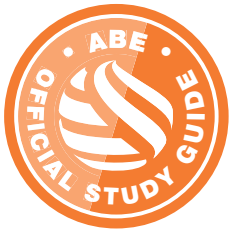
Your road to success

LEVEL 4 FINANCE FOR MANAGERS



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Contents

Using your study guide

Welcome to the study guide **Level 4 Finance for Managers**, designed to support those completing an ABE Level 4 Diploma.

Below is an overview of the elements of learning and related key capabilities (taken from the published syllabus), designed to support learners in assessing their own skillsets in terms of employability, and in creating their own personal development plans.

Element of learning	Key capabilities developed
Element 1: Introduction to financial and management accounting	• Understanding of the role of management and financial accountants • Understanding of how to apply accounting principles, processes and concepts to financial and management accounting data • Understanding of the importance of financial reports for internal and external stakeholder use *Commercial awareness, numerical dexterity*
Element 2: Financial statements	• Ability to identify and understand the contents of financial statements to review the performance of business organisations • Ability to use ratios to assess the performance of a business organisation and make appropriate recommendations for the future *Commercial awareness, numerical dexterity, writing objectively and succinctly*
Element 3: Cashflow forecasts and budgets	• Ability to prepare cash flow forecasts and operational budgets • Ability to interpret cash flow forecasts and operational budgets; evaluate forecasts and budgets to make informed business decisions *Commercial awareness, numerical dexterity, integrity, writing objectively and succinctly, understanding of the link between quantitative and qualitative issues*
Element 4: Costing and pricing	• Ability to use costing and pricing methods to make appropriate business decisions • Ability to use break-even analysis to make informed business decisions. *Commercial awareness, numerical dexterity, integrity, writing objectively and succinctly, understanding of the link between quantitative and qualitative issues*

This study guide follows the order of the syllabus, which is the basis for your studies. Each chapter starts by listing the syllabus learning outcome covered and the assessment criteria.

L4 descriptor

Knowledge descriptor (the holder…)	Skills descriptor (the holder can…)
• Has practical, theoretical or technical knowledge and understanding of a subject or field of work to address problems that are well defined but complex and non-routine. • Can analyse, interpret and evaluate relevant information and ideas. • Is aware of the nature of approximate scope of the area of study or work. • Has an informed awareness of different perspectives or approaches within the area of study or work.	• Identify, adapt and use appropriate cognitive and practical skills to inform actions and address problems that are complex and non-routine while normally fairly well-defined. • Review the effectiveness and appropriateness of methods, actions and results.

Contained within the chapters of the study guide are a number of features which we hope will enhance your studies:

'Over to you': activities for you to complete, using the space provided.

Case studies: realistic business scenarios to reinforce and test your understanding of what you have read.

'Revision on the go': use your phone camera to capture these key pieces of learning, then save them on your phone to use as revision notes.

'Need to know': key pieces of information that are highlighted in the text.

Examples: illustrating points made in the text to show how it works in practice.

Tables, graphs and charts: to bring data to life.

Reading list: identifying resources for further study, including Emerald articles (which will be available in your online student resources).

Source/quotation information to cast further light on the subject from industry sources.

Highlighted words throughout and **glossary terms** at the end of the book.

Note

Website addresses current as of June 2017.

Chapter 1

The World of Accounting

Introduction

In this chapter you will learn how to explain the purpose of financial management and accounting, as well as how to apply accounting principles to financial data.

Learning outcome

On completing this chapter, you will be able to:

1 Explain the purpose of financial and management accounting

Assessment criteria

1 Explain the purpose of financial and management accounting

1.1 Explain the purpose of financial and management accounting

1.2 Apply accounting principles, processes and concepts to financial and management accounting data

1.3 Assess the needs of business stakeholders in relation to financial and management accounting information.

1.1 The purpose of financial and management accounting

What is accounting?

All business activities involve:

- the purchase of resources,
- the transformation or use of these resources,
- goods and/or services to be produced, and
- the selling of these goods and/or services.

The sale of these goods and/or services is an example of a business transaction. These transactions must be recorded and are usually written into either a manual or computerised "Book".

It is from here that the term "bookkeeping" is derived.

Luca Pacioli was the father of double entry bookkeeping. He was born in Sansepolcro and was a successful Professor of Mathematics at Perugia, Rome, Naples, Pisa and Venice. The last years of his life were spent in Florence and Venice.

Pope Paul II compelled Luca to become a Franciscan friar and helped to enforce the right use of symbolism in science and the arts.

This period in history is known as the Renaissance period and became famous for religious works of art. The period established many artists, scientists and mathematicians.

One of Luca's pupils was Leonardo da Vinci. During the seven years Pacioli and da Vinci spent together, the two helped each other create two masterpieces that would withstand the test of time.

Pacioli taught da Vinci perspective and proportionality. This knowledge allowed da Vinci to create one of his greatest masterpieces, a mural on the north wall of the Santa Maria de Gracia Dominican cloister. This mural is the most famous painting of the fifteenth century, known as "The Last Supper". Pacioli wrote the *Summa de arithmetica, geometria, proportioni et proportionalita* – it was this book that contained the outline that every debit has a corresponding credit.

OVER TO YOU

Activity 1: *Summa de arithmetica, geometria, proportioni et proportionalita*

Research the *Summa de arithmetica, geometria, proportioni et proportionalita* and note down definitions of:

Debit

Credit

OVER TO YOU

Activity 2: Financial transactions – a new restaurant

Emile is thinking of opening a new restaurant in the centre of the city. Make a list of the financial transactions that would apply to his new business.

Accounting is defined as a process that involves the recording, classification and summarisation of financial transactions in a business.

The overall aim is to prepare financial information that can be communicated to a wide range of business **stakeholders**.

The accounting process is shown in Figure 1.

The accounting process

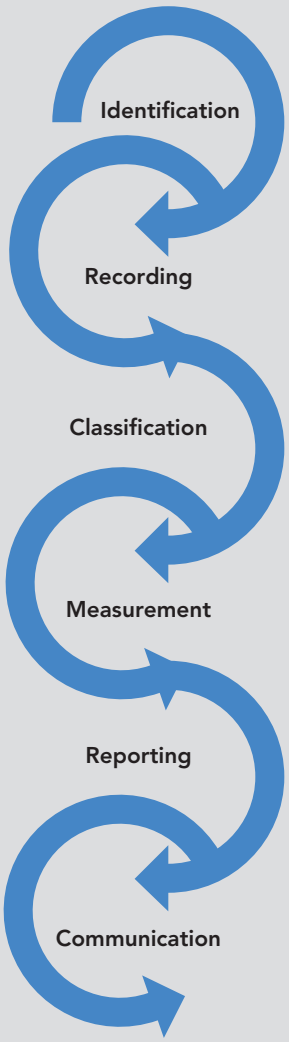

Figure 1: The accounting process

In very large businesses, bookkeepers will complete the first four steps of this process. An accountant will then produce and interpret the accounts prior to their communication with business stakeholders.

There are two main strands of accounting:

- **Financial accounting** – this comprises the two key stages of:
  - Bookkeeping (the recording of day-to-day business transactions) and
  - Accounts preparation.
- **Management accounting** aims to provide information in a form that aids decision making in a business organisation.

Accounting process:

Identification	Classification	Reporting
Recording	Measurement	Communication.

Differences between financial and management accounting

	Financial accounting	Management accounting
Objectives	To disclose period-end results and the financial health of a business organisation. Provide financial statements in accordance with current legislation.	To provide information that can be used by business management to plan for the future, set goals and objectives and evaluate the achievement of these.
Intended audience	Financial accounting information is produced for release to both internal and **external stakeholders** of a business organisation. These may include: shareholders, lenders, tax authorities, the Government and customers.	Management accounting information is produced for internal use only. This information is used by managers and employees.
Legal requirement	For incorporated businesses and others where legislation dictates, there is a legal requirement to prepare and distribute **financial accounting** statements.	Management accounting information is not a legal requirement.
Required segments	Financial accounting statements are produced for a whole business organisation or in the case of consolidated accounts for a group of business organisations.	Management accounting information will relate to individual departments or sections within a business organisation.
Focus	Financial accounting focuses on historical data and reports on information from the previous trading period.	Management accounting focuses on the present and produces budgets and forecasts for the future.
Format	Depending on the type of business organisation, set formats may be used depending on the applicable legislation. For example, in the UK, public limited companies (PLCs) use formats as defined by the Companies Act. International Accounting Standards provide companies around the world with guidance on final accounts.	Management accounting data is presented informally and adapted to meet the needs of individual departments.
Rules and regulations	A number of financial accounting standards are prescribed. **International Accounting Standards (IAS)** provide guidance to companies around the world.	Management accounting reports are only for internal use. Therefore, there are no rules or regulations that apply.

	Financial accounting	Management accounting
	These standards could include: IAS 7 – Statement of cash flows IAS 10 – Events after the reporting period IAS 16 – Property, plant and equipment IAS 18 – Revenue IAS 23 – Borrowing costs IAS 36 – Impairment of assets IAS 37 – Provisions, contingent liabilities and contingent assets	
Reporting frequency	Financial Accounting Statements are produced/published at pre-defined times. The reports are usually published on an annual basis.	Management Accounting Statements are prepared as required. The usual frequencies are daily, weekly or monthly.
Information	Financial Accounting Information is usually verifiable and quantifiable information based on monetary data.	Management Accounting Information could be quantitative and / or qualitative. This information is usually based on monetary data, based on the businesses goals and objectives. "These reports typically show the amount of available cash, sales revenue generated, amount of orders in hand, state of accounts payable and accounts receivable, outstanding debts, raw material and inventory, and may also include trend charts, **variance analysis**, and other statistics."

OVER TO YOU

Activity 3: International Accounting Standards

Complete the following table:		
IAS	**Title of IAS**	**Brief overview of International Accounting Standard**
IAS 1		
IAS 2		
IAS 8		
IAS 33		
IAS 38		

1.2 Applying accounting principles, processes and concepts to financial and management accounting data

Accounting principles and concepts

OVER TO YOU

Activity 4: Financial legislation

1 Identify financial legislation that affects business organisations in your country.

2 Choose one charity in your local area. Consider how this charity meets its financial requirements and complies with current financial legislation.

Accounting concepts

When preparing a business's accounts and financial statements, accounting concepts, standards and principles must be applied. There are four fundamental accounting concepts:

1 **Accruals** – This concept is also known as the "matching" principle. The concept states that revenue should be recognised when it is earned and not when money is received. This means that revenue should be matched against expenditure when calculating **profit**. It is often seen as an extension of the **realisation** concept. Profit is earned when the ownership of goods transfers to the customer, not when the goods are actually paid for. For example, the figures shown in an **income statement** must relate to the period of time being considered in the statement. If a company purchases goods during this period then this purchase would be included in the purchases total in the income statement. The receipt of money can take place at a later time outside of the accounting period.

2 **Consistency** – An accounting concept that requires accountants, when faced with a choice between different accounting techniques, to not change policies without good reason.

3 **Going concern** – An accounting concept that assumes a business will continue to trade in the foreseeable future.

4 **Prudence** – An accounting concept that requires accountants to recognise revenue or profit only when they are realised.

OVER TO YOU

Activity 5: Accounting concepts

Clark, a farmer, orders three new tractors direct from the manufacturer on 3 March. The tractors are delivered to him on 19 March and his payment to the manufacturer is received in full settlement on 1 April.

On what date should this sale be recorded by the tractor manufacturer? On what date has the profit from the sale been realised? Give reasons for your answers.

Additionally, businesses may apply a number of other concepts that may include:

- **Materiality** – An accounting concept which states that accountants should not spend time trying to accurately record items that are either trivial or immaterial.
- **Money Measurement** – This is an accounting concept which states that all transactions recorded by businesses should be expressed in monetary terms.
- **Historical Cost** – This concept states that assets should be stated at their cost when purchased, rather than their current value.
- **Realisation** – An accounting concept which states that revenue should be recognised when the exchange of goods or services take place.
- **Dual aspect** – This is the idea that every transaction has two effects on the account. This is known as double entry book keeping – there will be one debit and one credit entry for every financial transaction. One of the transactions would be "giving" and the other "receiving". For example, when Samira purchases a motor vehicle in cash there would be two effects. The motor vehicle account would increase and the cash account would decrease. This concept relates to the **accounting equation**. The accounting equation recognises that the assets owned by the business are always equal to the claims against the business. Assets = Capital + Liabilities. The **Statement of Financial Position (Balance Sheet)** is a formal way of showing the accounting equation.
- **Business entity** – This is an accounting concept which states that the financial affairs of a business should be completely separate from those of the owner. An entity is a business organisation.

OVER TO YOU

Activity 6: Key accounting concepts

Summarise each of the key accounting concepts described in this section, which you can use for revision purposes. You may wish to produce the summary on revision cards or in a notebook for later reference.

Accounting principles

Accounting principles are rules that organisations will follow when reporting financial data and information to internal and external stakeholders.

Relevance – this means that financial data and records produced by an organisation must meet the needs of both internal and external stakeholders. Thereby influencing any decision that may be made. Any irrelevant information should be removed from the financial information of the organisation.

Reliability – an organisation must ensure that published information is accurate and provides a true and fair view of their financial conditions and operating records. An organisation's financial statements are the result of a management team's judgements and estimates. By applying appropriate accounting principles, the organisation will have shown a true and fair view.

