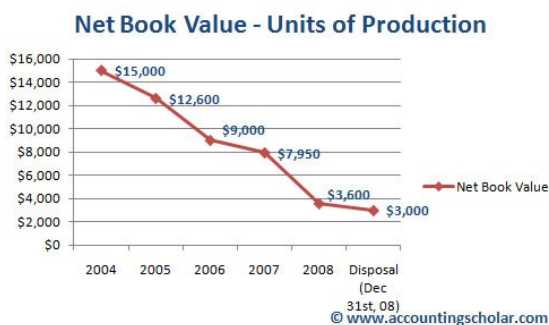
- Straight line depreciation – with equal depreciation expense in each period ▪  $NBV \text{ (purchase price) } - RV \text{ (residual value) } / \text{ useful life}$



- Reducing balance method/accelerated depreciation; more depreciation earlier. applies a fixed percentage rate of depreciation to the written down value of an asset each year.  $\square$   $(NBV \text{ (PURCHASE PRICE)}) \times \text{depreciation rate}$ . For year 1. The year 2 take the answer and times by depreciation rate.



- Units of production method; depreciation based on usage.  $\square$   $NBV \text{ minus } RV \text{ divided by useful life (whatever units) then times by units used in period}$ .



In choosing which method to use businesses often use the straight-line method if the asset delivers constant benefits and the accelerated method if assets lose their efficiency over time.

Written Down Value/Carrying Amount – The value of a non-current asset after accounting for depreciation.

Inventory: Consists of finished goods, raw materials, stores or supplies and work-in progress goods

Two main inventory recording systems:

- The perpetual inventory system – Maintains continuous records of all inventory movements at both cost and selling price
- The physical or periodic inventory system – Does not required detailed records of the cost of inventory sold to be maintained. The inventory account is updated at the end of the year. It is not possible to determine stock losses directly as stock not on hand is presumed to have been sold

Net Realisable Value (NRV): The estimated selling price minus any further costs that may be necessary to complete the goods and any costs involved in selling and distributing these goods.

The cost of inventory - all costs related to bringing the inventory into a saleable state;

- Cost of purchase – includes the purchase price, government taxes and duties, freight inward costs.

- Costs of conversion – largely concern goods being manufactured, including costs that can be physically traced to the product and others that can't be obviously traced to the costs (indirect costs/overheads)
- Other costs incurred to bring the inventories to their present location and condition.

When we are reasonably certain that a customer will not pay their debt, it is considered “bad” debt

If bad debts were not considered, assets (receivables) would be overstated on the statement of financial position and the profit in the income statement will not result in any future benefits arising.

Any bad debts must be “written off”, this involves

- Reducing accounts receivable (Debtors)
- Increasing expenses (by creating an expense known as “bad debt writes off” by the amount of the bad debt)

Doubtful debts – debts that may eventually prove to be bad.

Doubtful debts are recorded as:

- An expense labelled as “doubtful debts expense” to be included in the income statement
- A deduction from the accounts receivable accounts labelled “allowance for doubtful debts” to be included in the statement of financial position

Alternative recording bad and doubtful debt methods:

1. Recognised only on the basis of a realised uncollectible amount
2. Bad debts expense (Write off) and doubtful debts expense (adjustment required to the allowance for doubtful debts account) are recognised separately
3. A single “bad debt and doubtful debts” expense is recognised. Based on percentage of credit sales or the aged listing approach – when bad debts are realised, the amount is deducted from both accounts receivable and the allowance for bad debts

## Chapter 4

Ledger accounting uses a system of double entry

An account is the detailed record of all the changes that have occurred in a particular asset, liability or owners' equity. Business transactions cause changes in these accounts.

Journal: A chronological record of all transactions. For initial records of transactions.

Ledger: The record holding all the accounts which is a collection of all individual accounts.

Posting: Transferring the amounts from the journal to the accounts in the ledger.

Trial balance: The list of all accounts with their balances. This is an internal report.

Three step process:

1. Record transactions in the journal
2. Copy to the ledger
3. Prepare the trial balance

Charts of accounts:

Represents the listing of all accounts (and account numbers) in the general ledger

The T account: Takes the form of a capital T with the vertical line dividing the account into its left and right sides with the account title resting on the horizontal line.

Debit (Dr) = left side

+ for an asset or expense

- for an equity, liability or revenue

Credit (Cr) = right side

+ for an equity, liability or revenue

- for an asset or expense

Account	Increases	Decreases
Assets	Debit	Credit
Liabilities	Credit	Debit
Owners Capital	Credit	Debit
Owners Drawings	Debit	Credit
Revenues	Credit	Debit
Expenses	Debit	Credit

Solving Trial Balance Errors:

- Are all accounts listed?
- Are the additions correct?
- Are all the balances correct?

Check Postings:

- Divide the difference by two
- Is there a debit/credit balance for this amount?
- Posted in the wrong column?

Divide difference of balance by 9:

- If evenly divisible (e.g. difference of 63,  $63/9 = 7$ ) Could be a:
  1. Slide Error – Writing \$30 instead of \$300
  2. Transposition Error – Writing \$303 instead of \$330

Adjusting Accounts

Adjusting entries in a trial balance – Assign revenue/expenses to the period when they are earned/incurred.

