Chalimbana University

DIRECTORATE OF DISTANCE EDUCATION

PFM 2100: FINANCIAL AND MANAGEMENT ACCOUNTING

FIRST EDITION

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MODULE OVERVIEW

Introduction

Welcome to the Financial and Management Accounting Module. This module introduces you to the concepts of financial and management accounting which are important elements in the field of business. The module directs attention towards building both accounting management skills which are essential to the field of Business Studies. It is hoped also that through your creativity as a learner and trainee teachers, you will begin to initiate development of accounting attitudes and skills in your field of operation. Topics covered here include business transactions, business documents, book keeping, books of original entry, ledger, the trial balance, the financial statements, the balance sheet, salaries and wages and bank reconciliation, and management accounting concepts.
It is hoped that you will reflect on the content and activities in this module so as to develop competencies that will enable you to apply and use this knowledge in related financial issues.

Aims

The aim of this module is to develop the Financial Management Accounting concepts and skills in the Police and Security trainees.

Objectives

By the end of the module, you should be able to:

(i) Explain concepts and principles of accounting.
(ii) Demonstrate knowledge on the preparation of the business documents.
(iii) Demonstrate the ability to prepare the Journals, Ledger and Financial Statements.
(iv) Calculate net pays for salaries and wages.
(v) Prepare the bank reconciliation statement.
(vi) Discuss managerial accounting concepts and with application.

Structure of the Module

As you can see from the table of contents above, the module is divided into twelve (12) units. Each unit is in turn divided into several sub-units and has a core text and an exercise at the end. You are required to read the text and, thereafter, attempt the exercise before proceeding to the next unit.

Assessment

The students will be evaluated on the basis of their performance as follows:

Continuous Assessment		**50%**
2 Assignments/project	25%	
Tests:	25%	
Final Examination		**50%**
Total		**100%**

Recommended Readings

Edwards Fields; *Essentials of Finance and Accounting for non-Financial Managers*, New York.

Frank J. et.al (2003); 2nd Ed; *Financial Management and Analysis*, Willey,

Frank Wood & Alan Sangster (2010) *Business Accounting 1*, Prentice Hall, London.

Graham Moth (2005) 6th Ed*; Accounting for Non Accountants*, Kogan Page, London.

Janet Walker (2006) 2nd Ed*; Accounting in a Nutshell*, Oxford, India.

John J. Wild et.al (2008); *College Accounting*, McGraw-Hill, New York.

Drury, C. (2008), *Management and Cost Accounting*, 7th ed., Cengage Learning EMEA.

Lucey, T. (2008), *Costing*, 7th ed., Cengage Learning EMEA.

Timeframe

You are expected to spend at least 36 hours of study time on this module. In addition, there shall be arranged contacts with lecturers from the University from time to time during the

course. You are requested to spend your time judiciously so that you reap maximum benefit from the course.

Study Skills

As an adult learner, your approach to learning will be different to that of your school days: you will choose when you want to study, you will have professional and/or personal motivation for doing so and you will most likely be fitting your study activities around other professional or domestic responsibilities.

Financial and Management Accounting lays a background for other investigative courses you will study in your second year. And so, it is important that you get to grips with the principles and theories in this module.

Essentially you will be taking control of your learning environment. As a consequence, you will need to consider performance issues related to time management, goal setting, stress management, etc. Perhaps you will also need to reacquaint yourself in areas such as essay planning, coping with examinations and using the internet as a learning resource.

Your most significant considerations will be *time* and *space* i.e. the time you dedicate to your learning and the environment in which you engage in that learning.

It is recommended that you take time now —before starting your self-study— to familiarise yourself with these issues. There are a number of excellent resources on the web. A few suggested links are:

http://www.how-to-study.com/

The "How to study" website is dedicated to study skills resources. You will find links to study preparation (a list of nine essentials for a good study place), taking notes, strategies for reading text books, using reference sources, test anxiety.

http://www.ucc.vt.edu/stdysk/stdyhlp.html

This is the website of the Virginia Tech, Division of Student Affairs. You will find links to time scheduling (including a "where does time go?" link), a study skill checklist, basic concentration techniques, control of the study environment, note taking, how to read essays for analysis, memory skills ("remembering").

Need help?

In case you have difficulties during the duration of the course, please get in touch with the Dean, School of Business and Entrepreneurship.

Your lecturer can be contacted for routine enquiries at:

School of Leadership and Business Management, Chalimbana University, Private Bag E1, Lusaka, Zambia, during working days **(Monday-Friday)** from 08:00 to 17:00 hours on Cell: +260979024363, email: adsikalumbi@gmail.com, **website: www.chau.ac.zm.** You can also see your lecturer at the office during working hours and days as stated above. You could also utilise the services of the phone as well as the email address. For other details, you may visit the website as stated above. You are free to utilise the services of the University library which opens from 07:00 hours to 20:00 hours every working day.

It will be important for you to carry your student identity card for you to access the library and let alone borrow books.

UNIT 1
INTRODUCTION TO ACCOUNTING

1.1 Objectives

After studying this unit you should be able to:

(i) Define Accounting;
(ii) Explain the history of accounting;
(iii) Discuss the stakeholders (users) of accounting information;
(iv) Describe the financial statements;
(v) Demonstrate the role of the GAAP in accounting.

1.2 Introduction

Welcome to Unit 1. This Unit will define Accounting, provide a brief history of Accounting. Further it will discuss the various stakeholders who use the accounting information. The Unit goes further in providing basic information about the four financial statements, the accounting concepts and principles as covered by the Generally Accepted Accounting Standards (GAAP).

1.3 What is accounting?

What comes to your mind when you hear the word, 'Accounting'? What do *you* think it means?

Well, ***accounting*** can be defined as '**the process of identifying, measuring, and communicating economic information to permit informed judgements and decisions by users of the information.'** In other words accounting **involves deciding what amounts of money are, were, or will be involved in transactions (often buying and selling transactions) and then organizing the information obtained and presenting it in a way that is useful for decision making.**

1.4 History of Accounting

Accounting began because people needed to:

(i) record business transactions,
(ii) know if they were being financially successful, and
(iii) know how much they owned and how much they owed.

Accounting is known to have existed in one form or another since at least 3,500 BC (records exist which indicate its use at that time in Mesopotamia). There is also considerable evidence of accounting being practiced in ancient times in Egypt, China, Greece, and Rome. In England, the 'Pipe Roll', the oldest surviving accounting record in the English language, contains an annual description of rents, fines and taxes due to the King of England, from 1130 to 1830.

However, it was only when Paciloi wrote about it in 1494 or, to be more precise, wrote about a branch of accounting called, 'bookkeeping' that accounting began to be standardised and recognised as a process or procedure.

One accounting scholar (A. C. Littleton) suggested that seven key ingredients which were required before a formal system could be developed existed when Pacioli wrote his treatise:

(i) ***Private property***. The power to change ownership exists and there is a need to record the transaction.
(ii) ***Capital*****.** Wealth is productively employed such that transactions are sufficiently important to make their recording worthwhile and cost-effective.
(iii) ***Commerce*****.** The exchange of goods on a widespread level. The volume of transactions needs to be sufficiently high to motivate someone to devise a formal organised system that could be applied universally to record transactions.
(iv) ***Credit*****.** The present use of future goods. Cash transactions, where money is exchanged for goods, do not require that any details be recorded of who the customer or supplier was. The existence of a system of buying and selling on credit (i.e. paying later for goods and services purchased today) led to the need for a formal organised system that could be applied universally to record credit transactions.
(v) ***Writing*****.** A mechanism for making a permanent record in a common language. Writing had clearly been around for a long time prior to Pacioli but it was, nevertheless, an essential element required before accounting could be formalised.
(vi) ***Money*****.** There needs to be a common denominator for exchanges. So long as barter was used rather than payment with currency, there was no need for a bookkeeping system based upon transactions undertaken using a uniform set of monetary values.
(vii) ***Arithmetic*****.** As with writing, this has clearly been in existence far longer than accounting. Nevertheless, it is clearly the case that without an ability to perform simple arithmetic, there was no possibility that a formal organised system of accounting could be devised.

When accounting information was being recorded in the Middle Ages it sometimes simply took the form of a collection of invoices and receipts (covered in Unit 3) which were given to an accountant to calculate the profit or loss of the business up to some point in time. This practice persists to this day in many small businesses.

The accountant of the Middle Ages would be someone who had learnt how to convert the financial transaction data (i.e. the data recorded on invoices and receipts, etc.) into accounting information. Quite often, it would be the owner of the business who performed all the accounting tasks. Otherwise, an employee would be given the job of maintaining the accounting records.

As businesses grew in size, so it became less common for the owner to personally maintain the accounting records and more usual for someone to be employed as an accounts clerk. Then, as companies began to dominate the business environment,

managers became separated from owners – the owners of companies (shareholders) often have no involvement in the day-to-day running of the business. This led to a need for some monitoring of the managers. Auditing of the financial records by accountants became the norm and this, effectively, established the accounting profession.

The first national body of accountants, The Institute of Chartered Accountants of Scotland, was formed in Scotland in 1854 and other national bodies began to emerge gradually throughout the world, with the English Institute of Chartered Accountants being formed in 1880 and the first US national accounting body being formed in 1887.

1.5 Users of Accounting Information

The following are the main users (stakeholders) of accounting information generated by a business:

(i) ***Managers*.** These are the day-to-day decision-makers. They need to know how well things are progressing financially and about the financial status of the business.
(ii) ***Owner(s) of the business*.** They want to be able to see whether or not the business is profitable. In addition, they want to know what the financial resources of the business are.
(iii) ***A prospective buyer*.** When the owner wants to sell a business the buyer will want to see such information.
(iv) ***The bank*.** If the owner wants to borrow money for use in the business, then the bank will need such information.
(v) ***Tax inspectors*.** They need it to be able to calculate the taxes payable.
(vi) ***A prospective partner*.** If the owner wants to share ownership with someone else, then the would-be partner will want such information.
(vii) ***Investors*,** either existing ones or potential ones. They want to know whether or not to invest their money in the business.

There are many other users of accounting information – suppliers and employees, for example. One obvious fact is that without properly recorded accounting data a business would have many difficulties providing the information these various stakeholders require.

However, the information produced by accounting needs to be a compromise taking into account the various stakeholder an organization has.

Activity 1

Why do you think the accounting information provided by an organization has to be an uncompromised?

1.6 The Financial Statements

There are principally four types of Financial Statements that accounting deals with. Do you know them? Well you may have heard of the Trading Profit and Loss Account, Balance

Sheet, Cash Flow Statement and the Statement of Owner's Equity. These are the statutory statements that need to be prepared depending on the type of business.

1.6.1 Trading Profit and Loss Account

This is simply a statement showing how much an organisation has made, how much it has spent and the profit or loss resulting hence forth for a period of time.

1.6.2 Balance Sheet

The balance sheet shows the financial position of an organisation at a point in time. In other words, it presents a snapshot of the organisation at the date for which it was prepared. The balance sheet is not the first accounting record to be made, nor the first that you will learn how to do, but it is a convenient place to start to consider accounting.

1.6.3 Cash Flow Statement

This is a statement which shows the cash situation of an organization. It shows exactly where the cash has come from during the year, and exactly what we have done with it. The statement that fulfils these needs is called a cash flow statement.

1.6.4 Statement of Owner's Equity

The statement of owner's equity portrays changes in the capital balance of a business over a reporting period. The concept is usually applied to a sole proprietorship, where income earned during the period is added to the beginning capital balance and owner draws are subtracted.

1.7 Generally Accepted Accounting Standards (GAAP)

1.7.1 Definition of GAAP

GAAP is a term that refers to a set of rules, standards and practices used throughout the accounting industry to prepare and standardize financial statements that are issued outside the company. These standards help investors and creditors better compare companies. Companies are expected to follow generally accepted accounting principles when they report their financial information.

GAAP affects the following activities:

- Measuring economic activity
- Disclosing information about an activity
- Preparing and summarizing economic information
- Recording measurements at regular intervals

1.7.2 The Ten Basic Principles of GAAP

There are ten basic principles that make up these standards and these are itemized below

(a) The Business as a Single Entity Concept:

A business is a separate entity in the eyes of the law. All its activities are treated separately from that of its owners. In legal terms a business can exist long after the existence of its promoters or owners.

(b) The Specific Currency Principle:

A currency is specified for reporting the financial statements. In Zambia for instance all the numbers have to be expressed in Kwacha. Companies who conduct parts of their businesses in foreign currencies have to convert the amounts in Kwacha using the prevalent exchange rate while reporting their financial statements.

(c) The Specific Time Period Principle:

Financial statements always pertain to a specific time. Income statements have a start date and an end date. Balance sheets are reported as on a certain date. This way the readers know during which period the business transactions were conducted in.

(d) The Historical Cost Principle:

Historical costs are used for valuing items. The prices at which items were brought and sold are used for the valuations. Real values do change during the course of time due to inflation and recession, but these are not considered for reporting purposes.

(e) The Full Disclosure Principle:

The full disclosure principle is always in keen focus what with all the accounting scandals in the news nowadays. It is required that companies reveal every aspect of the functioning in their financial statements.

(f) The Recognition Principle:

There is also the recognition principle which states that companies reveal their income and expenses in the same time period in which they were accrued.

(g) The Non-Death Principle of Businesses

The accounting principles assume that businesses will continue to function eternally and have no end date as such.

(h) The Matching Principle

The matching principle states that the accrual system of accounting be used and for every debit there should be a credit and vice versa.

(i) The Principle of Materiality

Then there are a couple of principles which require the bookkeepers to use their judgment rather than sure shot rules. There are inaccuracies in all accounting records. After all, nobody is perfect. But when errors are made how important are they for the book keeper

to break his head over. A hundred kwacha error can be ignored, but not a hundred thousand kwacha one. This is where the principle of materiality comes in and this is where the accountants have to use their judgments.

(j) The Principle of Conservative Accounting

Conservative accounting is another principle to be adopted for the good of the company. When expenses happen they are to be recorded immediately, but incomes are to be recorded only when the actual cash has been received. Of course, what policies companies follow depend on their own internal strategy.

Activity 2

Why do you think a company needs a thorough understanding of the GAAP?

1.8 Business Transactions

Business transaction refers to the legal process of exchanging goods with goods and services. It is the process of buying and selling goods and services. For transaction to take place, there must be a seller who has goods or services and then a buyer who wants the goods or services. The two must agree to make the contract binding.

1.8.1 Types of Business Transactions

(a) Barter Transaction

This is the exchange of goods with goods or services. It is the oldest type of business transaction in the world. In this type of transaction, people are able to exchange goats with pigs, beans with clothes, chickens with a service of cultivating a piece of land etc.

(b) Credit Transaction

This is the type of transaction where the services/goods are collected and payment is made later. In this type of transaction, an invoice is used to prove that a debt is there.

(c) Cash Transaction

This is the type of transaction where services/goods are collected and payment is made immediately. With the coming of technology, there are many ways of participating in cash transactions. These include;

- Payment by hard cash.
- Payment by cheque
- Payment by the debit card/Visa card.

1.9 Business Documents

Business documents are documents that are used in business transactions. Business documents make the business transaction legal and binding. In the exchange of goods and services, there are many documents that are used for the smooth running of the business. Documents are written records of transactions which take place between different persons or parties.

1.9.1 Significance of Business Documents

From the introduction above, are able to deduce the importance of business documents? Below are the reasons why business documents are important:

(i) To prove that a business activity has taken place.
(ii) To provide future reference in case it becomes necessary.
(iii) To provide information that is useful for various purposes such as making business decisions and payment.
(iv) To work as a source form which other business records can be made such as book keeping records.
(v) To provide back ground information about the business.
(vi) To provide detailed information about the goods and services available for sale e.g. catalogue, quotation, price list and many more others.
(vii) To acknowledge receipt or payment of money e.g. cash sale slip and receipt.
(viii) To know the customers who have taken goods on credit (debtors), e.g. invoice.
(ix) To help in proper assessment of taxes such as VAT basing on the volume of sales, purchases and many more.

Various transactions use different documents depending on the type of transaction and the terms of payment agreed upon between the buyer and the seller.

1.9.2 Features of Business Documents

Arising from the above, you should be able to realize that business documents have the following features:

(i) Name and address of the business originating the document (seller/buyer).
(ii) Name and address of the business receiving the document (seller/buyer).
(iii) Name of the document e.g. quotation, receipt etc.
(iv) Document number (serial number)
(v) Date when the document is written.
(vi) Types/description of goods/services in question; e.g. dozens, boxes, colour, size etc.
(vii) Quantity of goods
(viii) Unit price and total amount.
(ix) Terms and conditions of the transaction.
(x) Name/signature of the person who prepared/received.

1.9.3 Types of Business Documents

(a) Catalogue

It is a business document which is more like a pamphlet or booklet that displays pictures and prices of the goods on sale. It may also be used for advertising.

(b) Price List

It is a list of items sold by the person to whom an Inquiry is sent, together with the price at which each item is sold. It can serve the purpose of the catalogue.

(c) Inquiry Note

This is a letter sent by a potential buyer to the supplier/seller seeking information about the goods or services offered for sale, the prices pertaining them and the terms of sale and delivery of goods.