Comparability – this is an important feature of accounting information. As long as accounting policies and procedures remain consistent, financial data and information will be comparable with previous financial periods. For inter-firm comparisons accounting standards, policies and procedures need to be standardised. The introduction of the International Accounting Standards (ISAs) has aided comparability around the world.

Understandability – this means that financial information should be understandable by anyone who has a background knowledge and understanding of business. The information should be concise, fully complete and explicit in its presentation.

OVER TO YOU

Activity 7: Accounting concepts

Identity the accounting concept that applies to each of the following scenarios. Explain your reasoning.

Mr Janis, **a sole trader,** has taken goods originally costing $450 from his retail shop for his own personal use.

Pendle Delivery Service has good industrial relations and would like to record this in the final accounts at a value of $25,000.

Dewar Decorating Supplies have purchased two doormats costing $5 each. They are expected to last for a number of years and the business thinks it should record them under non-current assets in the final accounts.

Prior to completing the final accounts for the local greengrocer shop, the accountant has asked the owner, Mr Smithers, to prove that his business is likely to continue for many years to come.

Mrs Rogero, who owns a local retail store, would like to change the depreciation method she uses for her fixtures and fittings. The change of method will increase her **net profit.**

Application of accounting concepts

Non-current asset valuation

Non-current assets (fixed assets) are those of material value that are:

- of long life, and
- to be used in the business, and
- not bought with the main purpose of resale.

Examples may include Premises, Motor Vehicles and Fixtures and Fittings.

OVER TO YOU

Activity 8: Non-current assets

List five non-current assets which would be present in a supermarket store.

The historical cost concept states that assets are to be recorded in the financial accounts at the cost for which they were purchased. Organisations will be expected to apply depreciation on some of these assets.

When accounting for non-current assets, it is important to consider the application of capital and revenue expenditure.

Capital expenditure is money spent on acquiring, improving and adding value to non-current assets. This is usually expenditure, a one-off payment.

Revenue expenditure is money spent on the day to day running of the business i.e. expenses. Payments have the potential to be repeated throughout the year(s).

It is important to make the distinction between capital and revenue expenditure because:

- Capital expenditure affects the statement of financial position.
- Revenue expenditure affects the income statement.
- If these expenditures are confused then distortions will occur in the final accounts resulting in incorrect reporting to "users".

Examples of capital and revenue expenditure

Example	Capital expenditure	Revenue expenditure
Delivery Vehicle	Purchase cost Delivery cost Modification of the vehicle Sign-writing on the vehicle	Road tax Insurance Fuel Servicing Repairs Drivers' wages
Machinery	Purchase cost Delivery cost Installation Testing	Power costs Insurance Maintenance Servicing Repairs

Depreciation

Depreciation is the cost of a non-current asset consumed over its lifetime. That is the part of the cost of the non-current asset that will be transferred to the expenses in the income statement every year until all of the cost has been transferred. This is an application of the accruals/ matching concept.

Depreciation is the measure of the wearing out, consumption or other reduction in the useful economic life of a non-current asset. It is not a movement of money, it is simply a bookkeeping entry. In day to day life, it is often referred to as a reduction in the value of an asset, for example a motor vehicle. Depreciation is an expense that is charged to the Income Statement and will reduce profit for the year.

There are three main methods of calculating depreciation:

1 Straight line depreciation.

2 Reducing balance deprecation.

3 Revaluation depreciation.

International Accounting Standard 16 (IAS 16 – Property, Plant and Equipment) details the accounting procedures for non-current assets and the provision of depreciation. The causes of depreciation are shown in Figure 2.

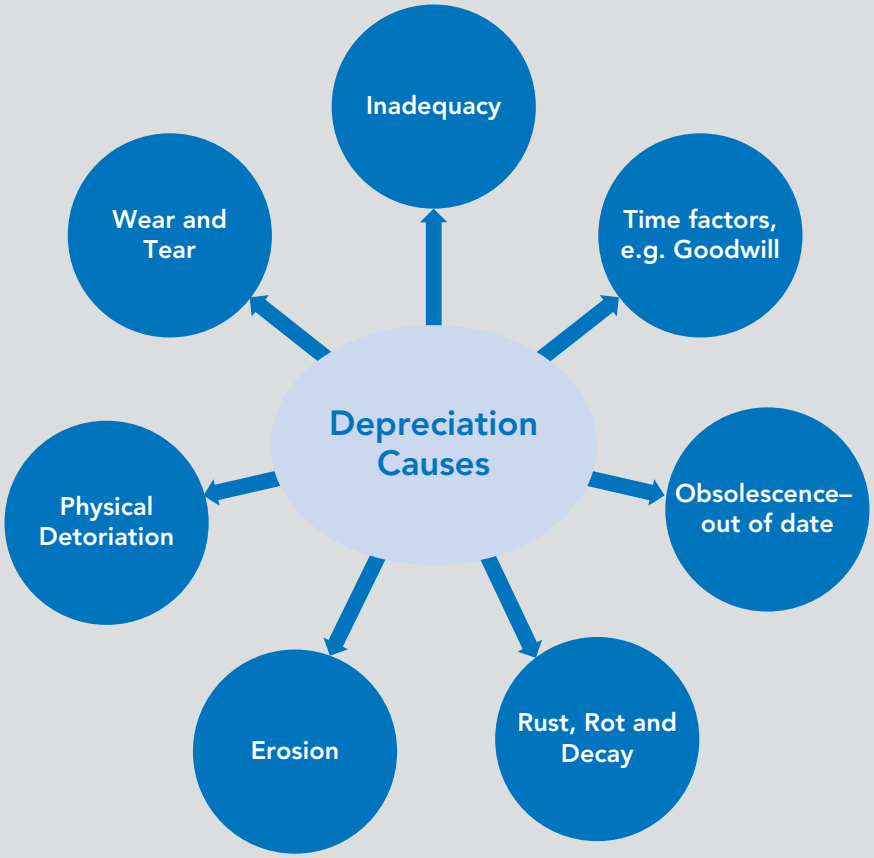

Figure 2: Causes of depreciation

REVISION on the go

OVER TO YOU

Activity 9: IAS16

Research IAS16 and summarise its main contents.

Alone, or with a study partner if you have one, discuss whether you think depreciation is a movement of cash. Make your notes here.

Note that some assets will *increase* in value, a process which is called "appreciation". Normal accounting procedure is to ignore any such appreciation. To bring appreciation into the accounts would contravene both the cost concept and the prudence concept.

Concepts that relate to the application of depreciation include:

Historical cost	States that all non-current assets should be shown in the accounts at their original cost.
Prudence	States that businesses should not overstate the value of their assets.
Consistency	States that, once a depreciation method is chosen, the policy should not be changed without a valid reason.

Inventory valuation

An organisation's inventory may include:

- raw materials
- work-in-progress
- finished goods
- goods for resale
- consumables, used within the business for maintenance and repair, for example cleaning materials.

To comply with accounting concepts and principles the inventory is valued at the lower of **cost** and **net realisable value**.

Example inventory valuation for a sports shop

Inventory group	Cost	NRV	Valuation
	$	$	$
T-shirts	5000	13000	5000
Shorts	2000	3500	2000
Trainers	3500	6000	3500
Coats	5500	4000	4000
Accessories	6200	5000	5000

OVER TO YOU

Activity 10: Inventory valuation

Complete the following table to show the inventory valuation for the local bakery.

Inventory group	Cost	NRV	Valuation
	£	£	£
French bread	2500	2000	
Tea cakes	1500	2000	
Loaves	3000	4000	
Cream cakes	2200	5000	
Pies	1850	1500	

Accruals/matching concept

The matching concept states that revenues and expenses are to be matched to the same accounting period.

Expenses

- An **accrual** is an amount due in an accounting period that remains unpaid at the end of that period, for example heat and light outstanding.
- A prepayment is a payment made in advance of the accounting period to which it relates – for example a prepayment for electricity.

Accruals of expenses are:

- added to the relevant expense in the income statement and
- included in the "amounts falling due within one year" in the statement of financial position.

Prepayments of expenses are deducted from the:

- relevant expense in the income statement and
- included in the current assets in the statement of financial position.

Income

- Prepaid income is income received in advance of the period to which it relates – for example rent received.
- Accrued income is income due in the period but not yet received – for example, commission receivable.

Prepayments of income are:

- deducted from the relevant additional income in the income statement and
- included in the "amounts falling due within one year" in the statement of financial position.

Accruals of income are:

- added to the relevant additional income in the income statement and
- included in the current assets in the statement of financial position.

Provision for doubtful debts

A **provision for doubtful debts** occurs if a trade receivable that owes money to a business has the potential to not pay the debt due. They are not definitely irrecoverable, there is still the potential that the trade receivable will pay the money owed.

The concept of prudence requires a business to account for the potential loss.

1.3 Assess the needs of business stakeholders in relation to financial and management accounting information.

Who/what are stakeholders?

A stakeholder is any person that has an interest in a business organisation or will be impacted by the organisation's decisions. Stakeholders can include individuals, groups of people or organisations that are affected by the business organisation.

Internal stakeholders – these are stakeholders within a business organisation. For example, owners and employees.

External stakeholders – these are stakeholders outside of a business organisation. For example, customers, suppliers, the government, lenders, local residents and the broader public.

Users of accounting information

The main users of financial accounts are:

- The owners – sole proprietor, partners, shareholders, investors.
- Investors – banks, financial advisers, financial institutions, individuals, groups, or organisations that have invested in or are considering investing in a business.
- Management – the board of directors and other management responsible for the financial performance of the business or parts of the business.
- Employees.
- Potential/prospective owners: possible new partners, share buyers or companies considering buying the business.
- Business contacts – customers, suppliers and competitors.
- Analysts/advisers – those outside the business involved in analysing the level and state of economic activity in the economy.
- The government.
- The public.

Information on the way in which key parties use the accounts is provided below.

Owners

The owners of sole trader or partnership will be interested in how the business is doing, for example any profit or loss and the extent of monies owed to the business by trade receivables and monies owed by the business to trade payables. Owners will be able to take whatever money they want from the business in the form of drawings. Shareholders are those who have invested money in the company and are considered owners of the business. The company will be run by a team of managers, and the shareholders require the managers to account for the "stewardship" of the business – so how the shareholders' funds have been used.

Investors

Banks and other lending institutions require to know if the business is likely to be able to repay **loans** and to pay the interest charged. Currently available accounts of a business may be several months old and not show an up-to-date position. In these cases, the lender will ask for cash flow forecasts to show what will happen in the business. Therefore, accounting techniques have to be flexible and adaptable to meet users' needs.

Management

The board of directors require up-to-date, in depth information so that they can plan for the long term, medium future of the business.

Management will compare results with past decisions and forecasts. As other levels of management will require access to different types and detail of accounting information managers will need to see financial information about areas of the business for which they are responsible.

Employees

Employees must be assured of the future outlook and job security of their employment. They also need to see the financial position of the business and how that may affect their pay levels. For example, claiming pay rises or performance-related pay.

Prospective owners

Any individual entering into an established partnership – e.g. those thinking of buying shares in a company or making a takeover bid for an existing business – will want to know the financial viability of the business, the price of the ownership, the share price/asking price for a takeover. This must be fair and in consideration of the current financial position and the business's future prospects.

Business contacts: customers, suppliers and competitors

These are suppliers to who the business owes money. This may be for goods and services bought on credit – trade payables, and for customers who owe money for goods and services received on credit – trade receivables. Financial information provided by the businesses should not adversely affect the financial failure of another. Competitors may compare their own results with those of other similar businesses. They need to ensure they are performing as well-or better-than their competitors.

Government

All businesses have to submit their accounts to determine their liability for taxation.
The government's primary source of revenue to fund public spending is through businesses liability for taxation.

CASE STUDY: GO INTERNATIONAL

"Go International" is a holiday company based in the North West of the UK.

It was started in 1998 by David Douglas who is the current Managing Director. He started as a sole trader but as demand for package holidays increased the demand for his expertise rose dramatically.

David formed a partnership in 2001 with Sheila Stokes.

David and Sheila had different skills that complemented each other. They were able to exchange ideas and launch new and exciting holiday experiences around the world. Sales continued to rise and David and Sheila opened several outlet shops to market and sell their holidays. In 2005 the business was converted to a **limited company**.

OVER TO YOU

Activity 11: Go International

Using the case study information above, answer the following questions.

Suggest why Go International may have struggled to borrow money from a bank and obtain credit from suppliers, in the early stages of its business.

At which point in its development would Go International have most been affected by the accounting standards?

At which stage in the development would Go International have a distinct "legal personality"?

READING LIST

Frank Wood's Business Accounting Volume 1, 13th Edition, Alan Sangster, Frank Wood, July 2015, ISBN13: 9781292084664

Chapter 2

Financial Statement Interpretation

Introduction

In this chapter you will learn how to interpret financial statements in order to review business organisations performances as well as how to report to stakeholders.

Learning outcome

On completing this chapter, you will be able to:

2 Interpret financial statements to review the performance of business organisations and report to stakeholders

Assessment criteria

2 Interpret financial statements to review the performance of business organisations and report to stakeholders

2.1 Assess the contents of financial statements to review the performance of business organisations

2.2 Calculate financial ratios to assess the financial performance of a business organisation

2.3 Make justified recommendations for business improvements based on the results of financial analysis

2.1 Assessing the contents of financial statements to review the performance of business organisations

Types of business organisations

! NEED TO KNOW: TYPES OF BUSINESS ORGANISATIONS

Note that naming conventions and legal definitions of business types vary by country and you should be aware of those in your country, if they differ from the ones described here.