Adjustments are needed to properly measure two things:

- Profit (loss) in the income statement
- Assets and liabilities in the balance sheet

In the adjustments or balance day adjustments:

- Adjusting entries never involve the cash account
- Adjusting entries either increase revenue (revenue credit) or increase an expense (expense debit).

The two basic categories of adjusting entry:

- Prepayments (deferrals) – In a prepaid adjustment, the cash payment occurs before an expense is recorded or the cash receipt occurs before the revenue is earned.
- Accrual adjustments – An accrual records an expense before the cash payment or records the revenue before the cash is received.

Adjusting entries fall into five types:

1. Prepaid expenses – advanced payments of expenses such as rent or supplies. Effects expenses and the asset which has been used.
2. Unearned revenues/deferred revenue – Some businesses collect cash in advance from performing work. This creates a liability to conduct work in the future and is called unearned revenue. Effects Revenue and liability.

3. Accrued expenses – incurred expenses which haven't been paid for and thus creates a liability. Effects expenses and liabilities.
4. Accrued expenses – incurred expenses which haven't been paid for and thus creates a liability. Effects expenses and liabilities.
5. Depreciation of non-current assets – Effects Depreciation expense (increase – debit) and contra asset of accumulated depreciation (credit – increase).

Contra account – holds the opposite normal balance (debit/credit) to that of its paired account.

- Accumulated depreciation – all depreciation for asset (on the asset side – credit balance)
- Depreciation expense – depreciation for this year (on the expenses side – credit balance)
- Provisions for doubtful debts – estimates for unlikely payments

Estimating uncollectible amounts:

1. Based on credit sales:
  - Assume bad debts are a percentage of sales
  - Estimate bad debt expense for the accounting period
2. Analysing outstanding accounts receivable:
  - Assume bad debts are a proportion of accounts receivable owing
  - Estimate allowance for doubtful debts needed at the end of the accounting period

- Creating an allowance for doubtful debts:

o Dr Doubtful debts exp. (or bad debts exp.) xxx

o Cr Allowance for doubtful debts xxx

- Writing off a bad (uncollectable) debt

o Dr Allowance for doubtful debts xxx

o Cr Accounts receivable xxx

The profit and loss account will include the depreciation figure and the balance sheet will include the non-current assets at cost minus the associated accumulated depreciation.

The doubtful debts account is an expense account, which will be charged to the profit and loss account.

Inventory – The perpetual inventory approach is recorded in a modified stock account. The periodic method requires a physical stock count and valuation.

Factors affecting the systems supporting the double-entry system and their variation

- Greater volumes and complexity of transactions
- Importance of internal control and keeping systems under review (safety, security, efficiency)
- Integrated systems and evolution because of technology
- There is still a need for a well-documented audit trail
- Growth of digital technology and e-commerce.

Summary of accounting cycle:

1. Identify and analyse transactions – record initial accounting entries in journals
2. Post transactions to ledger
3. Prepare trial balance
4. Record adjusting entries in journal
5. Post adjusting entries to ledger
6. Prepare adjusted trial balance
7. Prepare financial statements

## Internal Control

Internal control is a process affected by an entity's board of directors, management and other personnel, designed to provide reasonable assurance regarding the achievement of objectives relating to operations, reporting and compliance.

Preventative internal control: Policies and procedures that are designed to prevent errors, inaccuracy or fraud before it occurs.

Detective internal control: Designed to identify problems that already exist. They require examination of information and include things such as the use of performance reviews, including comparisons of actual figures with budgets, forecasts and benchmarks; reconciliations and subsequent analysis of discrepancies and internal and external audits.

The aim of internal control is to accomplish the following:

1. Safe guard assets – a business must safeguard its assets otherwise it is throwing away resources.
2. Encourage employees to follow organisational policy – working towards the same goals.
3. Promote operational efficiency – this reduces expenses and increases business profits.
4. Ensure accurate, reliable accounting records – without these managers cannot tell what parts of the business are profitable and what needs improvement.

The components of internal control: internal control objectives are achieved by employing the following (CRIME):

1. Control procedures – designed to ensure that the businesses goals are achieved.
2. Risk assessment – identify risks such as safety, copy right infringements and bankruptcy.
3. Information system – controls must be in place to ensure that only authorised users have access to various parts of the accounting information system.
4. Monitoring controls – internal/external auditors ensure legal requirements and goals are met.
5. Environment – owners/management must set the right example and create a positive culture.