(d) Invitation to Tender

This is a document that is similar to an inquiry note but it is addressed to more than one seller or buyer of good or services requiring them to state the conditions under which they are willing to sell or buy the goods. Invitation to tender are usually advertised in newspapers, radios and televisions.

(e) Quotation

This is a business document prepared in response to an Inquiry by the potential seller to the possible buyer containing terms and conditions under which goods can be sold. It describes the goods/services, unit price and total, and the terms and conditions for the transactions.

(f) Order Form

It is a business document which is sent by a prospective buyer to the seller requesting him to supply the specified goods. It is also termed as **Local Purchase Order (L.P.O).** It authorizes the seller to supply the goods/services requested.

(g) Proforma Invoice

It is a business document sent by the seller to the buyer showing the quantity sent and the prospective prices. It shows the terms and conditions under which the goods have been supplied. It is similar to an invoice but it does not guarantee credit. It may be sent together with the goods.

(h) Invoice

It is a summary of the details concerning goods supplied on credit. It is usually written in duplicate where by the seller retains a copy and the original is sent to the buyer. It acts as notification of the amount owed by the buyer for the goods and services bought and evidence of the debt to the seller.

(i) Advice/Dispatch Note

It is a document sent by the supplier/seller to the buyer informing him/her that the goods ordered are on the way. It shows the exact time the goods should be expected. This gives the buyer ample time to prepare transport and storage for the goods.

(j) Delivery Note/Consignment Note

It is a document sent by the seller to the buyer along with the goods being delivered. Its purpose is to serve as evidence of physical transfer of the goods from the seller to the buyer. The buyer signs on it confirming that the goods ordered have been received in good condition and as ordered. If there is any error noticed, the buyer has to notify the supplier as soon as possible for correction to be made. In a consignment, the supplier/sender is called a consigner and the receiver/buyer is termed as the consignee.

(k) Credit Note

It is a business document sent by the seller to the buyer to adjust an overcharge or if part of the goods supplied are returned to the supplier. A credit note can be sent if wrong description or quantities or qualities of goods are sent, if the goods are damaged or expired etc.

(l) Debit Note

It is a business document prepared by the seller to the buyer adjusting the undercharge in the invoice which could be wrong price in the quotation, errors in calculating, omissions etc. it means that the buyer has to pay more than the initial amount.

(m) Cash Sale Slip

It is a business document prepared by the seller to the buyer who pays cash at the time of purchasing the goods. It serves as evidence of receipt of money in cash and is only issued for cash transactions.

(n) Receipts

It is a business document prepared by the seller to the buyer acknowledging payment of debt by the buyer and concludes a credit transaction.

(o) Cheque

It is a business document or an order from an account holder to his/her bank, requesting the bank to pay the stated amount of money to the named person or bearer. The cheque book must officially be issued by the bank, should have a cheque number, account number from which the money should be withdrawn, the bank name where the account is operated and space where the payee is named, amount stated and for the signature. Moreover, it has the counterfoil which remains in the cheque book, showing the details of the cheque being given out.

(p) Statement of Account

It is a document issued by the seller to the buyer indicating a summary of transactions between the seller and buyer for a particular period of time. It is issued periodically, usually monthly, quarterly or semi-annually. It usually starts with the balance brought forward followed by entries relating to transactions and ends with a closing balance which the supplier expects to be paid.

9.10 Unit Summary

Having read this unit, the main points that you should understand are as follows:

- Accounting is concerned with the recording and classifying and summarizing of data, and then communicating what has been learned from it.
- Accounting has existed for at least 5,500 years but a formal, generally accepted method of recording accounting data has only been in existence for the last 500 years.
- It may not only be the owner of a business who will need the accounting information; it may need to be shown to others, e.g. the bank or the Inspector of Taxes.
- Accounting information can help the owner(s) of a business to plan for the futureAccounting came about because people needed to record business transactions, know if they were being financially successful, and know how much they owned and how much they owed.
- The Trading, Profit and Loss Account is a statement showing how much an organisation has made, how much it has spent and the profit or loss resulting hence forth for a period of time.
- Balance Sheet shows the financial position of an organisation at a point in time.
- Cash Flow Statement is a statement which shows the cash situation of an organization. It shows exactly where the cash has come from during the year, and exactly what we have done with it.
- The Statement of Owner's Equity depicts changes in the capital balance of a business over a reporting period. The concept is usually applied to a sole

proprietorship, where income earned during the period is added to the beginning capital balance and owner draws are subtracted.

- Generally accepted accounting principles, or GAAP, are a set of rules that encompass the details, complexities, and legalities of business and corporate accounting.

Answers to activities

Activity 1

To produce accounting information for various stakeholders in a form that fits them all at a reasonable cost would be impossible. As a result, accounting focuses on producing information for owners. It is true that the other stakeholder groups may often find the accounting information provided failing to tell them what they really want to know. However, if organizations made the effort to satisfy the information needs of all stakeholders, you will agree with me that accounting would be a very costly exercise indeed!

Activity 2

Companies need to know the GAAP rules thoroughly. In these times when the banking sector and indeed the whole financial world is under so much scrutiny regulators are taking compliance issues, accounting principles and business practices very seriously. That is why it is essential that every individual in the organization adhere to these rules and principles. Having an effective Finance and Accounting team is critical to ensure the accuracy of financial statements.

Review Questions

Before proceeding to Unit 2 make an honest attempt of the following questions.

1. Describe the history of accounting
2. Describe four financial statements and their usefulness to an organisation
3. Discuss the features of the following: barter, credit and cash transactions.
4. State and discuss the types of business transactions available, clearly state the advantages and disadvantages of each.
5. Define business documents.
6. Outline the significance of business documents
7. Explain the main features of the business document.
8. List and describe at least 15 business documents.

UNIT 2
DOUBLE ENTRY BOOK KEEPING

2.1 Objectives
After studying this unit you should be able to:

- Describe book keeping
- Describe the accounting equation
- Explain what is meant by 'double entry'
- Explain why each transaction is recorded into individual accounts
- Describe the layout of a 'T-account'
- Explain what is meant by the terms debit and credit
- Explain the phrase 'debit the receiver and credit the giver'
- Prepare a table showing how to record increases and decreases of assets, liabilities and capital in the accounts
- Describe how accounting transactions affect the items in the accounting equation

2.2 Introduction
In this unit, you will learn about book keeping, the accounting equation and the effects of transactions on the accounting equation. Further you will learn how the double entry system is used to record financial transactions and of how to use T-accounts, the traditional way to make such entries under the double entry system.

2.3 Book Keeping

How would you define book keeping?

Well book keeping bookkeeping is the process of recording data relating to accounting transactions in the accounting books.
Until about one hundred years ago all accounting data was *kept* by being recorded manually in *books*, hence the term 'bookkeeping'.

Nowadays however, although hand-written books may be used (particularly by smaller organisations), most accounting data is recorded electronically and stored electronically using computers.

2.4 The Accounting Equation

By adding up what the accounting records say belongs to a business and deducting what they say the business owes, you can identify what a business is worth according to those accounting records. The whole of financial accounting is based upon this very simple idea. It is known as the ***accounting equation*.**

It can be explained by saying that if a business is to be set up and start trading, it will need resources. Let's assume first that it is the owner of the business who has supplied all of the resources. This can be shown as:

Resources supplied by the owner = Resources in the business

In accounting, special terms are used to describe many things. The amount of the resources supplied by the owner is called capital. The actual resources that are then in the business are called assets. This means that when the owner has supplied all of the resources, the accounting equation can be shown as:

Capital = Assets

Usually, however, people other than the owner have supplied some of the assets. Liabilities is the name given to the amounts owing to these people for these assets.
The accounting equation has now changed to:

Capital = Assets - Liabilities

This is the most common way in which the accounting equation is presented. It can be seen that the two sides of the equation will have the same totals. This is because we are dealing with the same thing from two different points of view – the value of the owners' investment in the business and the value of what is owned by the owners.

Unfortunately, with this form of the accounting equation, we can no longer see at a glance what value is represented by the resources in the business. You can see this more clearly if you switch assets and capital around to produce the alternate form of the accounting equation:

Assets = **Capital** + **Liabilities**

This can then be replaced with words describing the resources of the business:

Resources: what they are = **Resources: who supplied them**
(Assets) **(Capital** + **Liabilities)**

It is a fact that no matter how you present the accounting equation, the totals of both sides will *always* equal each other, and that this will *always* be true no matter how many transactions there may be. The actual assets, capital and liabilities may change, but the total of the assets will always equal the total of capital + liabilities. Or, reverting to the more common form of the accounting equation, the capital will always equal the assets of the business minus the liabilities.

Assets consist of property of all kinds, such as buildings, machinery, stocks of goods and motor vehicles. Other assets include debts owed by customers and the amount of money in the organisation's bank account.

Liabilities include amounts owed by the business for goods and services supplied to the business and for expenses incurred by the business that have not yet been paid for. They also include funds borrowed by the business.

Capital is often called the owner's equity or net worth. It comprises the funds invested in the business by the owner plus any profits retained for use in the business less any share of profits paid out of the business to the owner.

2.4 The Balance Sheet and the Effects of Business Transactions

The accounting equation is expressed in a financial position statement called the balance sheet.

The balance sheet shows the financial position of an organisation at a point in time. In other words, it presents a snapshot of the organisation at the date for which it was prepared. The balance sheet is not the first accounting record to be made, nor the first that you will learn how to do, but it is a convenient place to start to consider accounting.

Let's now look at how a series of transactions affect the balance sheet.

(i) The Introduction of capital

On 1 May 20X7, B Mwami started in business and deposited K60, 000 into a bank account opened specially for the business. The balance sheet would show:

B Mwami
Balance Sheet as at 1 May 20X7

	K
Assets: Cash at bank	60,000
	====
Capital	60,000
	=====

Note how the top part of the balance sheet contains the assets and the bottom part contains the capital. This is always the way the information is presented in a balance sheet.

(ii) The purchase of an asset by cheque

On 3 May 20X7, Mwami buys a small shop for K32,000, paying by cheque. The effect of this transaction on the balance sheet is that the cash at the bank is decreased and the new asset, building, is added:

B Mwami
Balance Sheet as at 3 May 20X7

Assets	K
Shop	32,000
Cash at bank	28,000
	60,000
Capital	60,000

Note how the two parts of the balance sheet 'balance'. That is, their totals are the same. This is always the case with balance sheets.

(iii)The purchase of an asset and the incurring of a liability

On 6 May 20X7, Mwami buys some goods for K7,000 from D Smith, and agrees to pay for them sometime within the next two weeks. The effect of this is that a new asset, **stock** of goods, is acquired, and a liability for the goods is created. A person to whom money is owed for goods is known in accounting language as a **creditor**. The balance sheet becomes:

B Mwami
Balance Sheet as at 6 May 20X7

Assets	*K*
Shop	32,000
Stock of goods	7,000
Cash at bank	28,000
	67,000
Less: Creditor	(7,000)
	60,000
Capital	60,000

Note how the liability (the creditor) is shown as a deduction from the assets. This is exactly the same calculation as is presented in the most common form of the accounting equation.

Why do you think the K 7,000 value for creditors is shown in brackets?

Now, let's return to our example.

(iv)Sale of an asset on credit

On 10 May 20X7, goods which cost K600 were sold to J Brown for the same amount, the money to be paid later. The effect is a reduction in the stock of goods and the creation of a

new asset. A person who owes the business money is known in accounting language as a **debtor**. The balance sheet is now:

B Mwami
Balance Sheet as at 10 May 20X7

Assets	*K*
Shop	32,000
Stock of goods	6,400
Debtor	600
Cash at bank	28,000
	67,000
Less: Creditor	(7,000)
	60,000
Capital	60,000

(v) Sale of an asset for immediate payment

On 13 May 20X7, goods which cost K400 were sold to D Ornate for the same amount. Ornate paid for them immediately by cheque. Here one asset, stock of goods, is reduced, while another asset, cash at bank, is increased. The balance sheet becomes:

B Mwami
Balance Sheet as at 13 May 20X7

Assets	*K*
Shop	32,000
Stock of goods	6,000
Debtor	600
Cash at bank	28,400
	67,000
Less: Creditor	(7,000)
	60,000
Capital	60,000

(vi)The payment of a liability

On 15 May 20X7, Mwami pays a cheque for K3,000 to D Sandra in part payment of the amount owing. The asset of cash at bank is therefore reduced, and the liability to the creditor is also reduced. The balance sheet is now:

B Mwami
Balance Sheet as at 15 May 20X7

Assets	*K*
Shop	32,000
Stock of goods	6,000
Debtor	600
Cash at bank	25,400
	64,000
Less: Creditor	(4,000)
	60,000
Capital	60,000

Note how the total of each part of the balance sheet has not changed. The business is still worth K60,000 to the owner.

(vii) Collection of an asset

J Brown, who owed Mwami K 600, makes a part payment of K 200 by cheque on 31 May 20X7.
The effect is to reduce one asset, debtor, and to increase another asset, cash at bank. The balance sheet becomes:

B Mwami
Balance Sheet as at 31 May 20X7

Assets	*K*
Shop	32,000
Stock of goods	6,000
Debtor	400
Cash at bank	25,600
	64,000
Less: Creditor	(4,000)
	60,000
Capital	60,000

2.6 The Double Entry System

You have seen that every transaction affects two items. You need to show these effects when we first record each transaction. That is, when we enter the data relating to the transaction in the accounting books we need to ensure that the items that were affected by the transaction, and only those items, are shown as having changed. This is the

bookkeeping stage of accounting and the process we use is called **double entry**. You will often hear it referred to as **double entry bookkeeping**. Either term is correct.

2.6.1 Activity

Why do you think it is called 'double entry'?

If we want to show the double effect of every transaction when we are doing our bookkeeping, we have to show the effect of each transaction on each of the two items it affects. For each transaction this means that a bookkeeping entry will have to be made to show an increase or decrease of one item, and another entry to show the increase or decrease of the other item. From this description, you will probably see that the term 'double entry bookkeeping' is a good one, as each entry is made twice (double entry). At this point, you may be wondering why you can't just draw up a new balance sheet after each transaction, and so provide all the information required.

2.6.2 Activity

Why can't we just adjust the balance sheet and forget about making entries in any of the accounting books?

Instead of constantly drawing up balance sheets after each transaction what we have instead is the 'double entry' system. The basis of this system is that the transactions which occur are entered in a set of accounts within the accounting books. An account is a place where all the information referring to a particular asset or liability, or to capital, is recorded.
Thus, there will be an account where all the information concerning office equipment will be entered. Similarly, there will be an account for buildings, where all the information concerned with buildings will be shown. This will be extended so that every asset, every liability and capital will each have its own account for transactions involving that item.

2.9 Unit Summary

Now that you have read Unit 4 you should understand that:

(i) The accounting equation is: Capital = Assets − Liabilities.
(ii) The two side of the accounting equation are represented by the two parts of the balance sheet.
(iii) The totals of one part of the balance sheet should always be equal to the total of the other part.

(iv) Every transaction affects two items in the accounting equation. Sometimes that may involve the same item being affected twice, once positively (going up) and once negatively (going down).
(v) Every transaction affects two items in the balance sheet.

Answers to Activity Questions

4.6.1 Each transaction is entered twice. In an accounting transaction, something always 'gives' and something 'receives' and both aspects of the transaction must be recorded. In other words, there is a double entry in the accounting books – each transaction is entered twice.

4.5.2 A balance sheet is a financial statement that summarizes the financial position of an organisation at a point in time. It does not present enough information about the organisation to make it appropriate to enter each transaction directly on to the balance sheet. It does not, for instance, tell who the debtors are and how much each one of them owes the organisation, nor who the creditors are and the details of the amounts owing to each of them. We need to maintain a record of each individual transaction so that (a) we know what occurred and (b) we can check to see that it was correctly recorded.

Review Questions

1. You are required to open the asset and liability and capital accounts and record the following transactions for June 20X8 in the records of B Peters.

20X8

June 1 Started business with K 12,000 in cash.
2 Paid K 11,700 of the opening cash into a bank account for the business.
5 Bought furniture on credit from TDAU Ltd for K 1,900.
8 Bought a truck paying by cheque K 5,250.
12 Bought ICT equipment from Pearce Browns on credit K 2,300.
18 Returned faulty furniture costing K 120 to TDAU Ltd.
25 Sold some of the ICT equipment for K 200 cash.
26 Paid amount owing to TDAU Ltd K 1,780 by cheque.
28 Took K 130 out of the bank and added to cash.
30 F Malaika lent us K 4,000 – giving us the money by cheque.

UNIT 3

SUBSIDIARY BOOKS

3.1 Introduction

A very warm welcome to this module and to this unit in particular. In this unit I will outline the books of prime entry, you will learn about the books in which details of accounting transactions are recorded. You will learn that Day Books and Journals are used to record all transactions made on credit and that the Cash Book is used to record all cash and bank transactions.

3.2 Learning Objectives

After you have studied this unit, you should be able to:

- justify the need for books of original entry.
- explain what each book of original entry is used for.
- describe the process of recording transactions in a book of original entry.

3.3 Time Required

You should be able to take fours hour on this unit.

3.4 Reflections

Imagine that you are an Assistant Accountant at Chalimbana University, which documents could you identify as books of prime entry? What would you consider to be source documents?