- **Sole trader** – a business that is owned and controlled by one person. They may however employ other workers. Examples may include plumbers, hairdressers etc. These organisations, often succeed as they can offer specialist services to their customers and are able to be sensitive to the customer's needs and wants. They frequently cater for the needs of the local community and are able to respond more quickly than larger business organisations.

  Sole traders may begin as very small organisations, possibly on a part time basis and then expand over time. A small business in a local area can build up a customer base in the community due to trust. A sole trader has **unlimited liability**. This is an important concept. It is an additional risk faced by the sole trader. The sole trader will be responsible for all debts of the business organisation. They may have to sell their own possessions to pay off the business debts.

- **Partnerships** – these are business owned by two or more people. These usually operate under a deed of partnership and will benefit from increased capital and shared expertise. Partnerships also have **unlimited liability**. As with the sole trader, the partners will be responsible for all debts the business organisation acquire. They may have to sell their own possessions to pay off the business debts. Each partner would be responsible for the debts of the partnership and therefore it is important for individuals to carefully choose any partner they decide to work alongside. It is beneficial for the partners to draw up agreements on the responsibilities and rights of each partner. These are known as Deeds of Partnership or Articles of Partnerships. The most common examples of partnerships are veterinarians, accountants and solicitors.

  As stated here most partners in a partnership face unlimited liability for their debts. There is one exception to this – the formation of a **Limited Partnership**.

  Limited partnerships occur when partnerships wish to raise additional finance but not recruit active partners. To solve the problem, a partnership may accept Sleeping (or Silent) Partners.

These partners will provide finance for the business but will not have any input into how the business is run. The Sleeping Partners face limited liability for the debts of the partnership.

A partnership, like a sole trader, is an unincorporated business.

- **Limited companies** – all limited companies are **incorporated**, which means they can sue or own assets in their own right, in other words they are treated as separate legal entities. Limited companies are owned by shareholders. The shareholders of a company have no personal liability for the company's debts. A **Public Limited Company** (PLC) has tradable shares which can be bought and sold on the Stock Market, however, a **Private Limited Company** (LTD) does not have shares which are so easily tradable.
- **Third sector organisations** – these organisations are non-profit making and generally operate to provide services to the community as a whole or to specific groups of people within the community.

A summary of the features of these organisation types is provided in the table below:

	Sole traders	Partnerships	Private Limited Companies	Public Limited Companies	Third sector organisations
Legal Issues	No legal requirements	No formal requirements Subject relevant to national partnership legislation.	On formation memorandum of incorporation will be required	Relevant to national company legislation On formation Memorandum of incorporation, will be required	Relevant to national company legislation and national charities legislation On formation Memorandum of incorporation, will be required
Ownership	Only one owner owns and manages their business	Two or more partners own and manage their business	Shareholders – friends and family	Shareholders – available to the general public	There are no owners. Answerable to trustees
Formal Documentation	No legal requirements	Partnership agreement	Relevant to national company legislation	Relevant to national company legislation	Relevant to national company legislation
Capital	The owner	Partners	Shares to family and friends	Shares sold to the general public	Dependant on donations and grants
Availability of Financial Information	The owner	Partners	Current and prospective shareholders	Available to the general public	Available to members and the public
Owner Payments	Profits given to the owner	Profits paid to partners	Dividends paid to shareholders	Dividends distributed to shareholders	Income is not paid to members
Financial Statement Requirements	Optional	Optional	Annual financial reports which are compulsory	Annual financial reports which are compulsory	Annual financial statements which are compulsory

OVER TO YOU

Activity 1: Types of business organisations

Review the advantages and disadvantages of each form of business ownership in your region, from the point of view of the business owner.

Sole trader and partnership annual accounts

There are generally fewer legal requirements for the annual accounts for a sole trader or partnership than for other types of organisation.

Typical layouts for the annual accounts of sole traders followed by those for partnerships are shown on the next few pages.

SOLE TRADER Name of firm			
Income statement (trading and profit and loss Account) for the year ended 31 December 20XX			
	$	**$**	**$**
Sales		x	
Less returns inwards		x	
Net sales			x
Less cost of sales			
Opening stock	x		
Purchases	x		
Carriage inwards	x		
Less returns outwards	(x)		
		x	
Less closing stock		(x)	

	$	$	$
Cost of sales			(x)
Gross profit			**x**
Additional income			
Decrease in provision for doubtful debts			
Discounts received			
Rent received		x	
			x
			x
Less expenses (add accrued, minus prepaid)			
Sundry expenses		x	
Wages and salaries		x	
Telephone		x	
Insurance		x	
Carriage outwards		x	
Increase in provision for doubtful debts		x	
Discounts allowed		x	
Bad debts		x	
			(x)
Net profit			**x**

SOLE TRADER Name of firm			
Statement of financial position (balance sheet) as at 31 December 20XX			
Non-current assets	**Cost**	**Depreciation**	**Net book value**
	$	**$**	**$**
Premises	X	X	X
Fixtures and fittings	X	X	X
Motor vans	X	X	X
	X	X	X
Current assets	**$**		**$**
Closing inventory		X	
Trade receivables	X		
Less provision for doubtful debts	(X)		
		X	
Cash at bank		X	
Cash in hand		X	
Accrued income		X	
Prepaid expenses		X	
		X	
Current liabilities			
Bank overdraft	X		
Trade payables	X		
Short term loan	X		
Accrued expenses	X		
Prepaid income	X		
		(X)	
Working capital			X
Total assets less current liabilities			X
Long term liabilities			
Loan		X	
			(X)
Net assets			X
Financed by:			
Capital			X
Net profit			X
			X
Drawings			(X)
			X

Figure 1: Annual accounts for sole traders

Let's look now at the accounts for partnerships.

Capital account							
	Partner 1	**Partner 2**	**Partner 3**		**Partner 1**	**Partner 2**	**Partner 3**
	$	$	$		$	$	$
New goodwill	X	X	X	Balance brought down (b/d)	X	X	X
Revaluation Dec 20XX	X	X	X	Bank / cash introduced	X	X	X
				Assets introduced	X	X	X
				Old goodwill	X	X	X
Balance carried down (c/d)	X	X	X	Revaluation increase	X	X	X
	X	X	X		X	X	X
				Balance brought down	X	X	X

Current account							
	Partner 1	**Partner 2**	**Partner 3**		**Partner 1**	**Partner 2**	**Partner 3**
	$	$	$		$	$	$
Balance b/d	X	X	X	Balance b/d	X	X	X
Share of loss	X	X	X	Interest on capital	X	X	X
Drawings	X	X	X	Salaries	X	X	X
Interest on drawings	X	X	X	Share of profit	X	X	X
Balance c/d	X	X	X	Balance c/d	X	X	X
	X	X	X		X	X	X
Balance b/d	X	X	X	Balance b/d	X	X	X

Appropriation account for the year ended 20XX			
	$	$	$
Net profit			X
Add Charged for interest on drawings:			
Partner 1		X	
Partner 2		X	
			X
			X
Less Salary: Partner 1		X	
Less Interest on capital:			
Partner 1	X		
Partner 2	X		
		X	
			(X)
			X
Balance of profits shared:			
Partner 1		X	
Partner 2		X	
			X

Figure 2: Annual accounts for partnerships

Annual accounts for private limited and public limited companies

Private limited companies are not required to follow the same legal requirements as public limited companies. In general, it is required that private limited companies will produce:

Income statement

This is a statement which measures a company's achievement over a period of time, usually one year. It is often also referred to as the profit and loss account.

The income statement will look at the income of the company and compare this against the cost of sales and other expenses for the same period. By doing this the company's **gross profit** can be calculated. To calculate its net profit for the same period the company will deduct the expenses incurred from their gross profit.

Statement of financial position

At a particular moment in time, usually the end of the financial year, the statement of financial position will detail the company's assets and liabilities. The date will usually coincide with the year end of the income statement.

There are a number of business costs that will be included in the financial statements. These include:

- **Direct costs** – similar to a variable cost in that it compares the cost with the level of output. However, a direct cost is any cost that is directly related to the output level of a particular product.
- **Indirect costs** – any cost that cannot be linked with the output of any particular product. These costs are sometimes known as overheads. They are related to the level of output of the firm but not in a direct manner and not for any one product.

A summary of a PLCs, Annual Report is provided in the table below:

Section of PLCs, Annual Report	Detail
General corporate information	This section of the annual report shows a general overview of the company. Readers can familiarise themselves with the company's corporate strategies, objectives and market objectives.
Accounting policies	When preparing a company's annual report the company has a legal obligation to identify the accounting policies that have been used: these will include doubtful debt policies, depreciation methods and inventory valuation.
Income statement	This calculates the profit figure for the year of a company. An income statement of a sole trader is not the same as one for a company. A company will produce an appropriate account which will have been included after the net profit has been calculated. Appropriation refers to how profit will be divided up. As a company has its own legal entity the business will pay tax in its own right. The income statement: • Provides information to shareholders. • Enables shareholders to calculate the return they may achieve from a potential investment opportunity. • Helps to ensure that the company meets its legal requirements. • Helps investors to decide whether profit earned will ensure the business is sustainable for the future. • Enables comparisons to be made with similar companies. • Provides evidence and support for loan applications.

Section of PLCs Annual Report	Detail
Statement of financial position	The financial position of a company on a given date. There are three main sections: 1 Assets 2 Liabilities 3 Capital and Reserves The main differences between a sole trader and a limited company are identified in the capital section. The company's share capital is a separate section. The statement of financial position allows interested parties to assess the security of their investment. They will be able to review credit risk, **liquidity** risk, business risk and financial risk.
Statement of cash flows	This is a summary of cash inflows and cash outflows. Generally, it is over the most recent period. The summary identifies the liquidity of the company and any changes in their most recent cash flow. It enables the company to: • Identify changes in the capital structure of the company. • Identify liquidity issues. • Highlight profits-that are "high quality" or "poor quality" and those which are not sustainable. • Assess the link between one statement of financial position and the next. • Meet legal requirements.
Notes to the financial statements/ accounts	Detailed information to support the figures that are included in the statement of financial position, **statement of cash flows** and income statement.
Chairperson's and directors' report	This will include: • A review of the company's performance. • A discussion of corporate governance. • Details of directors' pay.
Auditor's report	The company's auditors will give their opinion on the company's accounts and whether they show "a true and fair view of the financial performance and position of the company" at that time.

Sections of a PLCs, annual report

General corporate information	Statement of Cash Flows
Accounting Policies	Notes to the financial statements
Income Statement	Chairperson's and Director's Report
Statement of Financial Position	Auditor's Report

! NEED TO KNOW: STAKEHOLDER GROUPS FOR PUBLICLY AVAILABLE REPORTS

Stakeholders can be individuals, groups or organisations that have an interest in a particular business enterprise.

Internal stakeholders are those who work in a business organisation.

Employees will want to be sure that they will be paid for the work they have done. To ensure job security they will check and review the annual statements.

Managers will also want job security and to ensure they receive their wages. They will review the financial status of the business and compare its performance against other similar businesses.

Directors will want to be sure that the business will continue in the future and is a going concern. They will also calculate and review the profitability and liquidity of the business organisation.

Shareholders will review information about the business and the annual reports to ensure that the business is profitable. They will want to be absolutely sure that their investment will continue to grow and share prices rise. In addition, they will review the dividends they have received in the past and may receive in the future.

Potential Investors potential investors will want to review future profitability and assess the risks of their potential investment. In addition, they will want to examine dividends they may receive in the future.

Suppliers will need to ensure that they will be paid for the goods that the business has purchased. They will need to assess the businesses credit status and risk profile.

Customers will want to review business information to ensure that they are charged the correct price for goods and services. They will want to ensure that price strategies are adhered to and that any discounts have been applied. The business will want to reinforce its reputation and encourage repeat business.

Lenders will want to be absolutely certain that a business is able to repay loans on time. They will use the financial information and reports to assess creditworthiness and any risks they may incur.

Government – all business organisations must pay the tax they owe the government.

Analysts will look at the data and compare it with the data of other firms. Their conclusions will predict the future performance of the business and may be used to offer advice to the government.

OVER TO YOU

Activity 2: Annual reports

Select a company of your choice and download their annual report from the internet.

In the report, find all of the sections that have been considered in the notes and consider what information they are giving you, as a potential shareholder.

Public limited company accounts example

The layout of a typical publicly available account report is shown below for reference.