Key elements of internal controls:

- A good staff profile with an emphasis on honesty and capability
- Existence of a clear system of responsibility, authority, delegation and separation of duties
- Proper procedures for ensuring transactions are properly processed.
- Production of suitable documents and accounting records so as to leave an audit trail
- Appropriate control over assets
- Independent verification of performance
- Processes for checking the IT systems, to ensure that disaster recovery is possible, security is sound, and that laws are not breached (e.g. those that relate to privacy)

An effective control system has the following characteristics:

- Competent, reliable and ethical personnel – paying attractive salaries and conducting training attract, retain and get the best of staff.
- Assignment responsibilities – each employee is assigned responsibilities with checks and balances.
- Proper authorisation – any deviation from standard policy should require proper authorisation.
- Separation of duties – this limits the chance of fraud and promotes accounting accuracy.
  1. Separation of operations from accounting – accounting should be separate from other departments such as sales and manufacturing to ensure reliable records are kept.
  2. Separation of the custody of assets from accounting – temptation and fraud are reduced if accounts don't handle cash and if cashiers don't have access to the accounting records.
  3. Separation of the authorisation of transactions from the custody of related assets – If possible people who authorise transactions shouldn't handle the related asset.
  4. Separation of duties within the accounting function – different people should perform various phases of accounting to minimise errors and opportunities for fraud.
- Internal and external audits – an audit is an examination of the businesses financial statements and the accounting systems, controls and records that produced them. Businesses undergo this regularly.
- Documents and records – Documents must be prenumbered, thus gaps in the sequence shows issues.

- Electronic devices and computer controls – inventory control by attaching sensors to products.
- Other controls – fireproof vaults, alarms, cameras, emptying cash register, insurance is used.

Internal controls for E-commerce: buying and selling over the internet can give hackers access to personal information unavailable in face to face transactions. These include:

- Stolen account numbers and passwords
- Computer viruses and trojan horses
- Phishing expeditions – emails that appear legitimate but are fraudulent.
- Firewalls and encryption – the server holding information is secured with firewalls and encryption.

Limitations of internal control: collusion, two or more people working together can overcome internal controls. The stricter the internal control the more time and money is used in monitoring it.

The bank account as a control device: cash is easy to move, easy to conceal and easy to steal so businesses put money in banks which becomes internal control. This is achieved by practices of the bank such as:

- Signature cards – comparing signatures on cards to written signatures
- Deposit slip – When depositing money, the customer is given a slip as evidence.
- Cheque – safety and practices associated with issuing cashing a cheque.
- Bank statement – up to date accounts of inflows and outflows allow one to see where money is going.
- Bank reconciliation – discussed below.

Bank reconciliation: A bank reconciliation is produced by an accountant who has no other cash related duties to explain the difference between the balances of the two accounts.

Internal control over cash receipts: This ensures all cash receipts are deposited in the bank quickly and that the businesses accounting record is correct. Each source of cash receipts calls for its own security measures:

- Cash receipts over the counter –
  - I. Allowing customers to see price of items it ensures against overcharging and taking extra.
  - II. Cash draw only opens when an amount is entered and recorded by the computer and by having uneven figure change is always required and thus an employee must open the till
  - III. The end of day balance in the till is always measured against the computers expected figure.
- Cash receipts by mail – by using a mailroom employee they monitor the amounts received against the expected amounts. They in turn are monitored by the expected figure the accounting department has.
- Cash short and over – often there is a small difference between expected and actual cash which can occur from honest mistakes. If the difference is big then investigation is required.

Internal control over cash payments:

- Control over payment by cheque process:
  1. The buyer sends a purchase order to the seller
  2. The seller then sends an invoice back
  3. The buyer receives inventory and prepares a receiving report
  4. After approving all documents, the buyer sends a cheque to the seller
- The voucher system – documents that authorise cash payments improve the control process. Other measures such as two signatures, stamps for usage and printed figures on a cheque.
- Streamlined procedures – two methods:
  1. Evaluated receipts settlement (ERS) – compare the receiving report to the purchase order and if the two documents match approve the payment.
  2. Electronic data interchange (EDI) – business computers communicate with supplier's computers and when supplies get low an automatic order and payment is sent.

The petty cash fund: amount paid through petty cash may be small but volume will be high thus monitor by:

1. Designating an employee to administer the fund as its custodian
2. Keep a specific amount on hand

3. Support all funds payments with a petty cash slip.
4. Replenish the fund through normal cash procedures.
5. Imprest system – the amount of cash for which the custodian is responsible for is clear. Usage of petty cash reduce the cash in the fund so periodically the fund must be replenished with additional cash. At all times the cash plus receipts should equal the beginning amount if they do not, then a correcting journal entry to add or remove funds is required.

Ethics and accounting: The framework for making ethical judgements:

1. What is the ethical issue?
2. What are the options?
3. What are the possible consequences?
4. What shall I do?

## Analysis and interpretation of financial statements

Financial analysis: A process of selecting, evaluating, and interpreting financial data to formulate an assessment of a company's present and future financial condition and performance.

Financial ratios can be used to examine various aspects of financial position and performance, and are widely used for planning and control purposes.