3.5 Books of Original Entry

When a transaction takes place, we need to record as much as possible of the details of the transaction.
For example, if we sold four computers on credit to Mr Ntabo for K4,000 per computer,we would want to record that we sold four computers for K4,000 each to Mr Ntabo on credit. We would also want to record the address and contact information of Mr Ntabo and the date of the transaction. You may also record information like the identity of the person who sold them to Mr Ntabo and the time of the sale.
Books of original entry are the books in which we first record transactions, such as the sale of the four computers above. We have a separate book for each kind of transaction. Thus, the nature of the transaction affects which book it is entered into. Sales will be entered in one book, purchases in another book, cash in another book, and so on. We enter transactions in these books recording:

- the date on which each transaction took place – the transactions should be shown in date order;
- details relating to the sale (as listed in the computer example above) are entered in a 'details' column;
- a folio column entry is made cross-referencing back to the original 'source document', e.g. the invoice;
- the monetary amounts are entered in columns included in the books of original entry for that purpose.

3.6 Types of books of original entry

Books of original entry are known as either 'journals' or 'day books'. However, in the case of the last book of original entry shown below, it is always a 'journal' and the second last is always known as the 'cash book'. The term 'day book' is, perhaps, more commonly used, as it more clearly indicates the nature of these books of original entry – entries are made to them every day.
The commonly used books of original entry are:

I. Sales Day Book (or Sales Journal) – for credit sales.
II. Purchases Day Book (or Purchases Journal) – for credit purchases.
III. Returns Inwards Day Book (or Returns Inwards Journal) – for returns inwards.
IV. Returns Outwards Day Book (or Returns Outwards Journal) – for returns outwards.
V. Cash Book – for receipts and payments of cash and bank transactions/ cheques.
VI. General Journal (or Journal if the term 'Day Book' is used for the other books of original entry) – for other items other than the above.

Please note that the term 'day book' can always be substituted with the word 'journal'. Be sure to remember this. Examiners may use either term.

3.6.1 Sales Day Book

Sales Day Book is basically a list or diary of details relating to each credit sale. This information is drawn from the Sales Invoices generated for customers. Table 1.1 provides an example of a Sales Day book.

Sales Day Book				
Date	Names	Invoice No	Folio(F)	Amount (K)
4-Jul-18	Damson	A001	SL1	500.00
5-Jul-18	Josephine	A002	SL2	8,000.00
6-Jul-18	Beauty	A003	SL3	5,000.00
6-Jul-18	Happy	A004	SL4	2,500.00
7-Jul-18	Judith	A005	SL5	3,000.00
9-Jul-18	Robby	A006	SL6	4,500.00
10-Jul-18	Karen	A007	SL7	950.00
10-Jul-18	Norah	A008	SL8	8,600.00
12-Jul-18	Phalesy	A009	SL9	4,500.00
12-Jul-18	Matthew	A010	SL10	3,450.00
			GL12	41,000.00

Table 1.1

Cash sales and Credit Sale

Cash sales are sales generated from goods that are paid for immediately. This include payment by cash, cheque or funds transfer. For accounting purposes, in such cases we do not need to know the names and addresses of customers nor what has been sold to them and, as a result, there is no need to enter such sales in the Sales Day Book. The Sales Day Book (and all the other day books) are only used for credit transactions. Credit Sales are on the other hands goods that have been sold on credit.

In all but the smallest business, most sales will be made on credit. In fact, the sales of many businesses will consist entirely of credit sales. For each credit sale, the selling business will give or send a document to the buyer showing full details of the goods sold and the prices of the goods. This document is an 'invoice'. It is known to the buyer as a 'purchase invoice' and to the seller as a sales invoice. The seller will keep one or more copies of each sales invoice for his own use.

Making entries in the sales day book

From the copy of the sales invoice, the seller enters up the transaction in the Sales Day Book.

This book is merely a list of details relating to each credit sale:

- Date
- Name of customer
- Invoice number
- Folio column
- Final amount of invoice.

There is no need to show details of the goods sold in the Sales Day Book. This can be found by looking at copy invoices.

3.6.2 Purchases Day Book

The Purchases Day Book is merely a list of details relating to each credit purchase. The list of items is virtually identical to those recorded in the Sales Day Book, the only differences being that it is the name of the supplier that is recorded, not the purchaser, and that the invoice number is replaced with the buyers own internally generated reference number:

- date
- name of supplier
- the reference number of the invoice
- folio column
- final amount of invoice.

Making entries in the purchases day book
From the purchases invoices for goods bought on credit, the purchaser enters the details in the Purchases Day Book (or Purchases Journal).Refer to Table 1.2

Table 1.2

Purchases Day Book				
Date	Names	Invoice No.	Folio(F)	Amount (K)
4-Jul-18	Miyoba Hamusonde	A001		1,200.00
5-Jul-18	Richard Kachungu	A002		850.00
6-Jul-18	Derrick Kachungu	A003		850.00
6-Jul-18	Nkwendela Ntabo	A004		1,250.00
7-Jul-18	Chabota Ntabo	A005		650.00
9-Jul-18	Shumina Mawila	A006		750.00
10-Jul-18	Shumina Mawila	A007		950.00
10-Jul-18	Miyoba Hamusonde	A008		870.00
12-Jul-18	Richard Kachungu	A009		320.00
12-Jul-18	Muwahe Ntabo	A010		980.00
				8,670.00

3.6.3 Purchases Returns Day Book

In business, customers are allowed to return goods they've bought. Some retail businesses give every customer the right to do so within a few days of the sale and won't ask why they are being returned. It is a means of assuring the customer that the seller believes that the goods are of good quality and will do what the customer wants. Whatever the rights of return granted by the seller, in the Zambia there are also legal rights of return that permit retail customers to return goods for a refund should the goods prove to have been unfit for the purpose that was intended. The Consumer Protection unit is one such organizations that works to protect rights of customers.

When such a transaction happens, a business should generate a credit note for part or full amount of the goods returned. It should also record such transactions in a Purchase Returns Day Book.

Table 1.3

PURCHASES RETURNS DAY BOOK				
DATE	NAME	NOTE	FOLIO	K
1/8/2018	Shumina Properties	002	26	1,200.00
3/8/2018	Mawila Finance Ltd	003	78	1,500.00
4/8/2018	Mahepo Lodges	004	27	200.00
5/8/2018	Nkwendela Hospitals	005	29	1,600.00
7/8/2018	Muwahe Transport	006	30	1,600.00
	Transfer to Ledger			6,100.00

3.6.4 Sales Returns Day Book and Debit Notes

If the supplier agrees, goods bought previously may be returned. When this happens a debit note is sent by the customer to the supplier giving details of the goods and the reason for their return. The credit note received from the supplier will simply be evidence of the supplier's agreement, and the amounts involved.

Also, an allowance might be given by the supplier for any faults in the goods.

SALES RETURNS DAY BOOK				
DATE	NAME	NOTE	FOLIO	K
1/8/2018	Rose Business Park	002	26	1,200.00
3/8/2018	Mwene Ltd	003	78	1,500.00
4/8/2018	Purity Industries Ltd	004	27	200.00
5/8/2018	Leah Farms	005	29	1,600.00
7/8/2018	Shumina properties	006	30	1,600.00
	Transfer to Ledger			6,100.00

Statement

At the end of each month, a statement should be sent to each debtor who owes money on the last day of the month. This is actually a copy of the debtor's account in the seller's books. It should show:

1. the amount owing at start of month;
2. the amount of each sales invoice sent to the debtor during the month;
3. credit notes sent to the debtor in the month;
4. cash and cheques received from the debtor during the month; and, finally,
5. the amount due from the debtor at the end of the month.

3.6.5 Cashbook

The Cash Book consists of the cash account and the bank account put together in one book. This means that we can record all money received and paid out on a particular date on the same page.In the Cash Book, the debit column for cash is put next to the debit column for bank. The credit column for cash is put next to the credit column for bank.
Periodically, or on request from the business, the bank sends a copy of the account in its books to the business. This document is known as the bank statement. When the business receives the bank statement, it checks it against the bank columns in its Cash Book to ensure that there are no errors. With the coming of on-line banking, a business has records of a bank statement on the press of a button, this therefore means, reconciliations are made easier.

Table 1.4 Cashbook

Date	Details	Folio	Cash	Bank	Date	Details	Folio	Cash	Bank
2-Jan	Capital			10,000.00	7-Jan	Rent			1,200.00
3-Jan	Marvin			1,200.00	9-Jan	Electricity			200.00
4-Jan	Loveden			300.00	11-Jan	Printing			150.00
5-Jan	James		250.00		14-Jan	Stationery		120.00	
6-Jan	Mabisi			350.00	15-Jan	Advertising			1,500.00
7-Jan	Chitambala				16-Jan	Purity Ltd			250.00
8-Jan	Kabwalwa			500.00	17-Jan	Lusaka Water			500.00
9-Jan	Mutafya			750.00					
10-Jan	Musonda		120.00						
11-Jan	Zimba		20.00						
12-Jan	Machungwa			650.00	29-Jan	Balance C/d		270.00	9,950.00
			390.00	13,750.00				390.00	13,750.00
1-Feb	Balance b/d		270.00	9,950.00					

Draw up the cash book using the following details.

2018	K
Sept 1 Proprietor puts capital into a bank account for the business.	10,940
Sept 2 Received cheque from Mawila.	315
Sept 4 Cash sales.	802
Sept 6 Paid rent by cash.	135
Sept 7 Banked K50 of the cash held by the business.	50
Sept 15 Cash sales paid direct into the bank.	490
Sept 23 Paid cheque to Shumina.	277
Sept 29 Withdrew cash from bank for business use.	120
Sept 30 Paid wages in cash.	518

Dealing with discounts in the Cashbook
To deal with discounts in the Cashbook, an extra column is added on each side of the Cash Book in which the amounts of discounts are entered. Discounts received are entered in the discounts column on the credit side of the Cash-Book, and discounts allowed in the discounts column on the debit side of the Cash Book. Refer to the example below:

Table 1.3 Cashbook (With Discount Column)

Date	Details	Folio	Discount	Cash	Bank	Date	Details	Folio	Discount	Cash	Bank
2-Jan	Kande-bwila	SL2	50	950.00		7-Jan	Handyman s Paradise	PL12	100		1,400.00

3.6.6 The Journal

The other items which do not pass through these five day books are much less common, and sometimes much more complicated. It would be easy for an Accountant to forget the details of these transactions if they were made directly into the ledger accounts from the source documents and, if the Accountant left the business, it could be impossible to understand such bookkeeping entries.
What is needed is a form of diary to record such transactions, before the entries are made in the double entry accounts. This book is called the Journal. For each transaction it will contain:

- the date
- the name of account(s) to be debited and the amount(s)
- the name of the account(s) to be credited and the amount(s)
- a description and explanation of the transaction (this is called a narrative)
- a folio reference to the source documents giving proof of the transaction.

The use of a journal makes fraud by Accountants more difficult. It also reduces the risk of entering the item once only instead of having double entry. Despite these advantages there are many businesses which do not have such a book.

Uses of a Journal
Some of the main uses of the Journal are listed below:

- The purchase and sale of fixed assets on credit.
- Writing off bad debts.
- The correction of errors in the ledger accounts.
- Opening entries. These are the entries needed to open a new set of books.
- Adjustments to any of the entries in the ledgers.

3.1 Activities

Attempt the following exercise

Activity 1.1
Tuzini Farms and Agrochemicals,10 miles Lusaka, is selling the following items at the retail prices as shown:

Tomatoes at K50 per box, Onions at k2 per bob, Cabbage at k5 per head, Maize at k3 per cob. She makes the following sales:

2018 June 1, To Kingsley K, 5 Boundary Road,Northrise, Ndola: 22 box of tomatoes , 6 bobs of Onions, 4 heads of cabbages. Less 25 per cent trade discount.
2018 June 5 To Kacigowani K, 1 Wembley Road, Chingola: 50 bobs of onions, 8 heads of cabbages, 20 cobs of maize. Less 20 per cent trade discount.
2018 June 6, To DR Tamara Kaunda, 1 Mass Media Area, Lusaka: 4 boxes of tomatoes, 33 bobs of onions, 30 cobs of maize. Less 25 per cent trade discount.
2018 June 7, To Stanley Mutale, 5 Maine Road,Luashya: 29 boxes of tomatoes. No trade discount is given.
2018 June 30, To Mayankwa Alison, Daley Road, Lilanda,Lusaka: 32 boxes of tomatoes, 24 bobs of onions,20 heads of cabbages. Less 33 1/3 per cent trade discount.

Required:

(a) Draw up a sales invoice for each of the above sales.
(b) Enter them up in the Sales Day Book.

3.7 Unit Summary

In this unit I have given you a walkthrough of the different books of prime entry from Sales day book, Purchases day book, Returns day books, Cashbook, and Journals
.

UNIT 4

THE TRIAL BALANCE

4.1 Introduction

Welcome to this interesting topic. We are now going to join the pieces together to formulate a snap shot of the entire business. Yes, the trial balance. This is a list of all the balances from the double-entry accounts providing an arithmetical check on the accuracy of the bookkeeping. In this unit, we are going to explore the trial balance.

4.2 Learning Objectives

After you have studied this unit, you should be able to:

- Construct a trial balance from a set of transactions
- Explain why we prepare the trial balance

Time Required
You need to put in 3 hours to understand the trial balance.

4.3 Trial balance Preparations from a set of accounts

Double-entry accounts are used to calculate the level of profit earned by a business. They can also be used to take a measure of the business's size and financial structure. Before any of this is completed it is customary to extract a trial balance. The trial balance is simply a list of the closing balances on each individual ledger account. The debit balances and credit balances are listed in separate columns. If the double-entry bookkeeping has been conducted correctly then the totals of these columns should 'agree', that is, should total the same amount. This is no coincidence. It is logical that the totals of each column should be the same. For every debit entry, a credit entry of equal amount was made in an account. In other words, every time we added an amount to the debits we always added an equal amount to the credits – meaning it has to be the case that the debits and credits agree in total. It doesn't matter which accounts have been affected because the trial balance looks at the system as a whole.

A trial balance that fails to agree would indicate that mistakes have been made in the double-entry bookkeeping. Common errors shown up by the trial balance would include:

● only entering half of a transaction (i.e. missing out a debit or a credit entry)
● Entering two debits or two credits for a transaction rather than one of each
● entering different amounts for the two entries.

However, even if a trial balance agrees this does not mean that the bookkeeping has been error-free. For example, any of the following errors would not prevent the trial balance agreeing:

- Missing out a whole transaction (i.e. both the debit and the credit entry)
- Entering the same incorrect figure on both halves of the transaction
- Reversing the debit and credit entries.

A trial balance will normally appear as follows:

Mahepo & Sons
Trial balance as at 31 December 2008

	Dr	Cr
	K	K
Sales		12,000
Purchases	8,000	
Insurance	1,300	
Lighting and heating	900	
General expenses	240	
Machinery	4,200	
Trade receivables*	1,780	
Trade payables*		1,960
Bank	3,940	
Rent received		220
Administration expenses	260	
Drawings	1,560	
Capital		6,000
Loan (repayable in 2015)		2,000
Total	**22,180**	**22,180**

Total debit entries = Total credit entries
Inventory at 31 December 2008 was valued at K600.

In the trial balance there will be a mixture of balances from different types of accounts. Some accounts will have no outstanding balance and therefore will not appear in the trial balance.

Any inventory left unsold at the end of the period would be treated as an asset and would be stated outside the trial balance (as there is no individual account for inventory). For financial statements, it is important to get the correct format of the title. Think of this as a three-part process:

- Who? – the name of the person or business
- What? – what type of statement
- When? – for what time period

This may be referred to as the three Ws. Whether the financial statement is for a particular point in time (i.e. a day) or for a period of time (e.g. a year) is an important distinction to make and be aware of.
The focus of some examination questions will be on constructing or correcting a trial balance, which means that is important that you can remember the balances of particular types of account – whether debit or credit. The common balances are as follows:

Common balances in the trial balance

Debit balances	**Credit balances**
Assets	Liabilities
Drawings	Capital
Expenses	Revenues
Provisions	

Some balances can be debit or credit. For example, the bank balance can either be a debit balance if there is money in the bank or a credit balance if there is an overdrawn balance.

4.4 Activities

Activity 1

What advantages are there in preparing a trial balance when you are about to prepare a profit and loss account and balance sheet?

4.5 Unit Summary

Congratulations! You have achieved another milestone. In this unit you have learnt that the trail balance is a snap shot of balances of ledgers and that the trial balance is fundamental to preparations of the financial statements. You have learnt also that there are some errors that could still exit even when the trail balance balances.

In the next unit, I will discuss the statement of comprehensive income

Remember that;

- for each debit entry there is a credit entry
- for each credit entry there is a debit entry

UNIT 5
FINAL ACCOUNTS

5.1 Introduction

I would like to commend you for the progress you have made this far. You have completed the foundations unit of this module. In this unit I now discuss the statement of comprehensive income which could be called, Income Statement or Trading Profit and loss Account. Businesses exist foundationally to generate profit. Therefore, to measure profitability at different levels, the statement of comprehensive income is generated. In this unit, you will learn how to close down revenue and expenditure accounts in order to calculate profit and prepare a Trading and Profit and Loss Account. You will learn how to adjust purchases with stock and arrive at the cost of goods sold, and will discover the difference between gross profit and net profit. You will learn how to prepare a Trading and Profit and Loss Account and, finally, you will learn how to transfer net profit and drawings to the capital account at the end of a period. I will explain why and how profit is calculated, I will also show you how to calculate the cost of goods sold, the famous gross profit and net profit will be brought bare. Join me as we start the journey to preparing the Statement of comprehensive income!