Income statement 1 January – 31 December			
	Note	20XX	20XX
Revenue			
Gross profit			
Other operating expenses			
Operating profit			
Net profit for the year from subsidiaries			
Financial income			
Financial expenses			
Profit before income tax			
Tax on profit for the year			
Net profit for the year			
Proposed distribution of profit:			
Dividend			
Reserve from the use of the equity method			
Retained earnings			

Balance sheet at 31 December			
	Note	20XX	20XX
Assets			
Non-current assets:			
Patents			
Intangible assets			
Land, buildings and installations			
Property, plant and equipment			
Deferred tax assets			
Investments in subsidiaries			
Investments in associates			
Receivables from subsidiaries			
Other non-current assets			
Total non-current assets			
Current assets:			
Other receivables			
Total current assets			
Total assets			

Balance sheet at 31 December			
	Note	20XX	20XX
Equity and liabilities			
EQUITY			
Share capital			
Reserve from the use of the equity method			
Retained earnings			
Proposed dividend			
Total equity			

	Note	20XX	20XX
Liabilities			
Non-current liabilities:			
Debt to related parties			
Total non-current liabilities			
Current liabilities:			
Debt to subsidiaries			
Trade payables			
Current tax liabilities			
Other short-term debt			
Total current liabilities			
Total liabilities			
Total equity and liabilities			

Cash flow statement 1 January – 31 December			
	Note	**20XX**	**20XX**
Cash flows from operating activities:			
Cash generated from operations			
Interest paid etc.			
Interest received etc.			
Income tax paid			
Net cash generated from operating activities			
Cash flows from investing activities:			
Purchases of intangible assets			
Purchases of property, plant and equipment			
Proceeds from sale of property, plant and equipment			
Net cash used in investing activities			
Cash flows from financing activities:			
Divided paid to shareholders			
Payment to related parties			
Repayment from related parties			
Payments to borrowings			
Repayments of borrowings			
Net cash used in financing activities			
Total cash flows			

	Note	20XX	20XX
Cash and cash equivalents at 1 January			
Exchange gains/(losses) on cash at banks			
Cash at banks at 31 December			

Figure 3: Example Public Limited Company Accounts.

Roles and responsibilities of directors and auditors regarding company accounts

Directors

It is the responsibility of the directors to prepare a company's annual report and accounts in accordance with the law. Under company law, directors prepare financial statements for each year which give a "true and fair view" of the affairs of the company. A director's role involves the following:

- To select and apply accounting policies.
- To make reasonable and prudent judgement and estimates.
- To state and ensure "the financial statement complies with all relevant accounting standards".

Directors must ensure that the company keeps accurate accounting records and information. They must prevent and detect fraud. The name and function of each director is usually stated in the business overview section of the annual report.

Auditors

In order to ensure that a company's financial statements show a "true and fair" view of their financial affairs, an external, independent auditor is appointed. This increases confidence for stakeholders regarding the accounting records. The auditor will ensure that the financial information is accurate. Auditing duties include:

- Ensuring the management and employees understand the company, in particular company operations, fraud and financial reporting.
- Evaluating and understanding internal control systems.
- Observing a physical inventory stock take.
- Investigating differences or variances in account balances.
- Confirming balances of accounts receivable and accounts payable.

An auditor can offer objective advice on internal control and improving financial reporting. They must ensure that they remain independent from the company. The auditor can only offer an opinion on the businesses validity.

An auditor cannot:

1. Supervise the company's employees.
2. Maintain company assets.

3 Sign tax returns.

4 Hire or terminate the employment of an employee.

5 Authorise/complete any financial transactions on behalf of the company.

6 Design/maintain internal controls or financial management systems.

7 Approve invoices for payment.

8 Report to the board of directors on behalf of the management.

Internal final accounts vs publicly available final accounts of a limited company

Internal final accounts

- The purpose of internal final accounts is to provide managers with information about the business on which to make informed decisions. The accounts enable management to make decisions on profitability, sales, inventory levels, cost of expenses and liquidity. Management can assess any changes over time and plan to make improvements if required.
- The content of the internal final accounts is left entirely for the company to decide. However, this would usually include an income statement and appropriation account, a statement of cash flows and a statement of financial position. Management may produce further accounting data for internal use such as standard costing, **break-even analysis** and cash flow forecasts.
- Companies are able to choose a structure and a format that best serves their needs. For internal use they will include data and information that would be damaging if a competitor received it. As an example, for internal use very detailed sales figures may be included but only a total sales figure would be included in publicly available accounts.

Publicly available final accounts

- Publicly available final accounts are to provide information to stakeholders who have an interest in a company. The accounts will enable each stakeholder group to make informed decisions about that company.
- The content of publicly available final accounts must be in accordance with strict regulations and will include reports from the director, auditor and chairperson, notes to the final statement, statement of cash flows, financial position and income statement-including appropriation account. In addition, it will include general corporate information and accounting policies.
- Guidance on the format of the final accounts is given by national legislation. Publicly available accounts must meet the requirements and the regulations that are set out. Complex instructions and guidance for different types and sizes of business organisations have to be legally adhered to in order to publish their accounts.

2.2 Using financial ratios to assess the financial performance of a business organisation

Ratio analysis

The purpose of accounting is to convey appropriate financial information to interested parties. Absolute numbers in isolation are meaningless; they need to be related to other figures to put them into perspective. For example, a net profit of $35000 could be excellent, satisfactory or poor depending on the type of business concerned. It is in this situation that ratio analysis can be useful.

Ratio analysis is helpful when looking at trends in the same business over a number of years. This will show progression or deterioration. Results in one business may be compared with the results of another business ("inter-firm comparison") to see if it is performing as well as expected. Clearly, there are pre-requisites in such a comparison:

- They should be in the same line of business, for example two local coffee shops.
- The structures of the business should be similar, for example two sole traders.

Limitations

Ratio analysis has some limitations, as follows:

- Ratios only show the results of businesses that will continue for the foreseeable future.
- The accuracy of the ratio analysis depends upon the quality of the information from which they are calculated.
- As mentioned above, ratios can only be used to compare "like with like".
- Ratios tend to ignore the time factor in seasonal businesses.
- They can be misleading if accounts are not adjusted for inflation.

Before we look at ratio analysis in more detail, who do you think are its users?

Users of ratio analysis

The users of ratio analysis are summarised in the table below.

User	Use
Management	To analyse past results. To plan for the future – say in budgeting. To control their business.
Investors	To compare investment opportunities.
Bankers and lenders	To assess the credit worthiness of a business organisation.
Financial analysts	To inform the Financial Press, Trade Associations and Trade Unions, for example.
Government	To compile national statistics.

There are several types of ratios used in this context; we will cover each in turn:

- profitability ratios
- efficiency ratios
- liquidity ratios
- stability ratios and
- investor ratios.

Profitability ratios

These ratios tell us whether a business is making profits – and if so whether at an acceptable rate. The key ratios are explained below. Note that the "/" sign denotes "divided by".

Ratio	Formula	Comments
Gross Profit Margin	[Gross Profit / Revenue] x 100 (expressed as a percentage)	This ratio tells us something about the business's ability consistently to control its production costs or to manage the margins it makes on products it buys and sells. Whilst sales value and volumes may move up and down significantly, the gross profit margin is usually quite stable (in percentage terms). However, a small increase (or decrease) in profit margin, despite how it is caused can produce a substantial change in overall profits.
Operating (Net) Profit Margin	[Operating Profit / Revenue] x 100 (expressed as a percentage)	Assuming a constant gross profit margin, the operating profit margin tells us something about a company's ability to control its other operating costs or overheads.
Earnings Before Interest Tax Depreciation and Amortisation Margin	[Earnings Before Interest Tax Depreciation and Amortisation / Revenue] x 100 (expressed as a percentages)	EBITDA is a finance/accounting term used by lenders, investors and the management team of a business. It is recognised as being the best measure (true reflection) of how the business is performing in terms of profit generated from normal operating activities. This ratio is used globally and is often used as a financial covenant in lending documentation. It is of particular interest where business organisations have large amounts of non-current assets which are subject to large depreciation charges.
Return on Capital Employed ("ROCE")	Net profit before tax, interest and dividends ("EBIT") / total assets (or total assets less current liabilities)	ROCE is sometimes referred to as the "primary ratio"; it tells us what returns management has made on the resources made available to them before making any distribution of those returns.

OVER TO YOU

Activity 3: Profitability ratios

Visit an international or national online business news site (such as Bloomberg or Reuters). Search through the business performance commentary and see if you can find any mention of the profitability ratios in the table above. Make your notes below.

Efficiency ratios

These ratios give us an insight into how efficiently the business is employing those resources invested in fixed assets and **working capital**.

Ratio	Formula	Comments
Sales revenue/ Non-current assets (Asset Turnover)	Sales revenue/ Non-current assets	This ratio is about fixed asset capacity. A reduction of sales or profit being generated from each pound invested in fixed assets may indicate overcapacity or poorer-performing equipment.
Inventory turnover	Cost of sales/Average inventory value	Inventory turnover helps answer questions such as "have we got too much money tied up in inventory?" An increasing **inventory turnover** figure or one which is much larger than the "average" for an industry, may indicate poor inventory management.
Credit given/"Trade receivables days"	(Trade receivables (average, if possible)/ (Sales)) x 365	This ratio indicates whether debtors are being allowed excessive credit. A high figure (more than the industry average) may suggest general problems with debt collection or the financial position of major customers.
Credit taken/"Trade payables Days"	((Trade payables + accruals)/(cost of sales + other purchases)) x 365	A similar calculation to that for trader receivables, giving an insight into whether a business is taking full advantage of the trade credit available to it.

Liquidity ratios

Liquidity ratios indicate how capable a business is of meeting its short-term financial obligations as they fall due:

Ratio	Formula	Comments
Current ratio	Current assets/Current liabilities	A simple measure that estimates whether the business can pay its debts due from the assets that it expects to turn into cash, within one year. A ratio of less than one is often a cause for concern, particularly if it persists for any length of time.
Quick ratio (or "acid test"	Cash and near-cash (short-term investments + trade debtors)	Not all assets can be turned into cash quickly or easily. Some – notably raw materials and other inventory – must first be turned into final product, then sold and the cash collected from trade receivables. The quick ratio therefore adjusts the current ratio to eliminate all assets that are not already in cash (or "near-cash") form. Once again, a ratio of less than one would start to cause concern.

OVER TO YOU

Activity 4: Liquidity ratios

Why do you think that either a current ratio or a quick test ratio of less than one is often a cause for concern?

What do you think the reactions to such a trend might be of the key users of ratios? Make your notes alongside each category below:

Management

Investors

Bankers and lenders

Financial analysts

Government

Stability ratios

These ratios concentrate on the long-term health of a business – particularly the effect of the capital/finance structure on the business:

Ratio	Formula	Comments
Gearing	Borrowing (all long-term debts + normal overdraft)/Net Assets (or Shareholders' Funds)	Gearing measures the proportion of assets invested in a business that are financed by borrowing. In theory, the higher the level of borrowing the higher are the risks to a business, since the payment of interest and repayment of debts are not "optional" in the same way as dividends. However, gearing can be a financially sound part of a business's capital structure particularly if the business has strong, predictable cash flows.

OVER TO YOU

Activity 5: Gearing ratio

Using an internet search engine, see what commentary you can find in the media about a company's "Gearing"? In what context is it being discussed and what conclusions are being drawn? Make your notes here.

Investor ratios

There are several ratios commonly used by investors to assess the performance of a business as an investment:

Ratio	Formula	Comments
Earnings per share ("EPS")	Earnings (profits) attributable to ordinary shareholders/ Weighted average ordinary shares in issue during the year	A requirement of the London Stock Exchange – an important ratio. EPS measures the overall profit generated for each share in existence over a particular period.
Dividend yield	(Latest dividend per ordinary share/ current market price of share) x 100	It provides a guide as to the ability of a business to maintain a dividend payment. It also measures the proportion of earnings that are being retained by the business rather than distributed as dividends.

Let's have a look at a fictional business and apply some of the ratios we've looked at to derive some key information about that business.

CASE STUDY

Zaheer Motors

Zaheer Motors have provided the following details from their final accounts for the year's ending 31 March 2016 and 31 March 2017. See how ratio analysis has been used to analyse the performance of Zaheer Motors.

Income statement (profit and loss account)		
	2016	2017
	$'000	$'000
Sales Revenue	1 632	1 605
Cost of Sales	623	702
Gross Profit	1 009	903
Expenses	914	805
Profit for the Year (Net Profit)	95	98

Statement of financial position (balance sheet)		
	2016	2017
	$'000	$'000
Non-current (fixed) assets	732	820
Current assets		
Inventory (stock)	132	147
Trade receivables (debtors)	188	165
Cash in hand	80	51
	400	363
Current liabilities		
Trade payables (creditors)	263	274
Bank overdraft	10	80
	273	354
Non-current (long-term) liabilities	585	462
Net assets	274	367
Total shareholders' funds	274	367

The table below shows all workings for the ratios that are possible to calculate from the information available in the case study. All calculations are shown to two decimal places and financial values are in thousands of dollars ($'000 as per the accounts above):

Ratio	2016	2017
Gross profit margin	1009/1632 x 100 = 61.83%	903/1605 x 100 = 56.39%
Operating (net) profit margin	95/1632 x 100 = 5.82%	98/1 605 x 100 = 6.11%
Return on capital employed ("ROCE")	95/(274 + 585) x 100 = 11.06%	95/(367 + 462) x 100 = 11.46%
Asset turnover	1632/732 x 100 = 222.95%	1605/820 x 100 = 195.73%
Current ratio	400/273 = 1.47:1	363/354 = 1.03:1
Quick ratio (or "acid test")	400 – 132/273 = 0.98:1	363 – 147 / 354 = 0.61:1
Inventory turnover	623/132 = 4.71 times	702/147 = 4.78 times
Trade receivables collection period	188/1632 x 365 = 42.05 days	165/1605 x 365 = 37.52 days
Gearing	(585 + 10)/274 x 100 = 217.15%	(462 + 80)/367 x 100 =147.68%

Many conclusions can be drawn from these ratio calculations, as follows:

The company's cost of sales has increased from 2016 to 2017.