### Financial ratio classification

#### Profitability

Profitability ratios reveal their degree of success. They express the profits made in relation to other key figures in the financial statements or to some other business resource.

$$\text{Return on ordinary shareholder's funds} = \frac{\text{Profit after taxation} \wedge \text{any preference dividend}}{\text{Average ordinary share capital plus reserves}} \times 100$$

$$\text{Return on Capital Employed} = \frac{\text{Operating profit}}{\text{Share capital} + \text{Reserves} + \text{Non-current liabilities}} \times 100$$

$$\text{Operating profit margin} = \frac{\text{Operating profit}}{\text{Sales}} \times 100$$

$$\text{Gross profit margin} = \frac{(\text{Gross profit})}{\text{Sales}} \times 100$$

Efficiency – Ratios may be used to measure how efficiently certain resources have been utilised by the business. Also known as activity or turnover ratios.

$$\text{Inventories turnover period} = \frac{\text{Average inventory held}}{\text{Cost of sales}} \times 365$$

$$\text{Average settlement period} = \frac{(\text{Average accounts receivable})}{\text{Credit sales revenue}} \times 365$$

$$\text{Average settlement period (creditors)} = \frac{\text{Average accounts payable}}{\text{Credit purchases}} \times 365$$

$$\text{Sales revenue} \div \text{capital employed} = \frac{\text{Sales revenue}}{\text{Share capital} + \text{Reserves} + \text{Non-current liabilities}}$$

$$\text{Sales revenue per employee} = \frac{\text{Sales revenue}}{\text{Number of employees}}$$



Liquidity – Relationship between liquid resources held and payments due in the near future.

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

$$\text{Acid test ratio} = \frac{\text{Current assets} - \text{Current liabilities}}{\text{Current liabilities}}$$

$$\text{Cash flows to operations ratio} = \frac{\text{Operating cash flows}}{\text{Current liabilities}}$$

Financial gearing – The relationship between the contribution to financing the business made by the owners of the business and the amount contributed by others in the form of loans.

$$\text{Gearing ratio} = \frac{\text{Longterm liabilities}}{\text{Share capital} + \text{Reserves} + \text{Longterm liabilities}} \times 100$$

$$\text{Interest cover ratio} = \frac{\text{Operating profit}}{\text{Interest expense}}$$

Investment – Assessing the returns and performance of shares from the perspective of shareholders who are not involved with the management of the business.

$$\text{Dividends per share} = \frac{\text{Dividends announced during the period}}{\text{Number of shares on issue}}$$

$$\text{Dividend payout ratio} = \frac{\text{Dividends announced for the year}}{\text{Earnings for the year available for dividends}} \times 100$$

$$\text{Dividend yield} = \frac{(\text{Dividend per share}) / (1 - t)}{\text{Market value per share}} \times 100$$

$$\text{Earnings per share} = \frac{\text{Earnings available to ordinary shareholders}}{\text{Number of ordinary shares in issue}}$$

$$\text{Operating cash flow per share} = \frac{\text{Operating cash flows} - \text{Preference dividends (if any)}}{\text{Number of ordinary (equity) shares on issue}}$$

$$\text{Price \textbackslash earnings} = \frac{\text{Market price per share}}{\text{Earnings per share}}$$

Ratios are usually compared to:

Past periods – comparing a ratio to the same ratio but for a previous period which can show improvement/deterioration in performance.

Similar businesses – Comparing a ratio to that of a similar business in the same industry.

Planned performance – Comparing ratios with targets that management developed before the start of the period. Most useful method.

The key steps to undertaking financial ratio analysis:

1. Identify users and their information needs
2. Calculate appropriate ratios
3. Interpret and evaluate the results

Trend analysis: A form of analysis that uses trends, usually graphically or by percentage analysis.

Index or percentage analysis: this technique allows the monetary figures to be simply replaced with an index or percentage making it easy to see trends and for comparison. Three main types:

1. The common size reports or vertical analysis – the key magnitude of the report becomes 100 and all other subsidiary figures are expressed as a percentage of that figure. Key figure for income statement is usually sales and for balance sheet total assets or total liabilities plus equity.
2. Trend percentage – All figures in an allocated base year are indexed as 1—and all subsequent year's figures are expressed as a percentage of the base year.
3. Percentage change or horizontal analysis – The percent change for the year is shown for each item.

#### Limitations of ratio analysis

Quality of financial statements – differing accounting methods such as depreciation can alter figures. Goodwill and brands are not assets but are important to the business, however they will not be shown in ratios.

Inflation – Monetary Figures can be distorted by inflation thus ratios used may be misleading.

Over reliance on ratios – Ratios cannot be used in isolation to view a business.

The basis for comparison – it is important to compare like for like to get an accurate picture but no two businesses are the same and thus there is a limitation to ratio use.

Financial position ratios – because the balance sheet is a snapshot of the business at a particular point in time, any ratios based on its figures may not fully represent the financial position of the business for the year as a whole. E.g. a seasonal business can thrive during only a specific time frame.

### **Statement of cash flows**

A summary of the cash inflows and outflows over the period concerned.

#### Primary categories of cash payments and receipts

Cash flows from operating activities (usually increases cash) – the net inflow from operations. Equal to the sum of cash receipts from accounts receivable (and cash sales) minus the sums paid to buy inventory, pay rent, pay wages etc.

Cash flow from investing activities (usually decreases cash) – Concerned with cash payments made to acquire additional non-current assets and cash receipts from the disposal of such assets.

Cash flows from financing activities (usually increases cash) – Concerned with financing the business, except to the extent of trade credit and other very short-term credit. SO we are considering borrowings (other than the very short term) and finance from share issues.