5.2 Learning Objectives

After you have studied this unit, you should be able to:

- Explain why profit is calculated
- Calculate cost of goods sold, gross profit, and net profit
- Explain the difference between gross profit and net profit
- Explain the relationship between the trading account and the profit and loss account
- explain how to deal with closing stock when preparing a trading and profit and loss account
- Close down the appropriate accounts and transfer the balances to the trading account
- Prepare a trading and profit and loss account from information given in a trial balance
- Make appropriate double entries to incorporate net profit and drawings in the capital account

5.3 Time Required

You need to put in 4 hours**.**

5.4 Reflections

How else, would you know as a sole trader that your business is doing well? What will be the indicators that you are now making loses?

5.5 Statement of Comprehensive Income

The statement of comprehensive income is the statement which shows the profit or loss earned by a business for a particular period of time. For many years, this was known as the profit and loss account. More recently, it was also known as the income statement of the business. In this unit we will use the IAS 1 terminology for the full statement of comprehensive income.

As we construct this statement we will refer to the two sections of the statement as the trading account and the profit and loss account respectively. In fact, some older texts still refer to the statement of comprehensive income as a 'trading and profit and loss account'. Although the introduction of alternative names for this one statement may seem confusing, this is designed to make understanding the full statement and how it is constructed easier. A statement of comprehensive income is also known as a profit and loss account or an income statement.

Calculation of profit
Profit maximization – where managers and owners aim to make as much profit as possible – is the main objective of many businesses. Even if a business has other objectives, such as growth or survival, the calculation of profit will be of great importance for the following reasons:

- Calculation of tax – tax paid to the government will be based on the profits earned
- Obtaining credit – lenders (such as banks) will want to see that they will be repaid and profit is a good indicator of this ability
- Expansion – profits enable a firm to grow.

Profit is measured over a period of time. The calculation of the profit will involve calculation of both total income and total expenses generated for a particular time period with profit being the difference between these two. The profit of a business is calculated in the statement of comprehensive income. However, there is more than one measurement of profit which can be calculated.

Difference between gross and net profits
Although the final profit figure is important, managers and owners will also want to know the size of the profit made on the actual sales that have been made before any other expenses are deducted. As a result, statements of comprehensive income are normally split into two sections, the trading account and the profit and loss account.

Sections found in the statement of comprehensive income
Trading account calculates the gross profit – calculated as the profit made on the buying and selling of goods.

Profit and loss account calculates the net profit – calculated as the profit remaining after all other expenses are deducted.

Given that the gross profit is only calculated as the profit made on the buying and selling of goods, it is possible that a firm earns a gross profit, but still ends up with a net loss. It is also possible (though unlikely) that the business makes a gross loss, which would make it highly unlikely that they would make anything other than a net loss.

The information needed to calculate gross and net profits will come from the trial balance.

For the purpose of the next few examples, we will continue to use the trial balance of Mahepo & Sons.

Mahepo & Sons
Trial balance as at 31 December 2008

	Dr	Cr
	K	K
Sales		12,000
Purchases	8,000	
Insurance	1,300	
Lighting and heating	900	
General expenses	240	
Machinery	4,200	
Trade receivables	1,780	
Trade payables		1,960
Bank	3,940	
Rent received		220
Administration expenses	260	
Drawings	1,560	
Capital	6,000	
Loan (repayable in 2015)		2,000
Total	22,180	22,180

Inventory at 31 Dec 2008 was valued at K600.

The statement of comprehensive income will be constructed from many of the balances found on the trial balance.

To calculate profit, we need the balances from the accounts that refer to flows of income and expenditure – look for the balances that are not dealing with assets, liability or capital – these will be the balances that we need. (The asset of inventory will be the only asset balance which is used within the statement of comprehensive income – it is needed in the calculation of the cost of goods sold.)

The unused balances will be used when we construct the statement of financial Position. Trade receivables and trade payables are the names given to the totals of debtors and creditors respectively. In the double-entry accounts these balances would appear as the name of the relevant debtor or creditor.

In each of the ledger accounts that appear in the statement of comprehensive income the balance on the account would be transferred to the income statement. In effect, each ledger account is 'emptied' into the statement of comprehensive income (though this doesn't apply to all accounts).

Trading account

In the trading account we calculate the gross profit. This is calculated as the difference between sales and the cost of goods sold.

Gross profit = Sales less Cost of goods sold

The cost of goods sold refers to the cost of any purchases made by the firm. However, we would not include any purchases that remain unsold at the end of the period so we would always subtract the value of any closing inventory from this purchases figure. In our example, the cost of goods sold would be K8,000 − K600 = K7,400 (i.e. purchases − closing inventory).

In this case, the trading account section of the statement of comprehensive income would look as follows:

Mahepo & Sons
Trading Account for year ended 31 December 2008

K	K		
Sales			12,000
Less Cost of goods sold:			
Purchases	8,000		
Less Closing inventory	600	7,400	
Gross profit			4,600

Statements of comprehensive income and the trading account can be shown either in what is known as 'horizontal' or 'vertical' presentation. The example above shows the trading account in its vertical format. In this module we will stick to using the vertical format as it is more in line with how financial statements are presented in annual reports.

Note that the title of the trading account contains the three Ws – who, what and for when. The trading account should not really be thought of as an account. Think of it as part of the business's financial statements – a section of the statement of comprehensive income.

Profit and loss account

The second section of the statement of comprehensive income is sometimes referred to as the profit and loss account. Once we have calculated the gross profit (or gross loss) of the business, it is now time to include all the other expenses that the business has incurred so as to arrive at the net profit.

Net profit = Gross profit – Expenses

It is important that we only include the income and expenses belonging to the particular time period we are concerned with. This means that we must be careful not to include the purchase of any non-current assets as expenses.

As with the sales account, the expenses and other income accounts have the balances transferred to the profit and loss section of the statement of comprehensive income. The profit and loss section will appear as follows:

Mahepo & Sons
Profit and loss account for the year ending 31 December 2008

	K	K
Gross profit		4,600
Add: Rent received		220
		4,820
Less: Expenses		
Insurance	1,300	
Lighting and heating	900	
General expenses	240	
Administration expenses	260	
		(2,700)
Net profit		**2,120**

Any additional income – in this case 'rent received' – would be added on to the gross profit before we deduct the total of the expenses. The total of gross profit (with any additional income added on) is greater than the total of the expenses. This means that the business has made a net profit for the year.

The full statement of comprehensive income would appear as follows:

Mahepo & Sons
Statement of comprehensive income for the year ending 31 December 2008

	K	K
Sales		12,000
Less Cost of goods sold:		
Purchases	8,000	
Less Closing inventory	(600)	
		(7,400)
Gross profit		4,600
Add: Rent received		220
		4,820
Less: Expenses		
Insurance	1,300	
Lighting and heating	900	
General expenses	240	
Administration expenses	260	

	2,700
Net profit	**2,120**

Note: In the published version of these accounts, sales are referred to as 'revenue'. Here we will continue to use the term 'sales' as this enables you to see more closely the link between the statement of comprehensive income and the double-entry bookkeeping. Although the trading account and profit and loss account can be shown separately, it is normal to combine the two accounts into one overall accounting statement – the statement of comprehensive income.

The net profit of K2,120 does not mean that the firm has this amount of money in the bank – a common confusion by learners new to the subject. The profit earned could have already been 'spent' on new assets, inventory, or taken as personal drawings. All the profit represents is that the business generated more in income than it managed to spend on business expenses for that period of time.

Purpose of trading and profit and loss accounts

The main reason why people set up businesses is to make profits. Of course, if the business is not successful, it may well incur losses instead. The calculation of such profits and losses is probably the most important objective of the accounting function. The owners will want to know how the actual profits compare with the profits they had hoped to make. Knowing what profits are being made helps businesses to do many things, including:

- planning ahead
- obtaining loans from banks, other businesses, or from private individuals
- telling prospective business partners how successful the business is
- telling someone who may be interested in buying the business how successful the business is
- calculating the tax due on the profits so that the correct amount of tax can be paid to the tax authorities such Zambia Revenue Authority

The Trading Account

One of the most important uses of trading and profit and loss accounts is that of comparing the results obtained with the results expected. In a trading organisation, a lot of attention is paid to how much profit is made, before deducting expenses, for every Kwacha of sales revenue. So that this can easily be seen in the profit calculation, the account in which profit is calculated is split into two sections – one in which the gross profit is found (this is the Trading Account part of the statement), and the next section in which the net profit is calculated (this is the 'Profit and Loss' part of the statement). Gross profit is the excess of sales revenue over the cost of goods sold. Where the cost of goods sold is greater than the sales revenue, the result is a gross loss. By taking the figure of sales revenue less the cost of goods sold to generate that sales revenue, it can be seen that the accounting custom is to calculate a trader's profits only on goods that have been sold.

Sales − Cost of Goods Sold = Gross Profit

It would be easier if all purchases in a period were always sold by the end of the same period. In that case, cost of goods sold would always equal purchases. However, this is not normally the case and so we have to calculate the cost of goods sold as follows: In Swift's case, there are goods unsold at the end of the period. However, there is no record in the accounting books of the value of this unsold stock. The only way that Swift can find this figure is by stocktaking at the close of business on 31 December 20X5. To do this he would have to make a list of all the unsold goods and then find out their value. The value he would normally place on them would be the cost price of the goods, i.e. what he paid for them.

Let's assume that this is K3, 000.00. The cost of goods sold figure will be:

	K
Purchases	29,000
Less Closing stock	(3,000)
Cost of goods sold	26,000

Based on the sales revenue of K38,500 the gross profit can be calculated:

Sales − Cost of Goods Sold = Gross Profit
K38,500 − K26,000 = K12,500

We now have the information we need to complete the Trading part of the Trading and Profit and Loss Account statement. Next, we need to close off the sales and purchases accounts at the end of the period so that they start the next period with no balance. To do so, we need to create a trading account (this is not the same as the trading part of the Trading and Profit and Loss Account, though it does produce the same gross profit figure) and then make the following entries:

(a) The balance of the sales account is transferred to the trading account by:

Debiting the sales account (thus closing it).
Crediting the trading account.

(b) The balance of the purchases account is transferred to the trading account by:

Debiting the trading account.
Crediting the purchases account (thus closing it).

(c) There is, as yet, no entry for the closing stock in the double entry accounts. This is achieved as follows:

Debit a closing stock account with the value of the closing stock.
Credit the trading account (thus completing the double entry).

What we bought in the period:	Purchases
Less Goods bought but not sold in the period:	(Closing stock)
=	Cost of goods sold

Profit and Loss Account

Net profit, found in the Profit and Loss Account, consists of the gross profit plus any revenue other than that from sales, such as rents received or commissions earned, less the total costs used

up during the period other than those already included in the 'cost of goods sold'. Where the costs used up exceed the gross profit plus other revenue, the result is said to be a net loss. Thus:

Information Needed

Before drawing up a trading and profit and loss account you should prepare the trial balance. This contains nearly all the information needed. (Later on in this module you will see that certain adjustments have to be made, but we will ignore these at this stage.)

5.6 Activities

You should now attempt review questions.

1. From the following trial balance construct the statement of comprehensive income for Phalesy Ntabo Ltd for the year ended 31 December 2007 and a statement of financial position as at that date.

	Dr K	Cr K
Sales		265,000
Purchases	210,450	
Carriage outwards	1,100	
Premises	100,000	
Equipment	15,900	
Trade receivables	7,520	
Trade payables		6,980
Bank	6,500	
Administration	4,300	
Wages and salaries	15,328	
Rates and insurance	3,432	
Repair costs	2,450	
Capital		120,000
Drawings	16,500	
Motor van	8,500	
Total	**391,980**	**391,980**

Inventory as at 31 December 2007 was valued at K9,450.

2. Below is a trial balance for Damson Ntabo. Construct a statement of comprehensive income for the period ending 30 November 2011, and a statement of financial position as at that date.

	Dr	**Cr**
	K	**K**
Sales		342,312
Purchases	311,769	
Vehicle expenses	3,212	
Premises	87,000	
Motor vehicle	13,000	
Trade receivables	27,878	
Trade payables		29,090
Bank	4,354	
Heating and lighting	7,891	
Wages and salaries	23,141	
Rent and rates	6,543	
Advertising	2,313	
Capital		155,121
Drawings	12,188	
Repairs	4,234	
Plant	23,000	
Total	**526,523**	**526,523**

Inventory as at 30 November 2011 was valued at K27,655.

5.7 The Balance Sheet

The balance sheet shows the financial position of an organisation at a point in time. In other words, it presents a snapshot of the organisation at the date for which it was prepared. The balance sheet is not the first accounting record to be made, nor the first that you will learn how to do, but it is a convenient place to start to consider accounting. It will be discussed in full in the next unit.

5.8 Unit Summary

Congratulations! You have achieved another milestone. In this unit you have learnt that the Income statement or statement of comprehensive Income is part of the financial statements. You have also practiced the formats of the Income statement. The relevancy of the statement has been tackled too. You have learnt also that there are some errors that could still exit even when the trail balance balances.

In the next unit, we will discuss the statement of financial position.

UNIT 6
THE BALANCE SHEET (STATEMENT OF FINANCIAL POSITION)

6.1 Introduction

I would like to commend you for the progress you have made this far. You have completed a good number of units in this module. In this unit I now discuss the statement of Statement of financial position or the balance sheet. You'll learn how to present asset, liability, and capital balances in a balance sheet and of the importance of adopting a consistent and meaningful layout.

6.2 Learning Outcomes

After you have studied this unit, you should be able to:

- Explain why balance sheets are not part of the double entry system
- Explain why it is important that account balances are shown under appropriate headings in the balance sheet
- Explain the meanings of the terms fixed asset, current asset, current liability, and long-term liability
- Describe the sequence in which each fixed asset is entered in the balance sheet
- Describe the sequence in which each current asset is entered in the balance sheet
- Draw up a balance sheet from information given in a trial balance

6.3 Time Required

You need to put in 4 hours.

6.4 Reflections

Imagine that your balance sheet does not balance, what would you think to be the problem. Why should the balance sheet always balance?

6.5 Balance Sheet

The other main part of a set of financial statements is the statement of financial position (previously known as the balance sheet). This is also constructed from the balances found on the trial balance. Again, we will use the trial balance of Mahepo & Sons Ltd. Balances remaining unused after the construction of the statement of comprehensive income will be used to construct the balance sheet.

The balances appearing on the statement of financial position will be those of assets, liabilities and capital accounts. The balances that are not being used in the construction of the statement of financial position of the trial balance below.

Trade receivables and Trade payables are the names given to the totals of debtors and creditors respectively. In the double-entry accounts these balances would appear as the name of the relevant debtor or creditor.

Mahepo & Sons
Trial balance as at 31 December 2008

	Dr	**Cr**
	K	**K**
Sales		12,000
Purchases	8,000	
Insurance	1,300	
Lighting and heating	900	
General expenses	240	
Machinery	4,200	
Trade receivables	1,780	
Trade payables		1,960
Bank	3,940	
Rent received		220
Administration expenses	260	
Drawings	1,560	
Capital		6,000
Loan (repayable in 2015)		2,000
Totals	**22,180**	**22,180**

Inventory at 31 Dec 2008 was valued at K600.

Sections within the statement of financial position
A statement of financial position can be thought of as a list of the assets of the business. It shows the assets of the business and how those assets were financed. Assets can be financed by either the owner's own resources – capital – or by borrowing – liabilities. As you may know by now, the total value of assets should always be equal to the combined total of capital and liabilities. Rather than simply list assets, liabilities and capital, further subdivisions are shown on a statement of financial position.

Non-current assets
Non-current assets (also known as fixed assets) are those assets which are not bought with the intention of resale. They are often bought to be used within the business, either to facilitate production or, in the case of investments, to generate further income. Common examples of non-current assets would include property, plant and equipment. Non-current assets are also known as fixed assets.

Current assets
Current assets are assets which are likely to be converted into cash before the end of the current year (i.e. before the date of the next statement of financial position). Liquidity is used to refer to how easily an asset can be converted into cash (without any significant loss in value). Current assets are deemed to be liquid assets. Common examples of current assets would include inventory, trade receivables, bank and cash.

Current liabilities
In line with IAS 1, current liabilities would be those expected to be settled before the date of the next statement of financial position – in other words, in the next year. Common examples of current liabilities would include trade payables, overdrafts and any other short-term borrowings.

Non-current liabilities
Non-current liabilities include any debts that the business incurs which are not due for repayment until at least after the date of the next statement of financial position (i.e. at least one full year away). Common examples of non-current liabilities would include non-current loans, mortgages and debentures (though debentures are only available for limited companies). Non-current liabilities are also known as long-term liabilities.

Capital
In our example the double-entry account for capital would be updated as shown below. It will be affected by the net profit earned for the year and will also be reduced by any drawings taken during the period. (NB: Any net loss would be debited to the capital account.)