The business organisation's gross profit has declined from 2016 to 2017.

The company's net profit has improved by $3000 as their expenses have decreased.

The gross profit margin has deteriorated in 2017. This would require investigation by the management due to the decrease in the sales revenue. However, the operating (net) profit margin has improved. This could be due to the decrease in business expenses.

The return on capital employed has remained relatively constant from 2016 to 2017. A return of 11% is acceptable and takes some account of the risk involved in investment in a business organisation.

The current ratio has decreased. Both values are below the benchmark of 2:1. The business would currently struggle to pay their short-term debts. This follows through into the **liquid (acid test or quick) ratio**. The value in 2016, is in line with the ideal of 1:1, implying that the business organisation is holding too much inventory. In 2017, the value is too low and would suggest that the business organisation has a liquidity issue.

The rate of inventory turnover has improved very slightly in 2017 and will help to ensure that out of date inventory is not left unsold.

The trade receivables turnover period has decreased. This will have a positive impact on the business organisation's working capital. The business organisation needs to chase their trade receivables and collect their debts as soon as possible. Both Gearing ratios are very high and imply that the business organisation is high risk. It would be difficult for them to secure future funding and investment if required.

Now it's your turn to calculate some ratios and undertake some ratio analysis.

CASE STUDY

Copland Machinery Supplies PLC

Copland Machinery Supplies PLC have provided the following details from their final accounts for the years ending 31 January 2016 and 31 January 2017.

Income statement (profit and loss account)		
	2016	2017
	£'000	£'000
Sales revenue	26 431	27 387
Cost of sales	7 894	7 648
Gross profit	18 537	19 739
Expenses	11 145	11 932
Profit for the year (net profit)	7 392	7 807

Statement of financial position (balance sheet)		
	2016	2017
	$ '000	$ '000
Non-current (fixed) assets	27 783	24 913
Current assets		
Inventory (stock)	3 969	3 873
Trade Receivables (debtors)	5 242	5 576
Cash at bank	4 184	5 714
Other	297	1 004
	13 692	16 167
Current liabilities		
Trade payables (creditors)	8 054	7 359
Loans	5 761	8 808
	13 815	16 167
Non-current (long-term) liabilities	20 913	17 243
Net assets	6 747	7 670
Total shareholders' funds	6 747	7 670

OVER TO YOU

Activity 6: Copland Machinery Supplies PLC

Use ratio analysis to analyse the performance of Copland Machinery Supplies PLC – whose accounts are shown in the case study above.

Guidance is provided at the end of the chapter, but please attempt this yourself before checking it – to reinforce your learning.

2.3 How to make justified recommendations for business improvements based on the results of financial analysis

Interpreting financial analysis to make business recommendations

You can use the results of financial analysis to make business recommendations, or decisions in your own business. With a reminder of the main ratios, the following section identifies some of the key ways in which to use ratios to do this.

Profitability ratios

Gross profit margin

This expresses as a percentage, the gross profit as a percentage of sales. It should be similar from one year to the next within the same business. It will vary between businesses in different areas of industry, e.g. gross profit margin on motor vehicles is considerably higher than that on fresh food. A significant change from one year to the next, particularly a fall in the percentage, requires review into the buying and selling prices.

Gross profit margin, and operating/net profit margin needs to be considered in context. For example, a supermarket may well have a lower gross profit percentage than a small local retail shop but, because of the supermarket's much higher turnover, the amount of profit will be much higher.

Operating/net profit margin

As with gross profit margin, the operating/net profit margin should be similar from year-to-year for the same business. It should also be comparable with other organisations in the same line of business. Net profit margins should ideally, increase from year-to-year. This would indicate that the business expenses are being kept under control. Any significant fall should be evaluated to see if it has been caused by:

- a fall in gross profit margin and/or
- an increase in one particular expense, e.g. wages and salaries, advertising etc.

Return on capital employed (ROCE)

This expresses the profit of a business in relation to the owner's capital. It is normally compared with other forms of investment such as a building society or bank account.

A person running a business is investing a sum of money in that business and the profit is the return that is achieved on that investment. However, it should be noted that the risks in running a business are considerably greater than depositing the money with a building society or bank, and an additional return to allow for the extra risk is needed.

Liquidity ratios

Current ratio

The current ratio uses figures from the balance sheet and measures the relationship between current assets and current liabilities. An acceptable ratio is about 2:1. However, a business in the retail trade may be able to work with a lower ratio, e.g. 1.5:1 or even less, because it deals mainly in sales for cash and so does not have a large figure for trade receivables. A current ratio can be too high; if it is above 3:1 a review of current assets and current liabilities is needed; e.g. the business may have too much inventory, too many trade receivables, or too much cash at the bank, or even too few trade payables.

Liquid (acid test or quick) ratio

The liquid ratio uses the current assets and current liabilities from the statement of financial position but closing inventory is omitted. This is because inventory is the most illiquid current asset. Inventory has to be sold, turned into debt and then the cash has to be collected from the trade receivables.

This ratio provides a direct comparison between trade receivables and cash/bank and short term liabilities. The balance between liquid assets and current liabilities should ideally be about 1:1, i.e. $1 of liquid assets to each $1 of current liabilities. At this level, a business organisation is expected to be able to pay its current liabilities from its liquid assets. A figure below 1:1 e.g. 0.75:1, indicates that the business organisation would have difficulty in meeting demands from trade payables. However, as with the current ratio, some business organisations are able to operate with a lower liquid ratio than others.

Efficiency ratios

Inventory turnover

Inventory turnover is the number of times inventory is changed during a year. The figure depends on the type of goods sold by the business. For example, a market trader selling fresh bread who finishes every day when sold out will have a stock turnover of 365 times per year.

By contrast, a motor vehicle garage – because it may hold a large inventory of vehicles – will have a much slower inventory turnover, perhaps 4 or 5 times per year. Nevertheless, inventory turnover must not be too long, bearing in mind the type of business, and a business which is improving in efficiency will have a quicker inventory turnover comparing one year with the previous one, or with the inventory turnover of similar businesses.

Inventory that is held for too long may become out of date and obsolete. A business organisation must also remember the costs of storing inventory when considering its inventory turnover.

Guidance on Activity 6: Copland Machinery Supplies PLC

The table below shows all workings for the ratios that are possible to calculate from the information available in the case study. All calculations are shown to two decimal places and financial values are in thousands of dollars ($'000 as per the company accounts above).

	2016	2017
Gross profit margin	18537/26431 x 100 = 70.13%	19739/27387 x 100 = 72.07%
Operating (net) profit margin	7392/26431 x 100 = 27.97%	7807/27387 x 100 = 28.51%
Return on capital employed ("ROCE")	7392 / (6747 + 20913) x 100 = 26.72%	7807/(7670 + 17243) x 100 = 31.34%
Asset turnover	26431/27783 x 100 = 95.13%	27387/24913 x 100 = 109.93%
Current ratio	13692/13815 = 0.99:1	16167/16167 = 1:1
Quick ratio (or "acid test")	13692 – 3969/13815 = 0.70:1	16167 – 3873/16167 = 0.76:1
Inventory turnover	7894/3969 = 1.99 times	7648/3873 = 1.97 times
Trade receivables collection period	5242/26431 x 365 = 72.39 days	5576/27387 x 365 = 74.31 days
Gearing	20913/6747 x 100 = 309.96%	17243/7670 x 100 = 224.81%

The conclusions that can be drawn from these ratio calculations are as follows:

- The company's cost of sales has decreased from 2016 to 2017.
- The business organisation's gross profit has improved from 2016 to 2017.
- The company's net profit has improved by $415000 due to the increase in gross profit. However, the company expenses have increased.
- The gross profit margin has improved in 2017, as has the operating (net) profit margin. The company could have used cheaper suppliers to decrease the cost of their purchases.
- The return on capital employed has increased from 2016 to 2017. Both returns are acceptable and take account of the risk involved in investment in a business organisation.

- The current ratio has remained constant. Both values are below the benchmark of 2:1. The business would currently struggle to pay their short-term debts. This follows through into the liquid (acid test) ratio. Both values are lower than the ideal of 1:1, which would suggest that the business organisation has a liquidity issue.
- The rate of inventory turnover has remained relatively constant, although the rate is particularly low.
- The trade receivables turnover period has increased. This will have a negative impact on the business organisation's working capital. The business organisation need to chase their trade receivables and collect their debts as soon as possible.
- Both Gearing ratios are very high and imply that the business organisation is high risk. It would be difficult for them to secure future funding and investment if required.

Chapter 3

Cash Flow and Budget Preparation

Introduction

This chapter will help you understand how to prepare cash flow forecasts and financial budgets so as to aid management decision making.

Learning outcome

On completing this chapter, you will be able to:

3 Prepare cash flow forecasts and financial budgets to aid management decision making

Assessment criteria

3 Prepare cash flow forecasts and financial budgets to aid management decision making

- 3.1 Prepare cash flow forecasts for internal management control
- 3.2 Prepare organisational budgets to aid management decision making
- 3.3 Evaluate completed cash flow forecasts and financial budgets to make informed business decisions

3.1 Preparing cash flow forecasts for internal management control

Cash flow forecasts

The maintenance of adequate cash flow is vital to the success of any business organisation. A business can survive without profit but cannot survive without adequate cash flow. One of the main causes of business failure is a lack of day-to-day working capital.

A cash flow forecast will allow a business to predict their future inflows and outflows over a period of time.

Existing businesses will use historical data to predict their cash flows for the future, whereas new businesses will need to research to make suitable estimates for their plans.

Detailed cash flow forecasts are usually required by business organisations when they wish to take out a loan or other financial product.

Businesses will choose an appropriate timescale for which to complete their cash flow forecast. It is usually a twelve-month time period. They need to adjust for any credit periods that are offered or taken by trade receivables or trade payables. In a cash flow forecast, the transaction is recorded when the money or cash is paid or received.

There are three main sections to a cash flow forecast:

- Cash inflows – for example sales income, commission received, money from a bank loan.
- Cash outflows – for example raw materials, salaries, heat and light expenses.
- Balances – these are the opening and closing balances for each month.

OVER TO YOU

Activity 1: Inflows and outflows

Identify the cash inflows and cash outflows for a supermarket that would be included in a cash flow forecast.

Cash flow forecast sections

Cash inflows Cash outflows Balances

Cash flow forecast example

	January	February	March
	$	$	$
Cash inflows			
Capital	10000		
Cash sales	5000	3000	7000
Credit sales	3000	5000	7000
Rent received	1500	1500	1500
Total cash inflow	**19500**	**9500**	**15500**
Cash outflows			
Cash purchases	3000	5000	7000
Credit purchases	2000	2000	3000
Salaries and wages	1000	1000	1000
Heat and light	500	500	500
General expenses	300	300	300
Total cash outflow	**6800**	**8800**	**11800**
Net cash flow	**12700**	**700**	**3700**
Opening balance	**5000**	**17700**	**18400**
Closing balance	**17700**	**18400**	**22100**

Table 1: Jones Jewellery Makers cash flow forecast for the three months ending 31 March 2017

CASE STUDY

Butai Golf and Leisure Club and Shop

This financial information relates to a fictional company: the Butai Golf and Leisure Club and Shop.

The projected bank account balance on 1 January is $52180.

Projected shop sales figures:

	December	January	February	March	April
Credit sales ($)	5350	3150	5600	3725	6900
Cash sales ($)	3250	2050	1200	1375	2300

- Projected gym takings:

January – $32,400

February – $30,200

March – 5% increase on February

April – $700 increase on March

- Estimated purchases:

All purchases are on credit and suppliers are paid one month after goods are bought.

December – $5000

January – $1000 less than December

February – 5% increase on January

March – Same as February

April – 10% increase on March

- Expenses:

Wages are $7000 per month. A 5% wage increase is expected from 1 April.

Light and Heat is $750 per month. A 10% increase is expected from 1 March.

Maintenance is carried out three times a year – February, June and October. This costs $60,000 per year.

General expenses are estimated at $10,000 per year, paid every 2 months starting in February.

OVER TO YOU

Activity 2: Butai Golf and Leisure Club and Shop

Prepare a three-month cash flow forecast for the Butai Golf and Leisure Club and Shop to estimate the cash balance at the end of April from the information in the case study above.

How to improve cash flow in businesses

1 Increase cash inflows:

- Chase trade receivables
- Reduce trade credit periods offered to trade receivables
- Reduce potential bad debts and the possibility of doubtful debts

- Seek additional sources of finance:
  - Bank loan
  - Overdraft
  - Debt factoring.

2 Decrease cash outflows: Delay payments to trade payables
- Request more favourable credit terms from trade payables
- Reduce business costs, for example wages and salaries
- Delay business expansion, for example the purchase of non-current assets.

Cash versus profit

Cash flow and profit are interrelated terms, however, they are different and should not be confused.

Net cash flow = cash inflow – cash outflow

Profit = sales – **variable costs** – **fixed costs**

There are various ways in which net cash flow differs from **net profit** for a business organisation during an accounting period.