Net increase in cash and cash equivalents held – The total statement must be the net increase or decrease in cash over the period covered by the statement.

Cash equivalents: short term, highly liquid investments that can be readily converted into cash.

General formula for use in operating activities:

**Opening balance + use/payment in that period – closing balance.**

E.g.: Opening accounts payable + purchases – closing accounts payable OR Opening expense payables/accruals + expense recognized for the period – closing expense payables/accruals

Direct Method: Involves an analysis of the cash records of the business for the period, identifying all payments and receipts relating to operating activities. These are summarised to give the total figures for inclusion in the statement of cash flows.

Indirect Method: Uses accounting information from income statement and the statement of financial position to convert the profit to a cash figure. Relies on the fact that, sooner or later, sales revenue will give rise to cash inflows and expenses will give rise to outflows. This means that the figure for profit for the year will be linked to the net cash flow from operating activities.

- Adjust for items which are clearly non-operating items which will appear in the investing/financing.

- Add back any non-cash expenses such as depreciation.
- Adjust for any changes in current assets and current liabilities.

### The investing section

We need to know how much has been spent on non-current assets, and any proceeds relating to non-current asset sales. We also need to find the cash receipts from investments in terms of interest dividends received.

The following points are important:

- Proceeds of asset sales are reflected in the investing section
- Only when an asset is sold can we calculate the actual depreciation incurred with complete accuracy. A loss on disposal represents additional depreciation and would be a non-cash expense. A profit on disposal represents additional depreciation and a profit on disposal offsets the depreciation.
- Any revaluations of assets are reflected in an increase in the asset and an increase in the shareholders equity – shown in asset revaluation reserve.

### The financing section

By comparing the opening and closing capital figures ('paid up capital' for companies) we should be able to calculate the number of owners' contributions received (new share capital issued for companies). However, problems can arise with:

- Bonus issues (which result in an increase in share capital without any cash inflow)
- Issue of shares directly for non-cash assets or to extinguish debt.
- Repurchase or redemption of shares.

A comparison of the long-term liabilities at the beginning and the end of the year should indicate the net cash flow from borrowings.

Issues regarding calculating cash received from long term liabilities include the issue of debt directly for non-monetary assets, the conversion of debt directly into shares and the change in the long-term liability for the period shows only the net change between borrowings and repayments.

### Corporate Social Responsibility

The continuing commitment by businesses to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large.

Companies need to consider two aspects of their operations:

1. The quality of their management – both in terms of people and practices.
2. The nature and quantity of their impact on society in the various areas.

### The Ceres Principles

1. Protection of the Biosphere
2. Sustainable use of natural resources
3. Reduction and disposal of wastes
4. Energy conservation
5. Risk reduction
6. Safe products and services
7. Environmental restoration
8. Informing the public
9. Management commitment
10. Audits and reports

Arguments against CSR:

- Any money shareholders that own the business choose to spend on social responsibility reduces the amount available to them. Shareholders can choose for themselves whether or not to be philanthropic.
- Many companies don't have time for this – they are too busy running their main business activity.
- It's not the responsibility of individual businesses: it is up to politicians and governments.
- Corporations do not really care about CSR.

## Cost – Volume – Profit analysis and Relevant Costing

CVP analysis = cost-volume-profit analysis

Variable costs: Those costs that increase or decrease in direct proportion to volume of activity. At zero activity, there are no variable costs, however, as the volume of activity increases, so does the total variable cost.

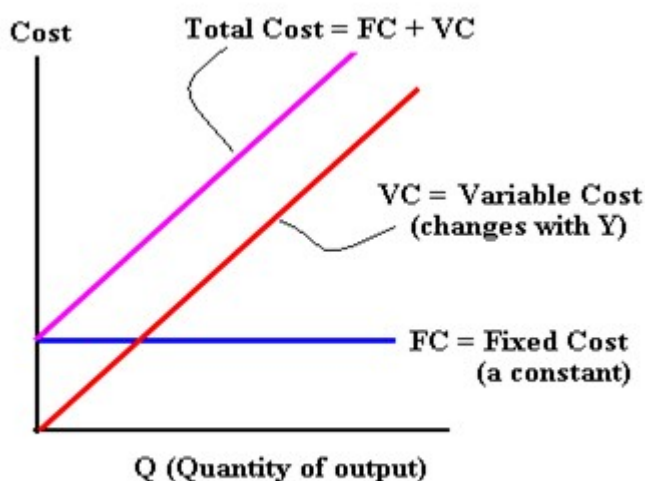
**Variable costs per unit = change in total cost / change in volume of activity**

Fixed costs: As the volume of output increases, the total fixed costs stay the same. Beyond a particular point, fixed costs often have to increase to allow higher levels of output (causing a step graph)

**Total fixed cost = total mixed cost – total variable cost**

Mixed costs: Costs that have both the variable and fixed components.

**Total mixed cost = (variable cost per unit X number of units) + total fixed cost**



Relevant range: The range of volume where total fixed costs and the variable cost per unit remains constant. Meaning the company does not have to expand/decrease to cater for levels of production. The production level is achievable with current resources.