	K	K
Capital		
Dec 31 Drawings	1,560	
Jan 1 Balance b/d		6,000
Dec 31 Balance c/d	6,560	
Dec 31 Net profit		2,120
	8120	**8,120**

The statement of financial position will now appear as follows:

Mahepo & Son Ltd
Statement of Financial Position as at 31 December 2008

	K	K
Non-current assets		
Machinery		4,200
Current assets		
Inventory	600	
Trade receivables	1,780	
Bank	3,940	6,320

Net assets			10,520
Current liabilities			
Trade payables		1,960	
Non-current liabilities			
Loan		2000	
Total liabilities			3,960
Owner's equity			
Capital	6,000		
Add Net profit	2,120		
		8,120	
Less Drawings		(1,560)	
Net capital			6,560

Note that the title of the statement of financial position contains the three Ws – who, what and for when. However, the 'when' aspect of the title is a specific date as the statement of financial position can only represent a point in time (i.e. a day) and not a period of time.

Working capital is presented as the difference between current assets and current liabilities.

The top section of the statement of financial position represents the net assets of the business which are calculated as follows:

Non-current assets
+ Current assets
− Current liabilities
− Non-current liabilities

The bottom section of the statement of financial position represents the capital of the business, which is adjusted by adding any net profit and deducting any drawings.

6.6 Use of the statement of financial position

The statement of financial position provides the following uses:

- It gives an estimate for the overall value of the business (this would not include any value of the business which cannot be measured – such as the value of a brand name).
- The financial structure of the business can be examined. For example, a business that relies on loans and other borrowings for its non-current finance will often be seen as a greater risk for investment purposes.

- Working capital is a useful calculation in providing information about the overall liquidity position of the business. A business with low levels of working capital may face problems in the future.

Bringing the statements together
The statement of comprehensive income and the statement of financial position are normally constructed together – with the statement of comprehensive income being constructed first.

The net profit from the statement of comprehensive income will be added to the capital balance on the statement of financial position. As a result, if a mistake is made in calculating the net profit of the business it is unlikely that the statement of financial position will balance. If the statement of financial position does not balance, then don't forget to check the statement of comprehensive income – the mistake might be there!

Further adjustments to the statement of comprehensive income

Opening inventory
So far we have looked at a business in its first year of trading. Once a business trades for more than one accounting period of time then it will be likely we will have inventory in hand at the start of the period (opening inventory) as well as inventory at the end of the period (closing inventory).

Opening inventory is available for use and resale so it will be added into the cost of goods sold calculation. The opening inventory will be a debit entry in the trial balance (closing inventory will always be found in the additional information to the trial balance).

Carriage
Carriage is an expense relating to the transport of goods. There are two types of carriage, and their treatment is as follows:

Treatment of carriage
Type of carriage Definition Appears as expense in Carriage inwards. The cost of transporting goods from Trading account suppliers into the business Carriage outwards The cost of transporting goods from Profit and loss account the business to customers. The reason why the two types of carriage expense are treated in different ways is that carriage inwards is connected with the cost of getting goods ready for sale and therefore belongs in the cost of goods sold calculation.

Returns
We have already dealt with the accounting entries for both returns inwards and returns outwards. However, we will also need to make adjustments in the trading account for the returns. These adjustments are as follows:

Adjustments needed for returns
Returns inwards Deduct from sales
Returns outwards Deduct from purchases

This means that the full cost of goods sold calculation would appear as follows:
Adjustments needed for the cost of goods sold
Opening inventory
Add Purchases
Add Carriage inwards
Less Returns outwards
Less Closing inventory
Equals Cost of goods sold

6.7 Bank Reconciliations

The transactions posted in out Cashbook, may not always agree with what has been posted at the bank. We need to regular bring the balances together, by comparing them to find out where the difference arises from. The process of bringing the balances together is called bank reconciliation. By now you know that, although the opening balances for the period agree, the closing balances may disagree. In order to verify whether or not this disagreement is caused by error we can begin the process of bank reconciliation.

How to Reconcile the Cashbook and Bank Statement
The following is not the only method of completing the bank reconciliation but it is the one that gives a clear procedure to follow. To complete the bank reconciliation, the following steps should be taken:

- We need to identify the items that do not appear both in the cash book and on the bank statement, as these could be the reason for the discrepancy.
- The cash book will need to be brought up to date by entering items found only on the bank statement and not in the cash book.
- Draw up a reconciliation statement using the updated cash book balance and items appearing in the cash book that were not on the bank statement**.**

Let us take each step separately
Identifying items not appearing both in the cash book and on the bank statement. Firstly, we have to locate the items which do not appear both in the cash book and on the bank statement as this may be the reason for any discrepancy – if the items appear both in the cash book and on the bank statement then this would not give the reason for any discrepancy.

Updating the Cashbook
Increasingly many transactions will appear on a business's bank statement without the business owner(s) taking any direct action. This is because these transactions are largely automated. Common types of transactions which fall into this category are direct debits, standing orders, credit transfers, interest payments and bank charges.

Direct debits
These occur when the business gives permission for a third party to withdraw money from the bank account. Usually this will be to settle a bill. Most utility providers (e.g. Zamtel and Zesco) encourage payment of bills to be made through a direct debit arrangement. They are often paid at the same point each month but the amount paid will vary.

Standing orders
A business can arrange for a regular payment of a fixed amount to be made out of its account. This could be to another business or to a person. Standing orders are similar to direct debits except that the arrangement is made by the business itself and not the recipient of the money.

Credit transfers
These refer to money paid directly into our bank account. Whereas direct debits and standing orders usually refer to payments, these refer to receipts.

Interest/bank charges
Banks themselves will make entries into our bank account automatically. Interest – both paid and received – will usually appear on a bank statement. Charges made by the banks, e.g. for the use of an overdraft, will also appear.

Dishonoured cheques
Although not an automated transaction it is possible that this will appear on our bank statement. If we receive and deposit a cheque then once the cheque is cleared (normally within around three working days) the money is credited (from the bank's viewpoint) to our account. If the payee of the cheque does not have sufficient funds in their account to make the payment, then the cheque may be dishonoured and the money that was added to the account balance would be cancelled. The business would not know about this immediately but a bank would normally write to a customer to inform them of this (and may also charge them for this).

Updated cash book
Once we have located all the items on the bank statement but not in the cash book it is time to bring the cash book up to date with these items. Sometimes this is called a corrected cash book but it basically is the same thing.

Producing the bank reconciliation statement
There are likely to be entries in the cashbook which do not appear on the bank statement. This is likely to arise out of the following situation. When a business makes or receives payment by cheque then although this can be written immediately into the cash book it will take time before it appears in the bank account. This is largely because of the time taken by the bank to 'clear' each cheque. Normally clearing used to take around three working days to complete now it takes 24 working hours. Therefore, any cheques deposited in a

bank near the end of a calendar month may well not appear on the bank statement until early in the following month. There are two types of cheques we will deal with:

● Unpresented cheques are those that have been paid out by the business and entered in the cash book but for which the bank has not yet paid out the money.

● Lodgments not yet credited are those cheques which we have received and entered in the cash book but for which the bank has not yet added the amount concerned to the balance as per the bank statement. The bank reconciliation statement will appear as follows:

Hamalilo's Bank Reconciliation statement as at 31 October 2015

	K	K
Balance as per updated cash book		154
Add: unpresented cheques:		
R Wakeling	99	
D Doyle	204	
		303
		457
Less: Lodgments not yet credited:		
L Webster		(430)
Balance as per bank statement		**27**

As you can see, the balance on the updated cash book can be reconciled with the balance on the bank statement. This would indicate that errors have not taken place and that the differences in the two balances can be accounted for.

Further information concerning construction of bank reconciliation statements

There are alternative methods of attempting to reconcile the cash book and bank statement balances.

● Firstly, it is possible to include all the items in the bank reconciliation statement. This would eliminate the need to complete an updated cash book. However, this makes the procedure more complicated and increases the chances of errors occurring – even if it does take slightly longer. With the same example used earlier, the following bank reconciliation statement was completed without first updating the cash book.

Hamalilo Ltd's Bank Reconciliation Statement as at 31 October 2015

	K	K
Balance as per cash book		514
Add:		
Credit transfer	240	
Interest received	4	
Unpresented cheque – Wakeling	99	

Unpresented cheque – Doyle	204	
		547
		1,061
Less:		
Direct debit (SE Electricity)	86	
Standing order	350	
Direct debit (Eastern Insurance)	92	
Dishonoured cheque	76	
Lodgements not yet credited – Webster	430	
		1,034
Balance as per bank statement		**27**

Items that have been added to the bank balance on the bank statement will need adding to the cash book balance in order to bring them in line. Similarly, items that have been paid out of the bank account on the bank statement but have not yet appeared in the cash book will need subtracting from the cash book balance.

As in the earlier example, although the two closing balances differ they can be reconciled, which indicates that no errors have taken place.

● Secondly, the bank reconciliation statement can begin with the balance as per the bank statement. In this case, we would need to subtract unpresented cheques and add the lodgments not yet credited.

7.6 Activities

The following cash book was completed for the month of October 2019:

Cash book

	2019 K		2019 K
Oct 01 Balance b/d	42	Oct 09 L Carey	439
Oct 08 J Hynes	534	Oct 19 K Andrews	226
Oct 26 H Smithson	123	Oct 31 Balance c/d	34
	699		699

However, it came to light shortly after completion that the following items had been omitted from the cash book:

	K
Interest paid	11
Bank charges	18
Direct debit: Northern Gas	56
Dividends received	23

6.8 Unit Summary

Congratulations! You have achieved another milestone. In this unit you have learnt how to construct the Balance sheet, you have tackled the sections found in the balance sheet, how to bring the two statement together and minor adjustments made to the Income statement. You have also learnt how to construct the two financial statement together. In this unit you have also learnt how to prepare a bank reconciliation statement, how to update the cashbook. Just a quick recap.
Remember!

- If you are given both the cash book closing balance and the closing balance on the bank statement then, to some degree, you already have the answer for any reconciliation statement – you should be confident that you have completed it correctly if the numbers are already there.
- Be careful with overdrafts – subtracting an amount will add to the size of the overdraft.
- Don’t just rely on rote learning. It is possible that you will have to start

In the next unit, I will discuss management accounting.

UNIT 7

INTRODUCTION TO COST AND MANAGEMENT ACCOUNTING

7.1 Introduction

Managers need detailed information about the working of the business to enable them plan, control and make decisions. The cost and management accounting system provide financial information regarding the financial aspects of business performance needed by management. This unit introduces you to cost and management accounting. The difference between cost accounting and management accounting are clearly explained. We hope you will enjoy the unit.

7.2 Learning Outcomes

At the end of the unit, you expected to;

- Differentiate Cost accounting from managerial accounting.
- Describe the various types of costs involved in the day to day operation of the business.
- Classify costs
- Describe the usefulness of the Balanced Scored Card
- Differentiate Management Accounting from Financial Accounting

7.3 Cost Accounting

Cost accounting is the establishment of budgets, standard costs and actual costs of operations, processes, activities or products and the analysis of variances profitability or social use of funds. Cost accounting and management accounting are terms which are used interchangeably. However, this is not entirely right. Cost accounting is part of management accounting. Cost accounting provides a bank of data for the management accountant to use. As you may know, cost accounting aims at establishing the following:

(a) the cost of goods produced or services provided;
(b) the cost of a department or work section;
(c) what revenues have been;
(d) the profitability of a product, service or department or the organization in total;
(e) selling prices;
(f) the value of stocks of goods;
(g) future costs of goods and services; and
(h) comparison of actual and budgeted costs

7.4 Cost Classification

As the term suggests, Cost classification is the analysis of costs into logical groups so that they may be summarised into meaningful information for management. Management in organisations requires information concerning a variety of issues which require different types of cost summaries. Costs are thus classified in different ways according to the purpose for which they are to be used.

The main classifications include:

- Cost by element
- Direct and indirect costs
- Functional costs
- Fixed and variable costs
- Other categories

The above classifications are discussed for you below.

7.4.1 Classification by Element

The initial cost classification basis is according to the elements on which expenditure is incurred. And these could be

- Materials
- Labour
- Expenses

Within cost elements, costs can be further classified according to the nature of expenditure. Take for example material costs; these may be further classified according to whether they are raw materials, components, cleaning materials, maintenance materials and so on.

7.4.2 Direct and Indirect Costs

Each cost element namely materials, labour and expenses can be classified as either a direct cost or indirect cost. Can describe them. Well, see your description agrees with the following.

A direct cost is a cost that can be traced in full to the product, service or department that is being costed.

An indirect cost or overhead is a cost that is incurred in the course of making a product, providing a service or running a department, but which cannot be traced directly and in full to the product or service or department.

Total expenditure may, therefore, be analysed as follows:

Materials	=	Direct Materials	+	Indirect Materials
+		+		+
Labour	=	Direct Labour	+	Indirect Labour

+		+		+
Expenses =		Direct Expenses	+	Indirect Expenses
Total cost	**=**	**Direct cost**	**+**	**Indirect Costs**

(a) Direct Material

Direct material is all material that becomes part of the product (unless used in negligible amounts and/or having negligible costs). Examples of direct materials are:

- raw materials used in a product e.g. flour used in baking a loaf of bread;
- bought in parts and assemblies e.g. tyres in car manufacturing;
- primary packing materials e.g. a cooking oil container.

(b) Direct Wages

Direct wages are all wages paid for labour (either as basic hours or overtime) expended on work or the product itself e.g. salary paid to an audit clerk in a firm of accountants.

(c) Direct Expenses

Direct expenses are expenses which are incurred on a specific product other than direct material costs and direct wages. Examples would include a particular job or batch.

(d) Indirect Costs

All material, labour and expense costs which cannot be identified as direct costs are termed indirect costs. The three elements of indirect costs; indirect materials, indirect labour and indirect expenses are collectively known as **overheads.**

7.4.3 Functional Analysis of Costs

In financial accounting, costs or expenses are commonly classified as cost of sales, administrative expenses or sales and distribution costs. This is a method of analysing costs by function or according to the type of activity for which the costs were incurred. In cost accounting costs are often analysed by function and categories of functional analysis commonly used are:

- Production costs
- Administration costs
- Selling costs
- Distribution costs
- Research and development costs
- Financing costs

7.4.4 Fixed and Variable Costs

A different way of analysing and classifying costs is into fixed and variable costs. A fixed cost is a cost which is incurred for a particular period of time and which within certain activity levels is unaffected by changes in the levels of activity e.g. rent paid by a business. A variable cost is a cost which tends to vary with the level of activity, for example, materials used in manufacturing.

7.4.5 Other Cost Classifications

These could be:

(a) Avoidable Costs

Avoidable costs are specific costs of an activity or business which would be avoided if the activity or business did not exist.

(b) Unavoidable Costs

Unavoidable costs are costs which would be incurred whether or not an activity or sector existed.

(c) Controllable Cost

A controllable cost is a cost which can be influenced by management decisions and actions.

(d) Uncontrollable Costs

An uncontrollable cost is any cost which cannot be affected by management within a given time span.

(e) Discretionary Costs

Discretionary costs are costs incurred at the discretion of a manager and examples of discretionary costs include advertising, research and development and training.

7.5 Cost Accounting System

A cost accounting system is a system used by an organization to gather, store and analyse data about costs. The purpose of a cost accounting system is to provide management information about costs and profits. A cost accounting system is often the basis for a management accounting system. The term cost accounting and management accounting are often used to mean the same thing, although strictly there are differences.

7.6 Techniques of Costing

The following are the main types or techniques of costing for ascertaining costs:

7.6.1 Uniform Costing

It is the use of same costing principles and/or practices by several undertakings for common control or comparison of costs.

7.6.2 Marginal Costing

It is the ascertainment of marginal cost by differentiating between fixed and variable cost. It is used to ascertain the effect of changes in volume or type of output on profit.

7.6.3 Standard Costing

A comparison is made of the actual cost with a pre-arranged standard cost and the cost of any deviation (called variances) is analysed by causes. This permits management to investigate the reasons for these variances and to take suitable corrective action.

7.6.4 Historical Costing

It is ascertainment of costs after they have been incurred. It aims at ascertaining costs actually incurred on work done in the past. It has a limited utility, though comparisons of costs over different periods may yield good results.

7.6.5 Direct Costing

It is the practice of charging all direct costs, variable and some fixed costs relating to operations, processes or products leaving all other costs to be written off against profits in which they arise.

7.6.6 Absorption Costing

It is the practice of charging all costs, both variable and fixed to operations, processes or products. This differs from marginal costing where fixed costs are excluded. Any of the methods of costing like unit or output costing, service costing, process costing etc. can be used under any techniques of costing.

7.7 Internal Reporting Structures

When costs are recorded, analysed and reported, it is important they are reported to the managers or departments responsible for the spending. In other words, the reporting of cost information should ideally be based on a system of responsibility accounting and responsibility centres.

7.7.1 Responsibility Accounting

A system of providing financial information to management where the structure of the reporting system is based on identifying individual parts of a business which are a responsibility of a single manager.

7.7.2 Responsibility Centres

A responsibility centre is an individual part of a business whose manager has personal responsibility for its performance. Many businesses are structured into a hierarchy of responsibility centres. These might be cost centres, revenue centres, profit centres and

investment centres. At the lowest level of the hierarchy is the cost centre and at the highest is the investment centre.