Timing differences need to be considered. They arise as a business may not receive cash from a customer immediately; they may delay payment for several weeks. The sale would be included at the time of transaction in a profit calculation but not in cash flow calculation until the money has been received. For example, a business wins a contract to supply branded goods to a company for a large corporate event. The business owner works out it will cost his business $50,000 to supply the branded goods, and the contract value is for $75,000, meaning he should expect a $25,000 profit. However, if he has to pay his supplier much earlier than his client pays him, there will be an impact on cash flow and he may need to borrow funds to pay his supplier and –if the bank refuses to extend the credit to him – the cash flow for the project is unsustainable, even though it will make a profit. There's also the risk of the client going out of business – even if it's profitable on paper!

Liquidity is a measure of how much money a business organisation has for its day to day running. A liquid asset is one that is cash or can easily be turned into cash, for example a trade receivable, who is likely to pay their debt in a short period of time is known as a liquid asset.

Inventories that will be sold in the near future would be another example of a liquid asset.

Working Capital, calculated as current assets minus the current liabilities, is a measure of liquidity. If a business organisation has large amounts of working capital, it can be described as having good levels of liquidity. A low or negative working capital figure implies low or very low levels of liquidity.

It is assumed that there is a clear relationship between profits and liquidity. Profits are calculated by taking costs from sales revenue, and liquidity is measured by taking current liabilities which include trade payables (created by purchases) from Current Assets (which includes cash and bank balance, the revenue generated from the selling of goods and services).

There are a number of important differences between the two. These include:

1 Cash inflows: if a business organisation receives capital from their owners that has not arisen from its trading activities, it will improve the availability of cash.

2 If a business organisation borrows money for investment, this will increase the amount of working capital available for the business to use. This will therefore improve liquidity. Borrowing will not increase profits, the costs of borrowing will increase expenses and decrease profit. However, the business will have extra money/cash available.

3 Depreciation: depreciation is a bookkeeping transaction. No actual spending of money occurs, therefore there is no effect on the cash flow or liquidity of the business organisation. Depreciation is, however, a business expense that will reduce the profit of the business organisation.

OVER TO YOU

Activity 3: The purpose of cash flow forecast

Identify three cash inflows and three cash outflows for a textile manufacturing business organisation.

Identify five additional sources of finance available to a technology business organisation.

3.2 Preparing organisational budgets to aid management decision making

Budgeting

A **budget** is a financial plan for the future. It will aid a business to achieve its objectives. Budgets are usually constructed within the broader framework of a company's long-term strategic plan (covering the next five to ten years).

The UK's Chartered Institute of Management Accounts (CIMA) define a budget as:

> *"A plan quantified in monetary terms, prepared and approved prior to a defined period of time, usually showing planned income to be generated and/or expenditure to be incurred during that period and the capital to be employed to attain a given objective."*

The main budgets that a business will prepare are:

- **Sales budget** – forecasts the number of units of each product that a business aims to sell in the next financial year, the price level to be charged, and the sales revenue that should be received.
- **Purchases budget** – this will predict the quantity of goods that need to be purchased for the following year. This may include a material budget which predicts the quantity of raw material that are required for the next year.
- **Production budget** – forecasts the number of units of each product that a business aims to produce over the next financial year.

- **Trade receivables budget** – forecasts the amount that is due from trade receivables at the end of the budget period.
- **Trade payables budget** – forecasts the amount that is owed to trade payables at the end of the budget period.
- **Cash budget** – this will predict the closing bank balance, and allow organisations to make informed decisions relating to cost savings, the need for additional borrowing etc.

Formats

Sales budget

	Month 1	Month 2	Month 3
Sales unit	X	X	X
Sales value ($)	X	X	X

Purchases budget

	Month 1	Month 2	Month 3
Units			
Sales	X	X	X
Opening inventory	(X)	(X)	(X)
Closing inventory	X	X	X
Purchases	X	X	X
Purchases cost	$X	$X	$X

Production budget (units)

	Month 1	Month 2	Month 3
Sales	X	X	X
Opening inventory	(X)	(X)	(X)
Closing inventory	X	X	X
Production	**X**	**X**	**X**

Trade receivables budget

	Month 1	Month 2	Month 3
	$	$	$
Opening trade receivables	X	X	X
Credit sales	X	X	X

	Month 1	Month 2	Month 3
	$	$	$
Receipts from trade receivables	(X)	(X)	(X)
Discounts allowed	(X)	(X)	(X)
Bad debts written off	(X)	(X)	(X)
Closing trade receivables	X	X	X

Trade payables budget

	Month 1	Month 2	Month 3
	$	$	$
Opening trade payables	X	X	X
Credit purchases	X	X	X
Payments to trade payables	(X)	(X)	(X)
Discounts received	(X)	(X)	(X)
Closing trade payables	X	X	X

Cash budget

	Month 1	Month 2	Month 3
	$	$	$
Cash inflows			
Capital	X	X	X
Cash sales	X	X	X
Credit sales	X	X	X
Xxx	X	X	X
Total cash inflow	**X**	**X**	**X**
Cash outflows			
Cash purchases	X	X	X
Credit purchases	X	X	X
Xxx	X	X	X
Xxx	X	X	X
Xxx	X	X	X
Total cash outflow	**X**	**X**	**X**
Net cash flow	**X**	**X**	**X**
Opening balance	**X**	**X**	**X**
Closing balance	**X**	**X**	**X**

These budgets are then merged together to form a *master budget*.

Variance analysis

Any differences that occur between budgeted and actual figures (for example sales, costs, etc.) are known as **variances**. Businesses need to investigate any variances and attempt to determine the reason for these. This is known as **budgetary control**.

Variances can be positive or negative. Positive variances are referred to as "Favourable" and negative variances as "Adverse". A favourable variance occurs when a business performs better than was predicted. An adverse variance occurs when a business performs worse than was predicted.

Example:

	Budget	Actual	Variance
	$m	$m	$m
Sales revenue	500	605	105 F
Raw materials	100	110	10 A
Direct labour	50	45	5 F
Distribution costs	20	20	0
Heat and light	30	10	20 F

Managers will concentrate on the large favourable or large adverse variances and ignore smaller variances that have occurred. This is known as *management by exception*.

OVER TO YOU

Activity 4: Variances

Zodiak Limited have provided the following data. Calculate the variance for each item.

	Budget	Actual	Variance
	$m	$m	$m
Sales revenue	200	180	
Rent received	300	310	
Raw materials	20	23	
Indirect labour	35	31	
Delivery costs	10	9	
Repairs and maintenance	15	29	
Heat and light	17	15	

3.3 Evaluating completed cash flow forecasts and financial budgets to make informed business

Improving cash flow management

Business managers may need to solve cash flow management issues. The managers will need to address the following questions:

- How much finance is required?
- Can the finance be secured internally?
- How long is the finance required for?
- What period of time should the finance be repaid?

The amount and nature of the finance required will vary from business organisation to business organisation. It is usually influenced by a business's size, form of ownership, type of technology and age of the business assets.

Internal sources

This is finance attained from within the business organisation. There is no time limit and generally no interest to be paid.

- **Retained profit** – this is a cheap and flexible source of finance. The retained profit can be used to generate future profits and therefore, with shareholder permission, be used to solve cash flow problems. The **opportunity cost** of this would need to be assessed.
- **Sale of assets** – in a cash flow crisis, the business organisation could sell one or more of their non-current assets in order to gain instant cash. This may lead to a decrease in profitability in the longer term.
- **Sale and leaseback** – this will allow the business organisation to receive a cash payment thereby improving short term cash flow. However, having to pay rent on the non-current asset would mean that profitability would be reduced in the longer term.

External sources

This is finance attained from outside of the business organisation.

- **Share issues** – only available to limited companies. These may issue ordinary or preference shares in order to raise extra funds. They will, however, have to pay dividends to the shareholders.
- **Loans** – usually short/medium term loans which can be used for a variety of purposes and will be repaid with interest.
- **Debentures** – long term loans to a business organisation at an agreed fixed interest rate, repayable on a stated date. These are usually offered for up to 25 years.
- **Mortgages** – usually used to purchase property where the asset will act as collateral for the loan. They are usually offered for up to 30 years.
- **Government grants** – these are selective and usually take the form of grants for selected purposes.
- **Overdrafts** – used for cash flow problems. Very expensive if used over a long period of time as the interest rates are usually very high.
- **Debt factoring** – business organisations will receive immediate payment for their credit sales, however, the factoring company will charge for the collection of the debt.

Chapter 4

Costing and Pricing Methods

Introduction

This chapter will demonstrate the use of costing and pricing methods that contribute to business decision-making.

Learning outcome

On completing this chapter, you will be able to:

4 Demonstrate the use of costing and pricing methods to contribute to business decision making

Assessment criteria

4 Demonstrate the use of costing and pricing methods to contribute to business decision making

- 4.1 Explain costing and pricing methods used to make business decisions
- 4.2 Apply contribution and break-even calculations and analysis to make effective business decisions
- 4.3 Assess the implications of using different costing methods

4.1 Explain costing and pricing methods used to make business decisions

Pricing models

There are a number of factors that will influence the pricing of a product/service, for example elasticity of demand (the extent to which demand varies with price), competition, brand image, profit ambitions and costs. Pricing methods will include:

- **Cost plus pricing** occurs when a business organisation adds a percentage mark-up to the cost of a product or service. This will ensure the business will always make a profit on the products being sold.
- **Competitive pricing** occurs when a business organisation sets the price of a product based on the prices charged by their rivals.
- **Value based pricing** occurs when a business organisation sets the price of a product based on its perceived value to a customer. The cost of the product is ignored and usually results in high selling prices and high profits.
- **Discounting** is a technique where a business organisation offers discount prices on their products in order to attract new customers or to boost sales.

Businesses will determine the appropriate pricing method to use from the start – and may vary it over time. For example, on entering a new market with lots of competitors a business may use discounting, followed by competitive pricing when they have become more established. In the luxury goods market, businesses may use value-based pricing.

Cost behaviour

Costs are expenses that a business incurs when producing and supplying products and services to customers. Accountants are generally concerned with monetary cost of resources, whereas economists consider opportunity costs. This is the benefit lost from not purchasing the next best alternative.

For management or cost accounting purposes, business organisations often divide into cost centres. A **cost centre** acts as a "collecting point" for costs before they are reviewed and considered further. An individual product or service is called a *cost unit*.

Types of costs

Fixed costs

Fixed costs are costs that remain unchanged as the output level of a business organisation changes. Examples include:

- Rent
- Advertising
- Office salaries
- Insurance.

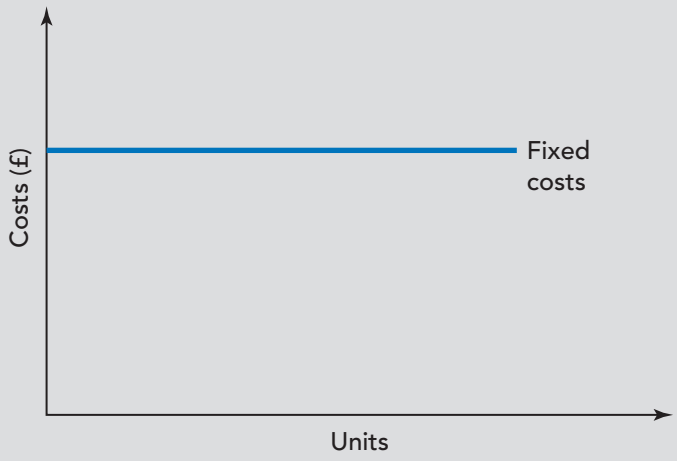

Figure 1: Fixed costs

Fixed costs can increase when a business approaches its full operating capacity. For example, a business may need to purchase a new production line. Such an increase in fixed costs is called a *step cost*.

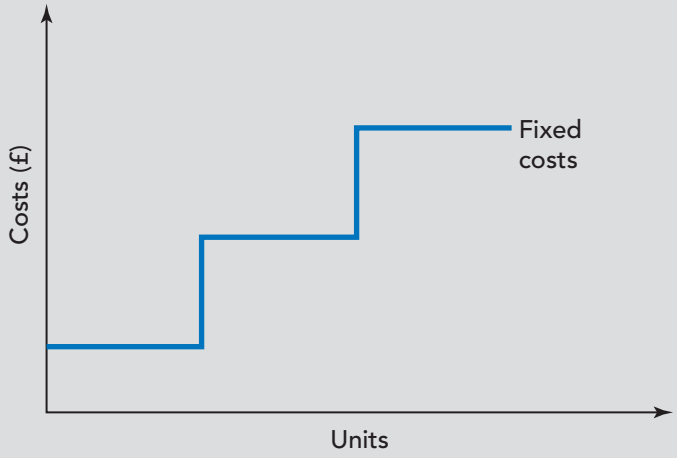

Figure 2: Step costs

Variable costs

Variable costs are those which vary directly with the level of output for a business organisation. This means that the total variable costs will be dependent on the level of output produced. For example, if output doubles, then the variable costs will double. Examples include:

- Direct labour
- Raw materials

- Packaging costs
- Royalties (a type of commission based on sales – paid to a third party with an interest in the product – e.g. an author or songwriter).