CVP analysis assumes the following:

- Managers can classify each cost as either variable or fixed.
- The only factor that affects total costs is change in volume, which increases variable and mixed costs. Fixed costs do not change.

Three approaches to calculating the breakeven point: Fixed costs/revenue per unit – variable cost per unit.

Income statement approach:

**(price per unit x units) – (variable cost per unit (marginal cost) x units) – fixed costs = profit where profit is equal to 0**

Contribution margin approach:

- **Contribution margin per unit = sales revenue per unit – variable cost per unit**
- **Breakeven units sold = fixed costs / contribution margin per unit**

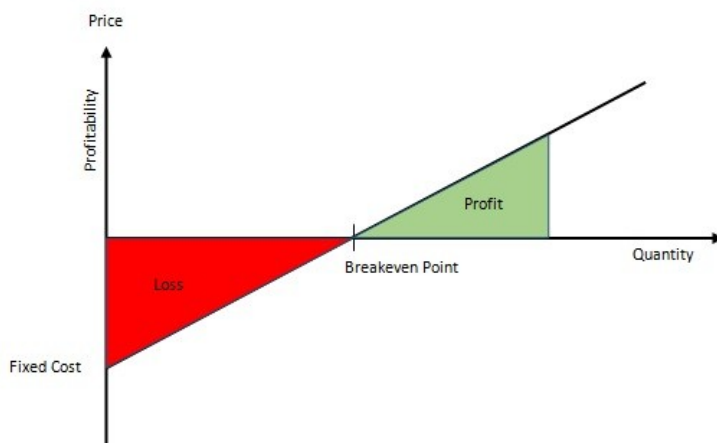
Contribution margin ratio to calculate breakeven point in dollars:

- $\text{Contribution margin ratio} = \text{contribution margin} / \text{sales revenue}$
- $\text{Breakeven sales in dollars} = \text{fixed costs} / \text{contribution margin ratio}$

Target profit: The amount of profit that meets the goals/expectations of the owner.

Operating gearing – The relationship between contribution and fixed costs. An activity with relatively high costs compared to its variable costs is said to have high operating gearing.

Profit – Volume chart – As activity increases, so does total contribution. At zero activity, there are no contributions and thus there will be a loss in amount to the fixed costs.



Weaknesses of break-even analysis:

- Assumes that the relationships between sales revenues, variable costs and volume are linear.
- Most fixed costs tend to be “stepped” and are not fixed over all volumes of activity.
- Most businesses do not do just one thing.

The income statement approach and the contribution margin approach can be used to see how much must be sold to result in the target profit.

Sensitivity analysis: a technique that asks what results are if an underlying assumption changes.

Cause	Effect	Result
Change	Contribution margin per unit	Breakeven point
Selling price per unit increases	Increases	Decreases
Selling price per unit decreases	Decreases	Increases
Variable cost per unit increases	Decreases	Increases
Variable cost per unit decreases	Increases	Decreases
Total fixed costs increase	Not affected	Increases
Total fixed costs decrease	Not affected	Decreases

Margin of safety: excess of expected over breakeven sales. Drop in sales that can be absorbed without loss.

- $\text{Expected sales} - \text{breakeven sales} = \text{margin of safety in units}$
- $\text{Margin of safety in units} \times \text{sales price} = \text{margin of safety in dollars}$

Sales mix or product mix: The combination of products that makes up total sales.

Calculating breakeven sales in units for a sales mix:

- 1) Calculate the weighted average contribution margin per unit
  - $\text{Total contribution margin} / \text{sales mix in units}$
- 2) Calculate the breakeven point in units for the sales mix

- $\text{Breakeven sales in units} = \frac{\text{fixed costs} + \text{profit}}{\text{weighted average contribution margin per unit}}$

3) Calculate the breakeven point in units for each product.

- $\text{sales mix breakeven point} \times \text{each product's proportion of the sales mix. (to get dollars)}$
- $\text{answer} \times \text{selling price for each good and sum.}$

Relevant costs: Costs which are relevant to a decision.

Identifying relevant costs:

- Does the cost relate to the objectives of the business?
- Does the cost relate to the future?
- Does the cost vary with the decision?

Irrelevant costs: Costs that do not affect a decision.

Sunk Costs: Costs that were incurred in the past and cannot be changed. Thus, sunk costs are irrelevant.

Contribution margin: Sale price per unit – variable cost per unit

Two keys to analysing short term special business decisions:

- Focus on relevant revenues, costs and profits – irrelevant information shouldn't be considered.
- Use a contribution margin approach that separates variable costs from fixed costs – because fixed and variable costs behave differently they must be analysed separately.

Relevant information approach/incremental analysis approach: Used to make short term decisions.

- Special sales orders – customer requests a one-time order at a reduced price.

If expected increase in revenues exceeds expected increase in variable and fixed costs then accept special order.

If expected increase in revenues is less than expected increase in variable and fixed costs then reject special order.

- Pricing – price of a product set by three questions; What is the target profit? What will customers pay? Is the company a price taker or setter?

If the company is a price taker for the product emphasize a target pricing approach.