7.7.3 Cost Centre

A cost centre can be defined as production or service location, function, activity or item of equipment whose costs may be accumulated and attributed to cost units.

7.7.4 Revenue Centre

A revenue centre is part of the organization that earns sales revenue. Its manager is responsible for the revenue earned but not for the cost of the operation.

7.7.5 Profit Centre

A profit centre is a part of the business for which both the costs and revenues earned are identified. The manager is responsible for both costs and revenues.

7.7.6 Investment centre

An investment centre is a profit centre with additional responsibilities for capital employed and possibly investment decisions. Managers of investment centres are responsible not just for decisions affecting costs and revenues but also investment decisions.

7.8 Allocation of Costs

Costs are incurred in business on the following:

- Direct materials.
- Direct labour.
- Direct expenses.
- Production overheads.
- Administrative overheads.
- General overheads.

When costs are incurred, they are generally allocated to costs centres. Cost centres are simply collection points for costs for further analysis.

7.8.1 Cost Units

Once costs have been traced to cost centres, they can further be analysed in order to establish cost per unit. A cost unit is a unit of production or unity of activity in relation to which cost is measured. The cost unit is a basic control unit for costing purposes.
Cost units are measured for several reasons:

- To establish how much it has cost to produce an item or perform an activity.

- To measure profit or loss on an item.
- To value closing stocks.
- To compare costs with budgeted costs.

Examples of unit costs;

- Student in a college
- Barrel in the brewing industry
- Room in a hotel

7.8.2 Cost object

A cost object is any activity for which a separate measurement of costs is desired. If the users of management accounting want to know the cost of something this something is known as cost object. Examples of cost object include:

- The cost of a product
- The cost of a service
- The cost of operating a department

7.9 Management Accounting

How would you define management accounting? Fine, management accounting is defined as the application of the principles of accounting and financial management to create, protect, preserve and increase value so as to deliver that value to the stakeholders of profit and not for profit enterprises both public and private.

7.9.1 The Role of Management Accounting

The management process implies the four basic functions of:

a) Planning
b) Organising
c) Controlling, and
d) Decision-making.

Management accounting plays a vital role in these managerial functions performed by managers.

a) Planning

Planning is formulating short term and long-term plans and actions to achieve a particular end. A budget is the financial planning showing how resources are to be acquired and used over a specified time interval.

Management accounting is closely interwoven in planning both because it provides information for decision-making and because the entire budgeting process is developed around accounting-related reports. Management accounting helps managers in planning by providing reports which estimate the effects of alternative actions on an enterprise's ability to achieve desired goals. For example, if a business enterprise determines a target profit for a year, it should also determine how to reach that target.
For example, what products are to be sold at what prices? The management accountant develops data that help managers identify the more profitable products. Similarly, the effects of alternative prices and selling efforts (say, what will profit be if we cut prices by 5% and increase volume by 15%, etc.) can easily be determined by the management accountant. As part of the budgeting process, management accountants prepare budgeted (forecasted) financial statements, often called proforma statements.

b) Organising:

Organising is a process of establishing an organizational framework and assigning responsibility to people working in an organization for achieving business goals and objectives. The type of organizational structure differs from one business enterprise to another. In the organising process, departmentalization can be done by setting up divisions, departments, sections, branches. Organising requires clarity about each manager's responsibility and lines of authority. The various departments and units are interrelated in a hierarchy, with a formal communication structure in which information and instructions are passed downwards to lower level management and upwards to top management level.

Management accounting helps managers in organising by providing reports and necessary information to regulate and adjust operations and activities in the light of changing conditions. For example, the reports under management accounting can be prepared on product lines on which basis managers can decide whether to add or eliminate a product line in the current product mix. Similarly management accountant can provide sales report, production report to the respective manager for taking suitable action about the sales and production position.

c) Controlling

Control is the process of monitoring, measuring, evaluating and correcting actual results to ensure that a business enterprise's goals and plans are achieved. Control is accomplished with the use of feedback. Feedback is information that can be used to evaluate or correct the steps being taken to implement a plan. Feedback allows the managers to decide to let the operations and activity continue as they are, take remedial actions to put some actions back in harmony with the original plan and goals or do some rearranging and re-planning at midstream.

Management accounting helps in the control function by producing performance reports and control reports which highlight variances between expected and actual performances. Such reports serve as a basis for taking necessary corrective action to control operations. The use of performance and control reports follows the principle of management by

exception. In case of significant differences between budgeted and actual results, a manager will usually investigate to determine what is going wrong and possibly, which subordinates or units might need help.

d) Decision-making

Decision-making is a process of choosing among competing alternatives. Decision-making is inherent in each of three management functions described above, namely, planning, organising and controlling. A manager cannot plan without making decisions and has to choose among competing objectives and methods to carry out the chosen objectives. Similarly in organising, managers need to decide on an organization structure and on specific actions to be taken on day-to-day operations. In control function managers have to decide whether variances are worth investigating.

7.9.2 Management Accounting Framework

(a) Nature of Management Accounting

Cost and Management accounting plays a wide but significant role in many organisations, from small to large; manufacturing to service; private sector to not for profit organisations.
Management accountants provide information that addresses a number of key questions, including:

(i) What is the project profit/loss for the next period for the whole organisation?
(ii) What is the profitability of individual product or service lines?
(iii) What price should we charge for a product/service?
(iv) What does it cost to make one unit of product or deliver one unit of service?
(v) How did actual performance compare with budget and what were the reasons for any divergence?
(vi) What are the consequences of discontinuing/introducing a product line?
(vii) The value of inventories of raw materials, work in progress and finished goods;
(viii) Preparation of budgets, forecasts and other control data;
(ix) The creation of a reporting system that enables managers to take corrective action where necessary to control costs

(b) Objectives

This is just a very small sample of areas that management accountants can become involved in. Their role is not simply as passive providers of information but as managers that are actively involved in making key decisions for both the short and long-term operation of a business.
Management accountants are often involved in setting up and maintaining key business systems, including:

(i) Budget setting, implementation, monitoring and controlling
(ii) Systems for costing and pricing products and services
(iii) Performance monitoring systems
(iv) Internal management information systems and reporting systems
(v) External (environmental) management information systems

Financial accounts tends to show the aggregate position for an organisation and the audience for that information consists mainly of external stakeholders, traditionally consisting of investors, analysts, funders, lenders of finance, regulatory bodies and tax authorities.
However, financial accounting information which is made up of the income statement, position statement and the cash flow statement are of limited practical use for management to be able to discharge their numerous responsibilities of control, planning and decision making.

For example, some of the more common issues that managers need to understand are what costs are by product and service, what generates costs, how costs/revenue/profit change if activity changes, the profitability of different products and services, how to control costs and the pricing of differing products and services.

7.10 Tools of Management Accounting

Below is a list of some useful tools of management accounting

(a) Historical Cost Accounting

As the name suggests historical cost accounting involves gathering the historical data about the costs involved in each job. The historical data collected in this technique is then compared to the present standard costs. The results obtained are used by the managers in decision-making, cost controlling and future planning.

(b) Funds Flow Statements

In the funds' flow accounting technique the managers analyze the financial status of the company. They keep a check on where the funds are coming from and how are they be utilized in the company. The fund flow and cash flow analysis thus help them in cost controlling and future planning on how to utilize the cash better.

(c) The Marginal Costing Technique

The marginal costing technique includes monitoring the changes in costs and sales due to a change in the volume of production. The managers use break-even analysis and differential costing tools of management accounting in this technique. The reports thus generated are used in decision making and maximizing the profits.

(d) Cost Accounting

There can be situations when differences arise between the estimated cost of a product and its actual costs. The main function of cost accounting technique is to present the cost data according to various departments, products, branches, and processes of the organization. The data is then compared with the estimated cost. This then enables the managers to find out the reasons for these cost differences.

(e) Financial Planning

In the financial planning technique, the managers plan to advance the primary financial objectives of the organization. Not only this, but it also involves determining the procedures that will be used to achieve that objective. The managers determine how much capital will be required, how will the company generate the funds and how the income will be distributed. This technique is useful as it identifies the complete financial status of the company.

(f) Replacement Accounting

This technique is also known as revaluation accounting. At the time of rising costs, several issues may arise in front of the managers. This method aims at solving them adequately by re-evaluating the assets. The main function of this technique is to help the managers in maintaining and preserving the capital of the organization. It also determines how the change in cost will affect the financial statements of the company.

(g) Communication

Miscommunication or lack of direct communication between the employees and the manager can be a significant limitation to Management Accounting. It is crucial that the managers receive the right information at the right time. This will allow them to carry out the functions of decision-making planning and controlling in an effective way. Free-flow of communication is a must for better functioning of an organization.

(h) Decision-Making Techniques

Businesses are complex. It requires assessing various factors, variables, and circumstances before making any financial decisions for the organization. There can be several alternatives in front of management. Decision-making techniques help them in choosing the best one of those. Various tools of management accounting such as differential costing, capital budgeting, and marginal costing are used to select the favorable alternative in order to maximize the profit in the business.

(i) Graphical Techniques

In this technique, the managers use statistics and graphics to represent information in a meaningful manner. There are several tools such as linear programming, sale charts, master

charts, and quality control charts that are used to present the estimations and comparisons. This not only helps the managers in decision-making but also helps in identifying the management problems in a better way.

(j) Financial Statement Analysis

The aim of this technique is to clarify and represent only financial data that can be beneficial for management. It includes various activities such as trend analysis, cash flow analysis, and ratio analysis. These reports help the managers in forecasting the earnings, cash flow, debt maturities and if the organization will be able to sustain any losses if they occur.

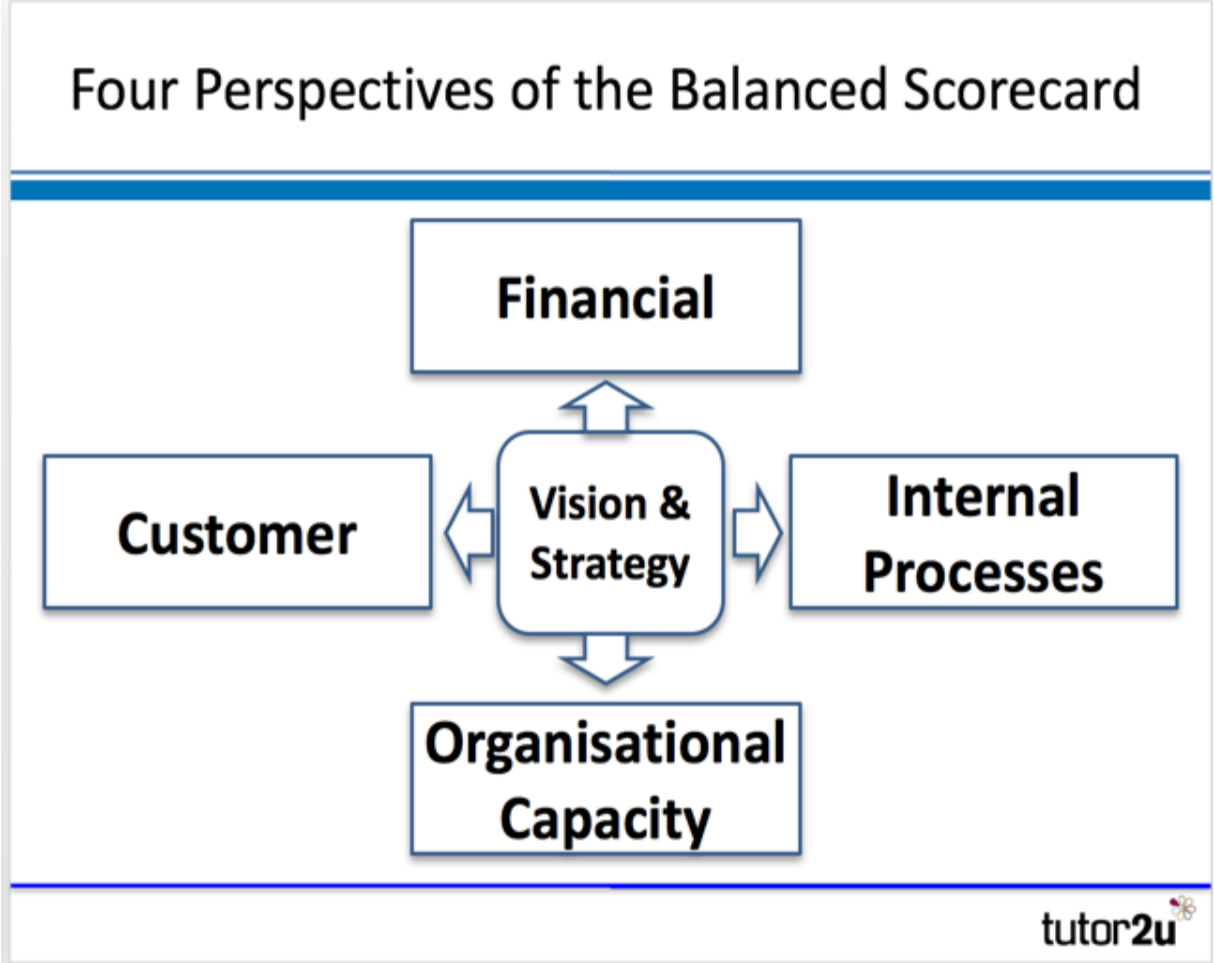
7.11 The Balanced Score Card

Kaplan & Norton's Balanced Scorecard model was developed in the early 1990's as an attempt to help firm's measure business performance using both financial and non-financial data.
The aim of the Balanced Scorecard was ***"to align business activities to the vision and strategy of the business, improve internal and external communications, and monitor business performance against strategic goals."***

The balanced scorecard provides a **relevant range of financial and non-financial information** that supports effective business management.

7.11.1 Background to the Balanced Scorecard:

(a) No single measures can give a broad picture of the organisation's health.
(b) So instead of a single measure why not a use a composite scorecard involving a number of different measures.
(c) Kaplan and Norton devised a framework based on four perspectives – financial, customer, internal and learning and growth.
(d) The organisation should select critical measures for each of these perspectives.



The Four Perspectives of the Balanced Scorecard

In what way is the scorecard a balance?

The scorecard produces a balance between:

(a) Four key business perspectives: financial, customer, internal processes and innovation.
(b) How the organisation sees itself and how others see it.
(c) The short run and the long run
(d) The situation at a moment in time and change over time

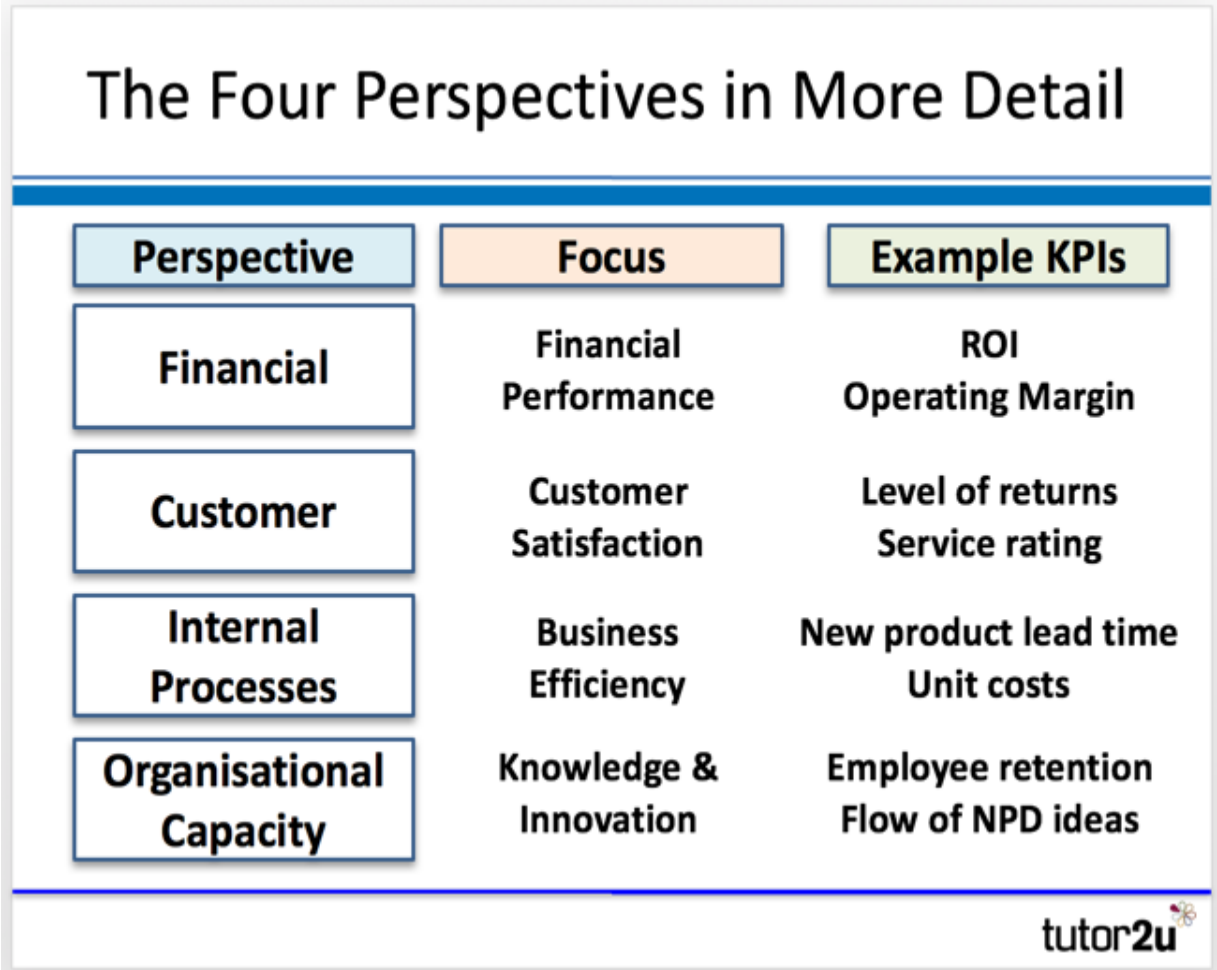
7.11.2 Main Benefits Of Using The Balanced Scorecard

(a) Helps companies focus on what has to be done in order to create a breakthrough performance
(b) Acts as an integrating device for a variety of corporate programmes
(c) Makes strategy operational by translating it into performance measures and targets

(d) Helps break down corporate level measures so that local managers and employees can see what they need to do well if they want to improve organisational effectiveness
(e) Provides a comprehensive view that overturns the traditional idea of the organisation as a collection of isolated, independent functions and departments

7.11.3 Some Drawbacks of The Balanced Scorecard Model

(a) A danger that a business will have too many performance indicators
(b) Need to have balance between the four perspectives – not easy
(c) Senior management may still be too concerned with financial performance
(d) Needs to be updated regularly to be useful



7.12 Merits and Demerits of Management Accounting

Management accounting is another way of looking into accounting, it refers to use of financial accounting information by the top level management in order to make future

business decisions of the company. Given below are some of the advantages and disadvantages of management accountancy –

Advantages

(a) Since it is focused on making future decisions with the help of past financial data, it is forward looking and therefore progressive in nature.