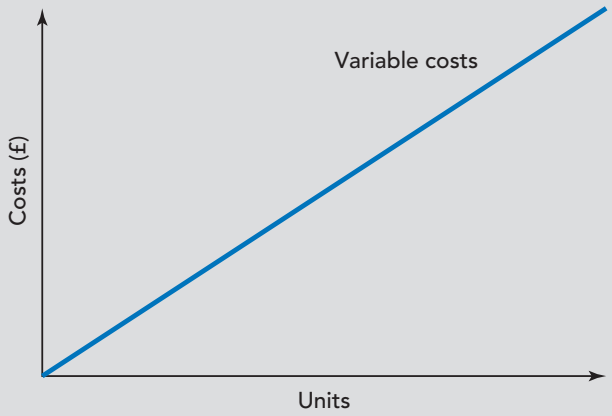

Figure 3: Variable costs

Semi-variable costs

In a business setting it is very difficult to classify costs either as fixed or variable. Many costs fall into both classifications – these are known as semi-variable costs. For example, an electricity invoice will consist of a standing charge (fixed cost) and a variable element for usage.

Total costs

Total costs are calculated as all the costs totalled together for any particular level of output.

At zero output, the total costs would equal the fixed costs of the business.

Total costs = total fixed costs + total variable costs

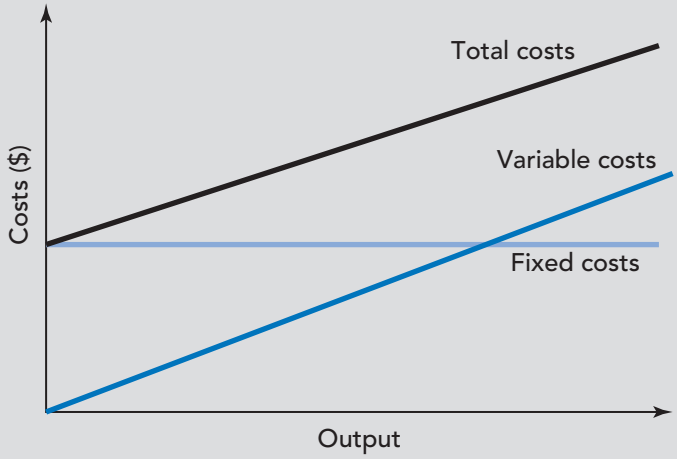

Figure 4: Fixed, variable and total costs

Direct costs

A direct cost is similar to a variable cost. A direct cost compares the costs incurred with the level of output of the business organisation. For example, the direct costs of producing a door for retail sale would include the wood, the labour and the metal fixings on the door.

Indirect costs

An indirect cost is similar to a fixed cost. An indirect cost cannot be linked with the output of a particular product. For example, an indirect cost of a local bakery would be its advertising costs such as fliers and newspaper advertising.

Cost plus pricing occurs when a business organisation adds a percentage mark-up to the cost of a product or service. This will ensure the business will always make a profit on the products being sold.

Competitive pricing occurs when a business organisation sets the price of a product based on the prices charged by their rivals.

Value based pricing occurs when a business organisation sets the price of a product based on its perceived value to a customer. The cost of the product is ignored and usually results in high selling prices and high profits.

Discounting is a technique where a business organisation offers discount prices on their products in order to attract new customers or to boost sales.

4.2 Applying contribution and break-even calculations and analysis to make effective business decisions

Contribution

Contribution is the amount remaining after variable costs have been deducted from sales revenue. This is not the same as profit as fixed costs are not included in the calculation.

Contribution per unit = selling price per unit – variable costs per unit

Total contribution = total sales revenue – total variable costs

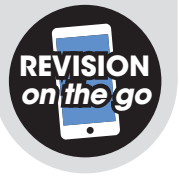

Figure 5 builds on Figure 4 by showing sales revenues and therefore the break-even point at the intersection between sales revenues and total costs. (Break-even analysis is discussed further in a moment.)

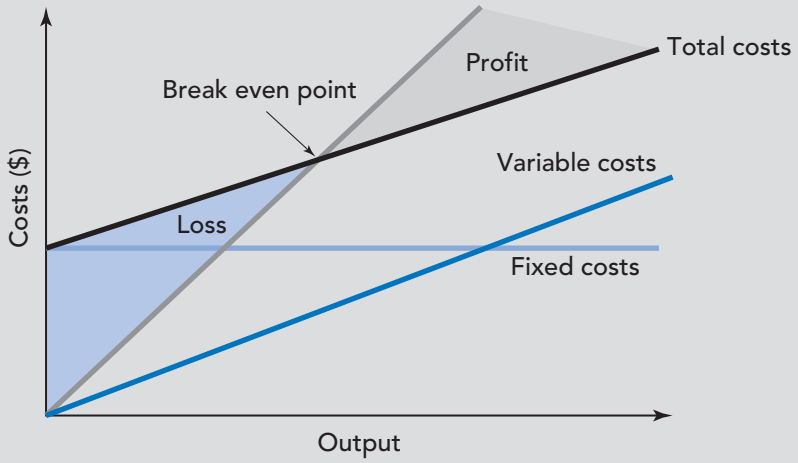

Figure 5: Break-even point

Total revenue

Revenue is the income that is earned from selling output.

Total revenue = selling price per unit x output level

Break-even analysis

Most business organisations exist to make the maximum profit possible. New and small firms may find that generating profits is difficult and may set a more realistic objective. This objective would be to "break-even". This means that a business organisation will make neither a profit nor a loss.

The break-even point is the level of sales where total costs equal total revenue.

Assumptions of break-even analysis

- All output is sold.
- There is no inventory remaining unsold.
- The business organisation only makes one type of product.
- All costs are classified as either fixed costs or variable costs.

Break-even formula

Break-even point in units = total fixed costs/contribution per unit

Where contribution per unit = selling price per unit – variable costs per unit

Note that contribution – costs = profit (or loss)

CASE STUDY

XBX Computer Sales Ltd

Break-even example – XBX Computer Sales Ltd

XBX Computer Sales Ltd sells 1000 units at $1000 per unit in a year. During the year:

- Total sales revenues are $1,000,000
- Fixed costs are $250,000
- Total variable costs are $600,000 (i.e. $600 per unit)
- Profit is $150,000.

Total sales revenues – total variable costs = contribution

Break-even point = fixed costs/contribution per unit

Therefore:

Total "Contribution" is ($1,000,000–$600,000) = $400,000

As sales are 1000 units, contribution per unit is $400

The break-even point is calculated as follows:

Fixed costs/contribution per unit or $250,000/$400 = 625 units

625 units = $625,000 revenues

Margin of safety

When a business organisation generates a profit, then its output level will be higher than the break-even output level. A business organisation will need to know how far output can fall before the business will start to experience a loss.

Margin of safety in units = actual output in unit – break-even output in units

REVISION on the go

OVER TO YOU

Activity 1: Break-even and margin of safety

Calculate the following for each of the five firms shown in the table below:

Break-even point in units

Break-even point in sales revenue

Margin of safety in units

Margin of safety in sales revenue

Firm	AAA	ABB	ABC	ACC	ACD
	$ per unit	$ per unit	$ per unit	$ per unit	$ per unit
Direct materials	9	10	15	31	5
Direct labour	2	9	4	8	4.5
Other variable costs	1	2	2	4	1
Fixed costs	4	5	8	15	2
Profit	5	7	10	20	3.5
Selling price	20	31	40	80	15
Number of units produced and sold	10000	25000	20000	40000	12500

OVER TO YOU

Activity 2: SteamVu kettles

The following information is provided for the production and sales of SteamVu, a new electric kettle.

The data is based on an output of 2000 units of Steam Vu.

Produce a break-even graph from the information shown. From the graph, determine:

The break-even point in units

The break-even point in sales revenue

The margin of safety in units

Cost per SteamVu	$
Raw materials	10
Components	3
Direct labour	3
Royalties	2
Fixed costs	5
Selling price	35

4.3 Assessing the implications of using different costing methods

Advantages and limitations of break-even analysis

Advantages	Limitations
Visual impact.	Uncertain data – data is based on estimates.
Acts as a risk assessment by calculating the margin of safety.	Fixed costs do not necessarily remain constant – stepped costs occur in all business organisations.
Allow consideration of "What if" scenarios.	Non linear relationships – not all lines on a break-even graph would be straight.
	It cannot be assumed that all costs are either fixed or variable.
	Many businesses sell more than one product, whereas break-even assumes that the business only sells one product.
	Most businesses hold inventory and have unsold production.
	Selling prices do not always remain constant.

OVER TO YOU

Activity 3: Leguma Production Ltd

Leguma Production Ltd produces a single product for vegetable preparation. Your task is to advise the business organisation of whether the changes should be made.

Its costs and sales for the year ended 31 January were as follows:

Units sold	20000
	$
Sales revenue	900000
Direct wages	200000
Direct materials	300000
Variable overheads	120000
Fixed costs	205000

The selling price and all costs were at a constant rate throughout the year.

To improve profit for the next year, the following changes are planned:

Units to be sold to increase by 10%.

Selling price to be maintained at the current price.

Wages to be increased by 5% per unit.

Material costs to be reduced by 7.5% per unit, this being achieved by changing from a local supplier to an overseas supplier.

Variable overheads to be reduced by $0.35 per unit.

Fixed costs to increase by $9500 per annum.

Marginal costing

Marginal cost is defined as the cost of raising output by one more unit. Marginal cost is the same as the variable cost of production. It only includes those costs that vary with the level of output. Marginal costing is a costing and decision making technique that is used by managers in business organisations. It is an alternative to Absorption Costing (see below) and can be known as variable costing or direct costing.

Unlike absorption costing, which ensures that all costs are charged to a **cost unit**, marginal costing charges only the variable cost of production. Fixed costs are ignored.

Marginal costing and break-even analysis have a number of applications:

- **Make or buy** – business organisations may choose to make or manufacture products that they can sell on to their consumers. This could be because their product is unique, there is a secret recipe/design or they can make the product cheaper than an outside organisation. The decision depends on whether the costs of purchase exceed the costs of production and therefore whether the business should make the product or buy it in from a supplier.

  Firms may manufacture their own products for various reasons such as:

  - The product is unique, is not produced by anybody else, and there is a demand for it.
  - The firm wants to supply its own brand of a particular product.
  - The firm does not want to be dependent upon outside suppliers who may be unreliable regarding delivery and price.
  - The firm believes it can manufacture its products more cheaply than it can buy them from outside.
- **Special order decisions** – business organisations may be asked to produce a one-off order for another company. The business needs to decide whether this special order is financially worth the costs of production. Considerations such as whether other production needs to cease to allow for this product to be made or whether other customers may demand the same terms as the one-off order need to be considered prior to acceptance of the special order.

Circumstances may sometimes justify selling goods below the normal selling price:

- To combat competitors who are selling similar goods at a lower price.
- Acceptance of an order to produce and sell goods at a special price and if this will increase profit or help to cover overheads.
- To maintain production in temporarily difficult trading conditions so that a skilled workforce may be retained.
- To dispose of obsolescent or perishable goods.
- To promote a new product.

- **Acceptance of additional work** – as with a make or buy decision, businesses need to decide whether they have sufficient capacity in order to take on the additional work.
- **Discontinuing a product or service** – this decision will be made based on the contribution of the product or service. A business will make the decision to discontinue a product if its unit contribution is less than other products or if the product has a negative contribution. Before making the decision, the business must ensure that the decision will not affect the sales of any products.
- **Price setting** – a business organisation will use break-even analysis to work out the best selling price to charge for a product or service. It is possible to increase a business's profit by increasing the selling price of a product or service without increasing the number of sales made.
- **Scarce resources** – a scarce resource is something that limited a business's ability to operate at their full capacity. They may include a shortage of skilled labour, raw materials, factory materials, factory space, machine availability or finance availability. Once a scarce resource has been identified, a business will quantify the scarce resource and then allocate its best use based on the contribution earned by each product being made.
- **"What if" scenarios** – this will evaluate the expected return or value of a proposed change in business activities. A business organisation will create various scenarios that may occur in their organisation. They will then review the potential outcomes of each scenario prior to making a final decision.

Absorption costing

Absorption costing values inventory at the full production cost of a product. Absorption costing values will vary to those of marginal costing. As the inventory values are different, this will affect the profits reported in the income statement for the period.

The benefits of absorption costing include:

- Absorption costing includes an element of fixed overheads in its inventory value in accordance with accounting legislation.
- For small business organisations, absorbing overheads into product costs is the most effective way of estimating job costs and profits.
- The analysis of under/over absorption of overheads using absorption costs is useful in controlling costs of a business organisation.

Whole-life costing

Whole-life costing considers the total cost of a product or service over its entire lifetime. This means from design to disposal, including purchase, hire, lease, maintenance, operation, utilities, staff training and disposal. When making financial decisions relating to procurement, it is vital that the business organisation considers all of the costs, as purchase costs are only a small proportion of the operation costs.

Opportunity costs

Economists value products and services in terms of opportunity costs. An opportunity cost measures the cost of any choice in terms of the next best alternative foregone. For example, the opportunity cost of a business organisation investing $2 million in a new production line might be $2 million less money to spend on research and development.

Inventory control

When deciding how much inventory a business organisation should hold, the business organisation must balance the costs of holding inventory against the benefits. The costs include:

- Warehousing and storage
- Insurance
- Risk of pilferage or obsolescence
- Financial cost of tying up funds in inventory (opportunity cost).

The benefits of holding inventory include:

- Ability to meet customer demand immediately
- Ability to maintain continuous production
- Avoidance of having to reorder at short notice (at unfavourable prices or time scales that the suppliers cannot meet)
- Avoidance of having to reorder frequently and thereby avoiding the administration costs.