Price taker; companies which have little or no control over the price of products

Target pricing approach;  $\text{revenue at market price} - \text{desired profit} = \text{target full product cost}$  or  $\text{revenue at market price} - \text{cost of sales (target full product cost)} = \text{target profit}$

If the company is a price setter for the product emphasise a cost-plus pricing approach.

Price setter; companies which have control over their product prices

Cost plus pricing approach;  $\text{full product cost} + \text{desired profit} = \text{cost plus price}$

- Dropping products, departments and territories – dropping as profitability is lower than expected

If lost revenues from dropping exceed the cost savings from dropping then do not drop.

If total cost savings exceed the lost revenue from dropping then drop.

- Product mix – resources are limited and thus what and how much to produce is important.

Which product to emphasise/push sales for: emphasize the product with the highest contribution margin per unit of the constraint

- Outsourcing (make or buy) should the company outsource – deciding whether a product should be obtained externally or internally. Fixed costs and variable costs must be assessed separately.

If incremental costs of making exceed the incremental costs of outsourcing, then outsource

If incremental costs of making are less than the incremental costs of outsourcing, then don't outsource

- Selling as is or processing further

If the extra revenue from processing further exceeds the extra cost then process further.

If the extra revenue from processing further is less than the extra costs then sell as is, do not process.

## Management of Working Capital

Working capital: usually defined as current assets minus current liabilities.

The management of inventories: A business may hold inventories for various reasons: and the most common of these is to meet the immediate day to day requirements of customers and production. Change in the market may result in a company buying and holding more or less inventories with consequence for both outcomes. Inventories can be managed effectively using:

- Budget of future demand – to ensure inventory is available to meet future sales, a business must produce an appropriate budget for each product line to decide future ordering and production levels.
- Financial ratios – average inventories held turnover period
- Recording and reordering systems – All business requires an efficient system for recording inventory movements, purchases and sales. Periodic checks on the quantity of inventory currently held may be required with clear procedures for recording this inventory. Reordering should be confined to senior management with information on the lead time (lag between when something is ordered and when it arrives) used to determine when to order.
- Levels of control – The ABC system of control may be used where different level of control (strictness) are used for different categories of goods based on their value.
- Stock/inventory management models:
  1. Economic order quantity (EOQ) – the quantity of inventories that should be bought with each order so as to minimise total inventories ordering and holding costs.
$$EOQ = \sqrt{\frac{2DC}{H}}$$
where d = annual demand for the item of inventory. C = the cost of placing an order and H = the cost of holding one unit of inventory for one year.
  2. Just in time (JIT) stock/inventory management – a system of inventories management that aims to have supplies delivered just in time for their required use in production or sales.
- The management of accounts receivable (debtors):
  - Which customers should receive and how much credit should they be afforded> This is answered with the 5 C's:
    1. Capital – The customer/business must appear to be financially sound before credit is extended. Where possible (for a business) accounts should be examined.
    2. Capacity – The customer must be able to pay amounts owing. Where possible, their payment records should be examined.
    3. Collateral – it may be necessary to ask for some kind of security for goods supplied on credit.
    4. Conditions – the condition of the industry/economy related to the company
    5. Character – assumptions on the customers character, their honesty and integrity to pay.

In achieving these steps, the following may be useful:

- i. Trade references – a customer gives references of previous dealings with other businesses
  - ii. Bank references – banks will usually oblige in providing a bank reference.
  - iii. Annual accounts – a business may ask for copies of annual reports.
  - iv. The customer – a business may meet executives and visit to see how the customer conducts business
  - v. Credit agencies – Specialist agencies can be used to assess credit worthiness of a customer.
  - vi. Other suppliers – similar businesses will often be prepared to exchange information concerning slow payers or defaulting customers through industry credit circles.
- Length of credit period – in determining the credit terms a business may consider factors such as typical credit terms in the industry, the amount of competition in the industry, bargaining power of the customer, risk of non-payment, capacity of the business to offer credit.