(b) It is meant for internal users like top management and therefore it is not necessary that it is made by following strict guidelines which is the case with financial accounting.

(c) It is flexible in nature and therefore it can be prepared anytime and they are not required to be made yearly they can be made monthly or on weekly basis.

(d) It takes all the data and then present it in such a way that a proper analysis about the feasibility and profitability of any business decision can be made.

Disadvantages

(a) It is dependent on cost accounting and financial accounts and therefore the accuracy of it is also dependent on how accurate that data is, hence it is one of the limitations as far as its usability is concerned.

(b) It is affected by the bias of top management and therefore it is likely that they may tweak it in such a way so as to benefit themselves rather than shareholders.

(c) Since it does not follow accounting principles, it cannot be compared with other company's and hence proper evaluation about the management may not be possible on the basis of management accountancy.

7.13 Distinction between Financial Accounting and Management Accounting

Financial accounting is the classification and recording of the monetary transaction of an entity in accordance with established concepts, principles, accounting standards and legal requirements and their presentation by means of profit and loss accounts, balance sheet and cash flow statements, during and at the end of an accounting period. Many businesses have a financial accounting system with a nominal ledger, sales ledger and purchases ledger and books of prime entry for recording transaction that have occurred during a given period.

Comparison of financial accounting and management accounting

Financial accounts	Management accounts
• Limited companies are required by law to prepare financial accounts.	• There is no legal requirement to prepare management accounts.
• The law and financial reporting standards prescribe formats of published financial statements.	• Management accounting formats are entirely at the discretion of management.
• Most financial accounting information is of a monetary nature.	• Management accounts incorporate both monetary and non-monetary measures.
• Financial accounts present an essentially historic picture of past operations.	• Management accounts are both historical record and future planning tool.

7.14 Unit Summary

- Cost centres are collection pools for costs before they are further analysed into cost unit.
- A cost unit is a unit of product or service to which costs can be related.
- A cost object is any activity for which a separate measure of cost is desired.
- A responsibility centre is a department or organisational function whose performance is the direct responsibility of a specific manager.
- Profit centres are responsibility centres that are responsible for both costs and revenues.
- Revenue centres are responsibility centres responsible for only revenue generation.
- An investment centre is profit centre that is also responsible for capital investment and possibly financing.

Review Questions

1. Describe the following
   (a) Cost unit
   (b) Cost Object
   (c) Cost Centre
   (d) Revenue Centre
   (e) Profit Centre
   (f) Revenue Centre

2. Discuss the features of the Balanced Scored Card
3. Differentiate between Financial Accounting and Management Accounting
4. Discuss the merits and demerits of Management Accounting

UNIT 8
FINANCIAL STATEMENT ANALYSIS

8.1 Introduction

This Unit explains the meaning of ratio, steps in ration analysis and classifications of rations. It goes further to discuss the advantages of ratio analysis as a tool to assess financial performance. It concludes by discussing the limitations of ration analysis.

8.2 Learning Objectives

After studying this Unit, you should be able to:

- Classify ratios
- Apply the ratios on financial statements and tell their profitability
- Explain the advantages and limitations of ratio analysis

8.3 Meaning of Ratio

Ratio analysis refers to the analysis and interpretation of the figures appearing in the financial statements (i.e., Profit and Loss Account, Balance Sheet and Fund Flow statement etc.).

It is a process of comparison of one figure against another. It enables the users like shareholders, investors, creditors, Government, and analysts etc. to get better understanding of financial statements.

Khan and Jain define the term ratio analysis as **"the systematic use of ratios to interpret the financial statements so that the strengths and weaknesses of a firm as well as its historical performance and current financial conditions can be determined."**

Ratio analysis is a very powerful analytical tool useful for measuring performance of an organisation. Accounting ratios may just be used as symptom like blood pressure, pulse rate, body temperature etc. The physician analyses these information to know the causes of illness. Similarly, the financial analyst should also analyse the accounting ratios to diagnose the financial health of an enterprise.

8.4 Steps in Ratio Analysis

Generally, ratio analysis involves four steps:

(i) Collection of relevant accounting data from financial statements.

(ii) Constructing ratios of related accounting figures.
(iii) Comparing the ratios thus constructed with the standard ratios which may be the corresponding past ratios of the firm or industry average ratios of the firm or ratios of competitors.
(iv) Interpretation of ratios to arrive at valid conclusions.

8.5 Classification of Ratios

Financial ratios can be classified under the following five groups:

a) Structural
b) Liquidity
c) 3) Profitability
d) 4) Turnover
e) 5) Miscellaneous.

8.5.1 Structural Group

The following are the ratios in structural group:

(i) Funded Debt to Total Capitalization

The term 'total' capitalization comprises loan term debt, capital stock and reserves and surplus. The ratio of funded debt to total capitalization is computed by dividing funded debt by total capitalization. It can also be expressed as percentage of the funded debt to total capitalization. Long term loans
Total capitalization (Share capital + Reserves and surplus + long term loans)

(ii) Debt to equity

Due care must be given to the; computation and interpretation of this ratio. The definition of debt takes two foremost. One includes the current liabilities while the other excludes them. Hence the ratio may be calculated under the following two methods:

Long term loans + short term credit + Total debt to equity = Current liabilities and provisions Equity share capital + reserves and surplus (or)
Long-term debt to equity = Long – term debt / Equity share capital + Reserves and surplus

(iii) Net fixed assets to funded debt

This ratio acts as a supplementary measure to determine security for the lenders. A ratio of 2:1 would mean that for every rupee of long-term indebtedness, there is a book value of two rupees of net fixed assets:

Net Fixed assets funded debt

(iv) Funded (long-term) debt to net working capital:

The ratio is calculated by dividing the long-term debt by the amount of the net working capital. It helps in examining creditors' contribution to the liquid assets of the firm.
Long term loans Net working capital

8.5.2 Liquidity group

It contains current ratio and Acid test ratio.

(i) Current ratio

It is computed by dividing current assets by current liabilities. This ratio is generally an acceptable measure of short-term solvency as it indicates the extent to which he claims of short term creditors are covered by assets that are likely to be converted into cash in a period corresponding to the maturity of the claims. Current assets / Current liabilities and provisions + short-term credit against inventory

(ii) Acid-test ratio

It is also termed as quick ratio. It is determined by dividing "quick assets", i.e., cash, marketable investments and sundry debtors, by current liabilities. This ratio is a bitterest of financial strength than the current ratio as it gives no consideration to inventory which may be very a low- moving.

$$= \frac{\text{Cash and marketable investments, sundry debtors, loans and advances}}{\text{Current liabilities and provisions}}$$

8.5.3 Profitability Group:

It has five ratio, and they are calculated as follows:

i) Operating ratio =

$$\frac{\text{Operating expenses (cost of goods sold + Administrative and selling expenses}}{\text{Net sales}} \times 100$$

ii) Operating profit to sales = $\frac{\text{operating profit}}{\text{Net sales}}$

iii) Net profit to sales= $\frac{\text{Net profit}}{\text{Net sales}} \times 100$

iv) Coverage of Earning Before interest and Taxes

v) Return on investment = $\frac{\text{EBIT}}{\text{Capital employed}} \times 100$ (or)

$$= \frac{\text{Net profit after preference dividend}}{\text{Net worth}}$$

8.5.4 Turnover group:

It has four ratios, and they are calculated as follows:

i) Assets Turnover (Capital turnover) = $\frac{\text{Net sales}}{\text{Net fixed assets + Current asse}}$

ii) Net Working (Capital turnover) = $\frac{\text{Net sales}}{\text{Net working capitals}}$

iii) Receivables turnover (collection period) = $\frac{\text{Sundry debtors}}{\text{Net sales}} \times 100$

iv) inventory turnover = a) $\frac{\text{Sales}}{\text{Ending inventory}}$

b) $\frac{\text{Cost of Goods sold}}{\text{Average inventory}}$

8.5.5 Miscellaneous group

It contains four ratio and they are as follows:

i) Earnings price ratio $= \frac{EPS}{MP}$

ii) Price - earnings ratio $= \frac{MP}{EPS}$

iii) Dividend - yield ratio $= \frac{DPS}{MP}$

iv) Pay - out ratio $= \frac{DPS}{EPS}$

$$EPS = \frac{\text{Net profit after preference dividend}}{\text{No. of outstandirg ordinary shares}}$$

$$DPS = \frac{\text{Dividends for ordinary shares}}{\text{No. of outstandirg ordinary shares}}$$

MP = Market price per share

8.6 Standards for Comparison

For making a proper use of ratios, it is essential to have fixed standards for comparison. A ratio by itself has very little meaning unless it is compared to some appropriate standard. Selection of proper standards of comparison is a most important element in ratio analysis. The four most common standards used in ratio analysis are; absolute, historical, horizontal and budgeted.

Absolute standards are those which become generally recognised as being desirable regardless of the company, the time, the stage of business cycle, or the objectives of the analyst. Historical standards involve comparing a company's own' past performance as a standard for the present or future.
In Horizontal standards, one company is compared with another or with the average of other companies of the same nature.
The budgeted standards are arrived at after preparing the budget for a period Ratios developed from actual performance are compared to the planned ratios in the budget in order to examine the degree of accomplishment of the anticipated targets of the firm.

8.7 Advantages of Ratio Analysis

Ratio analysis is widely used as a powerful tool of financial statement analysis. It establishes the numerical or quantitative relationship between two figures of a financial statement to ascertain strengths and weaknesses of a firm as well as its current financial position and historical performance. It helps various interested parties to make an evaluation of certain aspect of a firm's performance.

The following are the principal advantages of ratio analysis:

a) Forecasting and Planning

The trend in costs, sales, profits and other facts can be known by computing ratios of relevant accounting figures of last few years. This trend analysis with the help of ratios may be useful for forecasting and planning future business activities.

b) Budgeting

Budget is an estimate of future activities on the basis of past experience. Accounting ratios help to estimate budgeted figures. For example, sales budget may be prepared with the help of analysis of past sales.

c) Measurement of Operating Efficiency

Ratio analysis indicates the degree of efficiency in the management and utilisation of its assets. Different activity ratios indicate the operational efficiency. In fact, solvency of a firm depends upon the sales revenues generated by utilizing its assets.

d) Communication

Ratios are effective means of communication and play a vital role in informing the position of and progress made by the business concern to the owners or other parties.

e) Control of Performance and Cost

Ratios may also be used for control of performances of the different divisions or departments of an undertaking as well as control of costs.

f) Inter-firm Comparison

Comparison of performance of two or more firms reveals efficient and inefficient firms, thereby enabling the inefficient firms to adopt suitable measures for improving their efficiency. The best way of inter-firm comparison is to compare the relevant ratios of the organisation with the average ratios of the industry.

g) Indication of Liquidity Position

Ratio analysis helps to assess the liquidity position i.e., short-term debt paying ability of a firm. Liquidity ratios indicate the ability of the firm to pay and help in credit analysis by banks, creditors and other suppliers of short-term loans.

h) Indication of Long-term Solvency Position

Ratio analysis is also used to assess the long-term debt-paying capacity of a firm. Long-term solvency position of a borrower is a prime concern to the long-term creditors, security analysts and the present and potential owners of a business. It is measured by the

leverage/capital structure and profitability ratios which indicate the earning power and operating efficiency. Ratio analysis shows the strength and weakness of a firm in this respect.

i) Indication of Overall Profitability

The management is always concerned with the overall profitability of the firm. They want to know whether the firm has the ability to meet its short-term as well as long-term obligations to its creditors, to ensure a reasonable return to its owners and secure optimum utilisation of the assets of the firm. This is possible if all the ratios are considered together.

j) Signal of Corporate Sickness

A company is sick when it fails to generate profit on a continuous basis and suffers a severe liquidity crisis. Proper ratio analysis can give signal of corporate sickness in advance so that timely measures can be taken to prevent the occurrence of such sickness.

k) Aid to Decision-making

Ratio analysis helps to take decisions like whether to supply goods on credit to a firm, whether bank loans will be made available etc.

l) Simplification of Financial Statements

Ratio analysis makes it easy to grasp the relationship between various items and helps in understanding the financial statements.

8.8 Limitations of Ratio Analysis

The technique of ratio analysis is a very useful device for making a study of the financial health of a firm. But it has some limitations which must not be lost sight of before undertaking such analysis.

a) Limitations of Financial Statements

Ratios are calculated from the information recorded in the financial statements. But financial statements suffer from a number of limitations and may, therefore, affect the quality of ratio analysis.

b) Historical Information

Financial statements provide historical information. They do not reflect current conditions. Hence, it is not useful in predicting the future.

c) Different Accounting Policies

Different accounting policies regarding valuation of inventories, charging depreciation etc. make the accounting data and accounting ratios of two firms non-comparable.

d) Lack of Standard of Comparison

No fixed standards can be laid down for ideal ratios. For example, current ratio is said to be ideal if current assets are twice the current liabilities. But this conclusion may not be justifiable in case of those concerns which have adequate arrangements with their bankers for providing funds when they require, it may be perfectly ideal if current assets are equal to or slightly more than current liabilities.

e) Quantitative Analysis

Ratios are tools of quantitative analysis only and qualitative factors are ignored while computing the ratios. For example, a high current ratio may not necessarily mean sound liquid position when current assets include a large inventory consisting of mostly obsolete items.

f) Window-Dressing

The term 'window-dressing' means presenting the financial statements in such a way to show a better position than what it actually is. If, for instance, low rate of depreciation is charged, an item of revenue expense is treated as capital expenditure etc. the position of the concern may be made to appear in the balance sheet much better than what it is. Ratios computed from such balance sheet cannot be used for scanning the financial position of the business.

g) Changes in Price Level

Fixed assets show the position statement at cost only. Hence, it does not reflect the changes in price level. Thus, it makes comparison difficult.

h) Causal Relationship Must

Proper care should be taken to study only such figures as have a cause-and-effect relationship; otherwise ratios will only be misleading.

i) Ratios Account for one Variable

Since ratios account for only one variable, they cannot always give correct picture since several other variables such Government policy, economic conditions, availability of resources etc. should be kept in mind while interpreting ratios.

j) Seasonal Factors Affect Financial Data

Proper care must be taken when interpreting accounting ratios calculated for seasonal business. For example, an umbrella company maintains high inventory during rainy season and for the rest of year its inventory level becomes 25% of the seasonal inventory level. Hence, liquidity ratios and inventory turnover ratio will give biased picture.

8.9 Unit Summary

Congratulations for completing Unit 7!

Having read this unit, the main points that you should understand are as follows

- Classifications of financial ratios
- Computation of financial ratios
- Application of financial ratios

Revision Questions

1. Describe the classifications of financial ratios with relevant examples
2. State advantages and disadvantages of financial ratios

UNIT 9
CASH FLOW STATEMENT AND ANALYSIS

9.1 Introduction

This Unit explains the meaning and purpose of Cash Flow Statements, the preparation of Cash Flow Statements using either the direct method or the indirect method. It concluded by discussing several uses of Cash Flow Statements.

9.2 Learning Outcomes

After studying this Unit, you should be able to:

- Explain the meaning and purpose of Cash Flow Statements
- Prepare cash Flows from operating activities
- Prepare Cash Flow statements under the Direct Method
- Describe uses of Cash Flow Statement

9.3 Meaning and Purpose of Cash Flow Statements

A cash flow statement is a statement of changes in the financial position of a firm on cash basis.
It reveals the net effects of all business transactions of a firm during a period on cash and explains the reasons of changes in cash position between two balance sheet dates.