Economic order quantity

The **economic order quantity** is a mathematical technique that is used for calculating the optimum, i.e. best amount of inventory that a business should hold. It assumes that the main costs associated with inventory are holding costs and ordering costs. The cost of holding inventory increases as more is held, so managers might wish to decrease the amount. However, by reducing inventory levels there will be a rise in the number of orders made, so ordering costs will increase. It is possible to work out the inventory level where costs are minimised.

Figure 6 shows that holding costs increase and ordering costs decrease as inventory levels increase. The point at which total costs are at a minimum is at output Q.

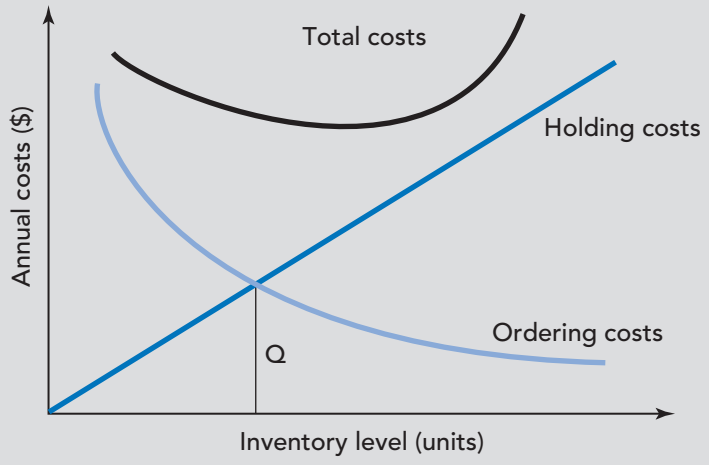

Figure 6: Economic order quantity

Just in Time (JIT)

Just in Time means that inventory arrives on the production line just as it is needed. This minimises the amount of inventory that has to be stored (reducing storage costs).

Just in Time has many benefits and may appear an obvious way to organises production but it is a complicated process which requires efficient handling.

For example, Just in Time relies on sophisticated computer systems to ensure that the quantities of inventory ordered and delivered are correct. This process needs to be carried out very accurately or production could come to a standstill.

Advantages of JIT	Disadvantages of JIT
Reduces costs of holding inventory e.g. warehousing rent	Needs suppliers and employees to be reliable
No money tied up in inventory, funds can be used elsewhere	May find it difficult to meet sudden increase in demand

Methods of inventory valuation

Method	Definition	Advantages	Disadvantages
FIFO (first in first out)	The FIFO method of valuation assumes that inventory is used, or sold, in the order in which it is purchased. So, inventories of goods that are bought first are used first.	It is realistic because it is based on the assumption that issues from inventory are made in the order in which the goods are received. It is relatively easy to calculate. The inventory values are based on the most recent prices paid.	The prices at which inventory is issued to production are likely to be out of date, so the selling price of the finished goods might not accurately reflect the most recent costs. When the prices of inventory are rising, the FIFO method values the inventory at the highest, i.e. latest prices. The effect is to reduce the cost of sales and therefore to raise profit. Such a policy could result in more tax being paid because profits are higher than they might otherwise have been.

Method	Definition	Advantages	Disadvantages
LIFO (last in first out)	The last in, first out, method of inventory valuation assumes that the most recent deliveries of inventory are used first. So, new inventory is always issued before old inventory. The value of unused inventories at the end of the trading year is therefore based on the cost of earlier purchases.	The system is based on the prices most recently paid for inventory, therefore selling prices will reflect up to date costs. It is relatively easy to calculate.	There might be problems in issuing new inventory first, particularly if the inventory is perishable or is likely to go out of date. The closing inventory is valued at out of date prices, which might be lower than the current prices.
AVCO (Average Cost)	This method of inventory valuation is sometimes also known as the weighted average cost. It involves recalculating the average cost (AVCO) of inventory every time a new delivery arrives.	It is logical since all identical units of inventory are given an equal value. Fluctuations in the purchase price of inventory are evened out so the impact on costs and profit is reduced.	The average cost has to be recalculated every time the price of purchased inventory changes. The average cost might not be the same as any of the prices actually paid for inventory. If inventory prices are rising rapidly, the average cost will be much lower than the replacement price.

Glossary

Absorption costing values inventory at the full production cost of a product. Absorption costing values will vary to those of marginal costing. As the inventory values are different, this will affect the profits reported in the income statement for the period.

Accounting The process of identifying, measuring and communicating financial information to a range of business stakeholders.

Accounting equation Assets – Liabilities = Capital

Accounting principles rules that organisations will follow when reporting financial data and information to internal and external stakeholders.

Accruals This concept is also known as the "matching" principle. The concept states that revenue should be recognised when it is earned and not when money is received.

AVCO (Average cost) a method of inventory valuation is sometimes also known as the weighted average cost. It involves recalculating the average cost (AVCO) of inventory every time a new delivery arrives.

Break-even analysis the point at which a business organisation will make neither a profit nor a loss.

Budget a financial plan for the future.

Business entity an accounting concept which states that the financial affairs of a business should be completely separate from those of the owner.

Capital expenditure money spent on acquiring, improving and adding value to non-current assets.

Cash budget this will predict the closing bank balance, and allow organisations to make informed decisions relating to cost savings, the need for additional borrowing etc.

Comparability as long as accounting policies and procedures remain consistent financial data and information will be comparable with previous financial periods.

Competitive pricing occurs when a business organisation sets the price of a product based on the prices charged by their rivals.

Consistency An accounting concept that requires accountants, when faced with a choice between different accounting techniques, not to change policies without good reason.

Contribution is the amount remaining after variable costs have been deducted from sales revenue.

Cost the cost of the item plus any expenses incurred in bringing the product to its present location and condition.

Cost centre a "collecting point" for costs before they are reviewed and considered.

Cost plus pricing occurs when a business organisation adds a percentage mark-up to the cost of a product or service.

Cost unit an individual product or service.

Current ratio uses figures from the balance sheet and measures the relationship between current assets and current liabilities.

Debentures long term loans to a business organisation at an agreed fixed interest rate, repayable on a stated date. These are usually offered for up to 25 years.

Debt factoring business organisations will receive immediate payment for their credit sales, however, the factoring company will charge for the collection of the debt.

Depreciation the cost of a non-current asset consumed over its lifetime.

Direct costs a direct cost is similar to a variable cost in that it compares the cost with the level of output.

Discounting a technique where a business organisation offers discount prices on their products in order to attract new customers or to boost sales.

Discontinuing a product or service this decision will be made based on the contribution of the product or service. A business will make the decision to discontinue a product if its unit contribution is less than other products or if the product has a negative contribution.

Dual aspect the idea that every transaction has two effects on the account. This is known as double entry book keeping there will be one debit and one credit entry for every financial transaction.

Economic order quantity a mathematical technique that is used for calculating the optimum, i.e. best amount of inventory that a business should hold. It assumes that the main costs associated with inventory are holding costs and ordering costs.

External stakeholders these are stakeholders outside of a business organisations. For example, customers, suppliers, the government, lenders, local residents and the broader public.

Financial accounting the external reporting by a business in financial terms.

FIFO (first in first out) a method of valuation assumes that inventory is used, or sold, in the order in which it is purchased. So, inventories of goods that are bought first are used first.

Fixed costs these are costs that remain unchanged as the output level of a business organisation changes.

Going concern an accounting concept that assumes a business will continue to trade in the foreseeable future.

Government grants these are selective and usually take the form of grants for selected purposes.

Gross profit a company's total sales minus the cost of goods sold.

Gross profit margin expresses as a percentage, the gross profit as a percentage of sales.

Historical cost this concept states that assets should be stated at their cost when purchased, rather than their current value.

IAS (International Accounting Standards) accepted as the basis for accounting in many countries.

Income statement (Profit and Loss Account) financial statement that shows revenues, expenses and profit.

Indirect costs an indirect cost is any cost that cannot be linked with the output of any particular product.

Internal stakeholders these are stakeholders within a business organisation. For example, owners and employees.

Inventory turnover inventory turnover is the number of times inventory is changed during a year. The figure depends on the type of goods sold by the business.

Just in Time (JIT) means that inventory arrives on the production line just as it is needed. This minimises the amount of inventory that has to be stored (reducing storage costs).

LIFO (last in first out) a method of inventory valuation assumes that the most recent deliveries of inventory are used first. So, new inventory is always issued before old inventory. The value of unused inventories at the end of the trading year is therefore based on the cost of earlier purchases.

Limited companies all limited companies are incorporated, which means they can sue or own assets in their own right, in other words they are treated as separate legal entities. Limited companies are owned by shareholders.

Limited partnerships occur when partnerships wish to raise additional finance but not recruit active partners.

Liquid (acid test or quick) ratio the liquid ratio uses the current assets and current liabilities from the statement of financial position but closing inventory is omitted.

Liquidity a measure of how much money a business organisation has for the day to day running of the business organisation.

Loans usually short/medium term loans which can be used for a variety of purposes and will be repaid with interest.

Make or buy business organisations may choose to make or manufacture products that they can sell on to their consumers.

Management accounting the reporting of accounting information within a business for management use only.

Marginal cost defined as the cost of raising output by one more unit.

Materiality an accounting concept which states that accountants should not spend time trying to record accurately items that are either trivial or immaterial.

Money measurement an accounting concept which states that all transactions recorded by businesses should be expressed in money terms.

Mortgages usually used to purchase property where the asset will act as collateral for the loan. They are usually offered for up to 30 years.

Net cash flow cash inflow less cash outflow.

Net profit sales minus cost of sales less all administrative and selling costs.

Net realisable value (NRV) the estimated resale value of the inventory, less any selling or distribution costs.

Non-current assets long term assets of material value.

Notes to the financial statements/ accounts information supplied in published accounts that gives detail about items in the financial statements.

Opportunity costs measures the cost of any choice in terms of the next best alternative foregone.

Overdrafts used for cash flow problems. Very expensive if used over a long period of time as the interest rates are usually very high.

Partnerships these are business owned by two or more people. These usually operate under a deed of partnership and will benefit from increased capital and shared expertise.

Price setting a business organisation will use break-even analysis to work out the best selling price to charge for a product or service.

Production budget forecasts the number of units of each product that a business aims to produce over the next financial year.

Profit sales less variable costs and fixed costs.

Provision for doubtful debts occurs when a trade receivable that owes money to a business has the potential to not pay the debt due.

Prudence an accounting concept that requires accountants to recognise revenue or profit only when they are realised.

Purchases budget will predict the quantity of goods that need to be purchased for the following year.

Realisation an accounting concept which states that revenue should be recognised when the exchange of goods or services take place.

Relevance means that financial data and records produced by an organisation must meet the needs of both internal and external stakeholders. Thereby influencing any decision that may be made.

Reliability an organisation must ensure that published information is accurate and provides a true and fair view of their financial conditions and operating records.

Retained profit a cheap and flexible source of finance. The retained profit can be used to generate future profits and therefore with shareholder permission be used to solve cash flow problems.

Return on Capital Employed (ROCE) expresses the profit of a business in relation to the owner's capital. It is normally compared with other forms of investment such as a building society or bank account.

Revenue expenditure money spent on the day to day running of the business i.e. expenses.

Sale and leaseback will allow the business organisation to receive a cash payment thereby improving short term cash flow. However,

having to pay rent on the non-current asset would mean that profitability would be reduced in the longer term.

Sales budget forecasts the number of units of each product that a business aims to sell next financial year, the price level to be charged and the sales revenue that should be received.

Sale of assets in a cash flow crisis, the business organisation could sell one or more of their non-current assets in order to gain instant cash.

Scarce resources a scarce resource is something that limited a business's ability to operate at their full capacity. They may include a shortage of skilled labour, raw materials, factory materials, factory space, machine availability or finance availability.

Share issues only available to limited companies. These may issue ordinary or preference shares in order to raise extra funds. They will, however, have to pay dividends to the shareholders.

Sole trader a business that is owned and controlled by one person.

Special order decisions business organisations may be asked to produce a one off order for another company. The business needs to decide whether this special order is financially worth the costs of production.

Stakeholders a term that refers to any person who has an interest in a business organisation.

Statement of cash flows provides information about changes in a company's financial position.

Statement of financial position (balance sheet) statement showing assets, liabilities and capital.

Third sector organisations these organisations are non-profit making and generally operate to provide services to the community as a whole or to specific groups of people within the community.

Total costs are calculated as all of the costs totalled together for any particular level of output.

Total revenue revenue is the income that is earned from selling output.

Trade receivables budget forecasts the amount that is due from trade receivables at the end of the budget period.

Trade payables budget forecasts the amount that is owed to trade payables at the end of the budget period.

Understandability means that financial information should be understandable by anyone who has a background knowledge and understanding of business.

Value based pricing occurs when a business organisation sets the price of a product based on its perceived value to a customer.

Variable costs those which vary directly with the level of output for a business organisation.

Variances occur when there are differences between budgeted and actual figures.

Variance analysis the difference between a budgeted and actual cost incurred. Categorised as adverse or favourable.

"What if" scenarios will evaluate the expected return or value of a proposed change in business activities. A business organisation will create various scenarios that may occur in their organisation.

Whole-life costing considers the total cost of a product or service over its entire lifetime. This means from design to disposal, including purchase, hire, lease, maintenance, operation, utilities, staff training and disposal.

Working capital current assets less current liabilities.