- Alternative method to evaluating the credit decision – by using the NPV to determine the present value of the cash flows.
- Cash discounts (early settlements) – a business may decide to offer a cash discount to encourage prompt payment from its credit customers. Fees may be charged for late payments.
- Collection policies – A business offering credit must ensure that amounts owing are collected as quickly as possible. Various steps can be taken to achieve this and include:
  - i. Developing customer relationships – for major companies it is useful to cultivate a relationship with key staff responsible for paying sales invoices as this increases the chance of prompt payments
  - ii. Publicise credit terms – the credit terms should be clear in all relevant invoices, statements.
  - iii. Issues invoices promptly – invoices and monthly statement must be sent out promptly.
  - iv. Monitor outstanding debts – Management can monitor the efficiency of collection policies using the average settlement period for accounts receivable procedures
  - v. Produce an ageing schedule of accounts receivable – a report dividing accounts receivable into categories, depending on the length of time outstanding.
  - vi. Answer queries quickly – customers are unlikely to pay if their queries have not been dealt with.
  - vii. Deal with slow payers – Set procedures for dealing with them and be aware of the costs associated with pursuing this debt such as legal fees.
- The management of cash
  - I. Why hold cash – Economic theory states there are three motives for holding cash
    - 1. Transactionary motive – to meet its day to day commitments a business requires cash.
    - 2. Precautionary motive – if future cash flows are uncertain it would be prudent to hold cash.
    - 3. Speculative motive – a business may decide to hold cash so they can exploit profitable opportunities as and when they arrive.
  - II. How much cash should be held? – less cash can be held if a business has access to secure and fast loans or has assets that are extremely liquid and can be converted to cash quickly.
  - III. Statements of cash flows and the management of cash – the statement and cash budgets allow a business to effectively manage cash as well as see results against forecasts.
  - IV. Operating cash cycle (OCC) – the period between the outlay of cash to buy supplies and the ultimate receipt of cash from the sale of goods. Targets can be set to maintain OCC at certain levels.
  - V. Cash transmission – when a payment is made with cheques the cash takes 3-4 working days to be cleared and thus creates an opportunity cost of the lost cash in that period. The use of direct transfer between bank accounts mitigates this issue.
  - VI. Bank overdrafts – bank accounts that contain negative amounts of cash and are a type of bank loan.
- The management of accounts payable (creditors):
  - I. Taking advantage of cash discounts – when a supplier offers a discount for prompt payments, a business should carefully consider the possibility of paying in the discount period.
  - II. Controlling accounts payable – management can use the average settlement period formula.

## Capital investment decisions

Investment decisions are important to investors because:

1. Large amounts of resources are often involved
2. It is often difficult and expensive to “bail out” of an investment once it has been made

Methods of investment appraisal:



1. Accounting rate of return – Takes the average accounting profit the investment will generate and expresses it as a percentage of the average investment in the project.

$$ARR = \frac{\text{average annual profit}}{\text{average investment}} \times 100$$

- I. For a project to be accepted it must achieve a target ARR, with the highest ARR chosen when multiple projects are available.
  - II. Linked to ROCE (measures performance in hindsight) while ARR measure predicted performance.
  - III. Flaws: using average investment and accounting profit and assessing different sized projects.
  - IV. Strengths of method:
    1. Easily calculated
    2. Readily understood
    3. Based on accrual performance
  - V. Weaknesses of method:
    1. Problems with using the average
    2. Based on accrual not cash flows
    3. Disregards timing of return
2. Payback period (PP) – The time for an investment to be repaid from net cash inflows of the project.

Calculated by seeing in which year does the cumulative cash flows become positive

- I. For a project to be acceptable it would need to be within a maximum payback period and if there are competing projects the shortest method is chosen.
  - II. Problems with this method are that it favours time and thus can favour risk as well.
  - III. Strengths of method:
    1. Simple to implement
    2. Readily understood
    3. Emphasises the short term
    4. Based on cash flows
  - IV. Weaknesses of method:
    1. Disregards the timing of cash flows
    2. Excludes post-payback period cash flows
3. Net present value (NPV) – the sum of the cash flows associated with a project after discounting at an appropriate rate, reflecting the time value of money.

$$PV = \frac{n}{(1+R)^n}$$

- I. If positive = accept and if negative = reject
- II. If there is more than one accept the one with the largest NPV
- III. Limitations include the fact that the actual percentage return of the project is unknown, only if the return is higher or lower than the required rate. In addition to this, funds are normally restricted and thus ranking alternative projects on the basis of NPV may not achieve the best investment strategy.
- IV. Strengths of NPV method:
  1. Based on all cash flows
  2. Incorporate the time value of money
  3. Based on wealth increments
- V. Weaknesses of NPV method:
  1. More difficult to calculate
  2. Less readily understood

3. Does not determine the actual rate of return
4. Does not yield relative measure of return.
4. Internal rate of return (IRR) – the discount rate for an investment that will have the effect of producing a zero NPV.

Calculated by using technology or trial and error by subbing in discount rates in which  $NPV = 0$

- I. The main disadvantage of IRR is that it does not correctly deal with wealth generation, so it could lead to the wrong decision. It also has problems calculating with uneven cash flows.
- II. Strengths of NPV method:
  1. Based on all cash flows
  2. Incorporate the time value of money
  3. Specifies an actual expected return
- III. Weaknesses of NPV method:
  1. More difficult to calculate
  2. There may be multiple returns
  3. It is not based on wealth increments

#### Why is NPV superior to ARR and PP?

1. The timing of the cash flows – discounting cash flows by when they arise accounts for the fact that all cash flows do not happen simultaneously
2. The whole of the relevant cash flows – NPV includes all relative cash flows, irrespective of when they are expected to occur.
3. The objectives of the business – NPV is the only method in which the output of the analysis bears directly on the wealth of the business.

#### Stages of the investment process

1. Determine the investment funds available
2. Identify profitable project opportunities
3. Evaluate the proposed project
4. Approve the project
5. Monitor and control the project.

#### Methods of dealing with risk

- Sensitivity analysis – variations are run through one at a time, with the aim being to identify how sensitive the end results are to each variable used.
- Scenario analysis – where alternative sets of variables (scenarios) are examined
- Use of probabilities and expected values (averages)
- Use of risk-adjusted discount rates (or the requirement for a risk-adjusted return incorporating an allowance for a risk premium).