It shows the various sources (i.e., inflows) and applications (i.e., outflows) of cash during a particular period and their net impact on the cash balance.

According to Khan and Jain:
"Cash Flow statements are statements of changes in financial position prepared on the basis of funds defined as cash or cash equivalents."

The Institute of Cost and Works Accountants of India defines Cash Flow statement as "a statement setting out the flow of cash under distinct heads of sources of funds and their utilisation to determine the requirements of cash during the given period and to prepare for its adequate provision."

Thus, a cash flow statement is a statement which provides a detailed explanation for the changes in a firm's cash balance during a particular period by indicating the firm's sources and uses of cash and, ultimately, net impact on cash balance during that period.

9.4 Preparation of Cash Flow Statement

The operating section of the statement of cash flows can be shown through either the direct method or the indirect method. With either method, the investing and financing sections are identical; the only difference is in the operating section. The direct method shows the major classes of gross cash receipts and gross cash payments. The indirect method, on the other hand, starts with the net income and adjusts the profit/loss by the effects of the transactions. In the end, cash flows from the operating section will give the same result whether under the direct or indirect approach, however, the presentation will differ.

The International Accounting Standards Board (IASB) favors the direct method of reporting because it provides more useful information than the indirect method. However, it is believed that greater than 90% of companies use the indirect method.

9.5 Cash Flow Classifications

9.5.1 Operating Cash Flow

Operating activities are the principal revenue-producing activities of the entity. Cash Flow from Operations typically includes the cash flows associated with sales, purchases, and other expenses.

The company's Chief Financial Officer chooses between the direct and indirect presentation of operating cash flow:

- Direct Presentation: Operating cash flows are presented as a list of cash flows; cash in from sales, cash out for capital expenditures, etc. This is a simple but rarely used method, as the indirect presentation is more common.

- Indirect Presentation: Operating cash flows are presented as a reconciliation from profit to cash flow:

Profit	P
Depreciation	D
Amortization	A
Impairment expense	I
Change in working capital	ΔWC
Change in provisions	ΔP
Interest Tax	(I)
Tax	(T)
Operating cash flow	OCF

The items in the cash flow statement are not all actual cash flows, but "reasons why cash flow is different from profit."

Depreciation expenses reduces profit but does not impact cash flow (it is a non-cash expense). Hence, it is added back. Similarly, if the starting point profit is above interest and tax in the income statement, then interest and tax cash flows will need to be deducted if they are to be treated as operating cash flows.
There is no specific guidance on which profit amount should be used in the reconciliation. Different companies use operating profit, profit before tax, and profit after tax, or net income. Clearly, the exact starting point for the reconciliation will determine the exact adjustments made to get down to an operating cash flow number.

9.5.2 Investing Cash Flow

Cash Flow from Investing Activities includes the acquisition and disposal of non-current assets and other investments not included in cash equivalents. Investing cash flows typically include the cash flows associated with buying or selling property, plant and equipment, (PPE) other non-current assets, and other financial assets.
Cash spent on purchasing PP&E is called capital expenditures (Capex).

9.5.3 Financing Cash Flow

Cash Flow from Financing Activities are activities that result in changes in the size and composition of the equity capital or borrowings of the entity. Financing cash flows typically include cash flows associated with borrowing and repaying bank loans, and issuing and buying back shares. The payment of a dividend is also treated as a financing cash flow.

9.6 Formats of Cash Flow Statements

Direct Method vs Indirect Method of Presentation
There are two methods of producing a statement of cash flows, the direct method, and the indirect method.

In the direct method, all individual instances of cash that is received or paid out are tallied up and the total is the resulting cash flow.

In the indirect method, the accounting line items such as net income, depreciation, etc. are used to arrive at cash flow. In financial modeling the cash flow statement is always produced via the indirect method.

Below is a comparison of the direct method vs the indirect method.

Direct Method:

Operating Activities	
Cash received from customers	$800
Cash paid to suppliers	(150)
Employee compensations	(200)
Other operating expenses paid	(250)
Net cash from operating activities	200
Investing Activities	
Sale of land	200
Purchase of equipment	(300)
Net cash from investing activities	(100)
Financing Activities	
Common share dividends	(200)
Payment on long-term debt	(300)
Net cash from financing activities	(500)
Beginning Cash Balance	X
Ending Cash Balance	Y

Indirect Method:

Operating Activities		
Net Income		$50,000
Add: Depreciation expense	$10,000	
Decrease in AR	$2,000	
Increase in inventory	$3,000	
Decrease in prepaid expense	$4,000	
Increase in accounts payable	$5,000	
Net Cash provided by operating activities		$XXX
Investing Activities		
Sale of land	200	
Purchase of equipment	(300)	
Net cash from investing activities	(100)	
Financing Activities		
Common share dividends	(200)	
Payment on long-term debt	(300)	
Net cash from financing activities	(500)	
Beginning Cash Balance		X
Ending Cash Balance		Y

9.6.1 Uses of Cash Flow Statement

Since a cash flow statement is based on the cash basis of accounting, it is very useful in the evaluation of cash position of a firm.

A projected cash flow statement can be prepared in order to know the future cash position of a concern so as to enable a firm to plan and coordinate its financial operations properly. By preparing this statement, a firm can come to know as to how much cash will be

generated into the firm and how much cash will be needed to make various payments and hence the firm can well plan to arrange for the future requirements of cash.

A comparison of the historical and projected cash flow statements can be made so as to find the variations and deficiency or otherwise in the performance so as to enable the firm to take immediate and effective action.

A series of intra-firm and inter-firm cash flow statements reveals whether the firm's liquidity (short-term paying capacity) is improving or deteriorating over a period of time and in comparison to other firms over a given period of time.

Cash flow statement helps in planning the repayment of loans, replacement of fixed assets and other similar long-term planning of cash. It is also significant for capital budgeting decisions.

It better explains the causes for poor cash position in spite of substantial profits in a firm by throwing light on various applications of cash made by the firm. It further helps in answering some intricate questions like, what happened to the net profits. Where did the profits go? Why more dividends could not be paid in spite of sufficient available profit?

Cash flow analysis is more useful and appropriate than funds flow analysis for short-term financial analysis as in a very short period it is cash which is more relevant then the working capital for forecasting the ability of the firm to meet its immediate obligations.

Cash flow statement prepared according to AS-3 (Revised) is more suitable for making comparisons than the funds flow statement as there is no standard format used for the same.

Cash flow statement provides information of all activities classified under operating, investing and financing activities. The funds statement even when prepared on cash basis, did not disclose cash flows from such activities separately. Thus, cash flow statement is more useful than the funds statement.

9.7 Unit Summary

Having read this unit, the main points that you should understand are as follows:

- A cash flow statement is a statement of changes in the financial position of a firm on cash basis.
- A projected cash flow statement can be prepared in order to know the future cash position of a concern so as to enable a firm to plan and coordinate its financial operations properly.

Review Questions

1. Describe the steps followed in the prepation of Cash Flow Statements
2. Discuss the uses of a Cash Flow Statement

UNIT 10

MARGINAL COSTING AND BREAKEVEN ANALYSIS

10.1 Introduction

This unit defines marginal costing and the breakeven analysis concept. As you will learn, in marginal costing fixed costs are treated as period cost. We shall be looking at the arguments in favor of and against each method. As each method produces a different profit figure, we shall demonstrate how to reconcile the profit figures.

10.2 Learning outcomes

After studying this unit you should be able to:

- Define marginal costing.
- Explain the concept of contribution.
- Explain the concept of contribution and its use in cost–volume–profit (CVP) analysis;
- Calculate and interpret the break-even point, profit target, margin of safety and profit/volume ratio for a single product or service;
- Prepare break-even charts and profit/volume graphs for a single product or service;
- Calculate the profit maximizing sales mix for a multi-product company that has limited demand for each product and one other constraint or limiting factor.
- Discuss application of marginal costing systems.
- Discuss the limitations of marginal costing

10.3Marginal Cost And Marginal Costing

10.3.1 Marginal cost

Marginal cost is the part of the cost of one unit of product or service which would be avoided if the units were not produced, or which would increase if one extra unit were produced.

The marginal production cost per unit of an item usually consists of the following:

- Direct materials.
- Direct labour.
- Variable production overheads.

10.3.2 Marginal costing

Marginal costing is the accounting system in which variable costs are charged to cost units and fixed costs of the period is written off in full against the total contribution.

10.3.3 Marginal cost of sales

Marginal cost of sales usually include marginal cost of production adjusted for stock movement plus variable selling costs, which would include items such as sales commission and possibly some variable distribution costs.

10.3.4 Principles of marginal costing

The principles of marginal costing are that:

- Fixed costs are the same for any volume of activity.
- By producing and selling an extra unit or service only the variable cost increases.
- By producing and selling the additional unit, the total profit increase by the amount of contribution from that unit.

Based on the above points marginal costing argues that:

- The valuation of stock should be at variable production costs (direct materials, direct labour and direct expenses).

- Profit measurement should be based on contribution analysis

10.3.5 Product cost under marginal costing

Example:
A company produces a single product and has the following budget

	K
Selling	10,000
Direct materials	3,000
Direct wages	2,000
Variable overheads	1,000

Fixed production overhead is K10 million per month; production volume is 5,000 units per month.

Required

Calculate the cost per unit to be used for stock valuation under Marginal costing

Solution

Marginal cost per unit

	K
Direct materials	3,000
Direct wages	2,000
Variable overheads	1,000
Marginal cost per unit	**6,000**

10.4 Cost Volume Profit Analysis

10.4.1 Definition of Cost–Volume–Profit Analysis

Cost–volume–profit *(CVP) analysis* is defined in CIMA's *Terminology* as the 'study of the effects on future profit of changes in fixed cost, variable cost, sales price, quantity and mix'.

A common term used for this type of analysis is *breakeven analysis.* However, this is somewhat misleading, since it implies that the focus of the analysis is the *breakeven point* – that is, the level of activity which produces neither profit nor loss. You will see in this Unit that the scope of CVP analysis is much wider than this, as indicated in the definition. However, you should be aware that the terms 'breakeven analysis' and 'CVP analysis' tend to be used interchangeably.

10.4.2 The Concept of Contribution

Contribution is the difference between sales value and the marginal cost of sales. The term contribution is really short for contribution towards covering fixed overheads and making a profit.

10.4.3 Significance of Contribution

Contribution is an important concept in marginal costing. Changes in the volume of sales, or in sales price, or in variable costs will all affect profit by altering the total contribution. Marginal costing techniques can be used to help management to assess the likely effect on profits of higher or lower sales volume, or the likely consequences of reducing the sales price of a product in order to increase demand and so on. The approach to any such analysis should be to calculate the effect on total contribution.

If we can identify the variable costs associated with producing and selling a product or service we can highlight a very important measure: *contribution.*

Contribution = sales value - variable costs

Variable costs are sometimes referred to as marginal costs and the two terms are often used interchangeably.
Contribution is so called because it literally does contribute towards fixed costs and profit. Once the contribution from a product or service has been calculated, the fixed costs associated with the product or service can be deducted to determine the profit for the period.

10.5 Calculating the Breakeven Point

As sales revenues grow from zero, the contribution also grows until it just covers the fixed costs. This is the breakeven point where neither profits nor losses are made. It follows that to break even, the amount of contribution must exactly match the amount of fixed costs. If we know how much contribution is earned from each unit sold, then we can calculate the number of units required to break even as follows:

$$\text{Breakeven point in units} = \frac{\text{Fixed costs}}{\text{Contribution per unit}}$$

For example, suppose that an organisation manufactures a single product, incurring variable costs of K30 per unit and fixed costs of K20, 000 per month. If the product sells for K50 per unit, then the breakeven point can be calculated as follows:

$$\text{Breakeven point in units} = \frac{20{,}000}{50\text{-}30} = 1{,}000 \text{ units per month}$$

The margin of safety is the difference between the expected level of sales and the breakeven point. The larger the margin of safety, the more likely it is that a profit will be made, that is, if sales start to fall there is more leeway before the organisation begins to incur losses. (Obviously, this statement is made on the assumption that projected sales volumes are above the break-even point.)

In the above example, if forecast sales are 1,700 units per month, the margin of safety can be easily calculated.

10.6 The Margin of Safety and Target Profit

Margin of safety = projected sales – break-even point
1,700 units – 1,000 units
700 units, or of sales (41/1,700 x 100%)

The margin of safety should be expressed as a percentage of projected sales to put it in perspective. To quote a margin of safety of 700 units without relating it to the projected sales figure is not giving the full picture. The margin of safety can also be used as one route to a profit calculation. We have seen that the contribution goes towards fixed costs and profit. Once breakeven point is reached the fixed costs have been covered. After the break-even point, there are no more fixed costs to be covered and all of the contribution goes towards making profits grow.

In our example, the monthly profit from sales of 1,700 units would be K14,000.

Margin of safety = 700 units per month
Monthly profit = 700 x contribution per unit
= 700 x K 20
= K 14,000

10.7 The Contribution to Sales (C/S) Ratio

The contribution to sales ratio is usually expressed as a percentage. It can be calculated for the product in our example as follows.

Contribution to sales ratio (C/S ratio)
= K 20 / K 50 x 100%
= 40%

A higher contribution to sales ratio means that contribution grows more quickly as sales levels increase. Once the break-even point has been passed, profits will accumulate more quickly than for a product with a lower contribution to sales ratio. You might sometimes see this ratio referred to as the profit - volume (P/V) ratio. If we can assume that a unit's variable cost and selling price remain constant then the C/S ratio will also remain constant. It can be used to calculate the break-even point as follows: (using the data from the earlier example):

Break-even point in sales value

$$= \frac{\text{Fixed costs}}{\text{C/S ratio}} = \frac{\text{K 20,000}}{0.4} = \text{K 50,000.00}$$

This can be converted to 1,000 units as before by dividing it by the selling price of K50 per unit.

Example
A company manufactures and sells a single product which has the following cost and selling price structure:

	K/Unit	*K/Unit*
Selling price		120
Direct material	22	
Direct labour	36	
Variable overhead	14	
Fixed overhead	12	
		84
Profit per unit		36

The fixed overhead absorption rate is based on the normal capacity of 2,000 units per month. Assume that the same amount is spent each month on fixed overheads.
Budgeted sales for next month are 2,200 units.

You are required to calculate:
(i) the breakeven point, in sales units per month;
(ii) the margin of safety for next month;
(iii) the budgeted profit for next month;
(iv) the sales required to achieve a profit of K96,000 in a month.

Solution

(i) The key to calculating the breakeven point is to determine the contribution per unit.
Contribution per unit = K120 - (K22+K36+K14) = K48

$$\text{Breakeven point} = \frac{\text{Fixed overhead}}{\text{Contribution per unit}}$$

$$\frac{\text{K } 12 \times 2{,}000}{\text{K } 48} = 500 \text{ units}$$

(ii) Margin of safety = budgeted sales - breakeven point
= 2,200 - 500
= 1,700 units (or 1700/ 2,200 x 100% = 77% of budgeted sales)

(iii) Once break-even point has been reached, all of the contribution goes towards profits because all of the fixed costs have been covered.

Budgeted profit 1,700 units margin of safety K48 Contribution per unit K 81, 600

(iv) To achieve the desired level of profit, sufficient units must be sold to earn a contribution which covers the fixed costs and leaves the desired profit for the month.

Number of sales units required = $\frac{\text{Fixed overhead + desired profit}}{\text{Contribution per unit}}$

$$\frac{(K12 \times 2000) + K\ 96{,}000}{K48}$$

= 2,500 units

10.8 Drawing a Basic Breakeven Chart

A basic break-even chart records costs and revenues on the vertical axis and the level of activity on the horizontal axis. Lines are drawn on the chart to represent costs and sales revenue. The break-even point can be read off where the sales revenue line cuts the total cost line.

We will use our basic example to demonstrate how to draw a breakeven chart. The data is:

Selling price	K50 per unit
Variable cost	K30 per unit
Fixed costs	K20,000per month
Forecast sales	1,700 units per month

Step 1. Select appropriate scales for the axes and draw and label them

Your graph should fill as much of the page as possible. This will make it clearer and easier to read. You can make sure that you do this by putting the extremes of the axes right at the end of the available space.
The furthest point on the vertical axis will be the monthly sales revenue, that is,
1700 units x K50 = K85, 000
The furthest point on the horizontal axis will be monthly sales volume of 1,700 units.
Make sure that you do not need to read data for volumes higher than 1,700 units before you set these extremes for your scales.

Step 2. Draw the fixed cost line and label it

This will be a straight line parallel to the horizontal axis at the K20, 000 level. The K20, 000 fixed costs are incurred in the short term even with zero activity.

Step 3. Draw the total cost line and label it

The best way to do this is to calculate the total costs for the maximum sales level, which is 1,700 units in our example. Mark this point on the graph and join it to the cost incurred at zero activity, that is, K20, 000.

	K
Variable costs for 1,700 units(1,700 x K30)	51,000
Fixed costs	20,000
Total cost for 1,700 units	71,000

Step 4. Draw the revenue line and label it

Once again, the best way is to plot the extreme points. The revenue at maximum activity in our example is 1,700 x K50 = K85,000. This point can be joined to the origin since at zero activity there will be no sales revenue.

Step 5. Mark any required information on the chart and read off solutions as required

Check that your chart is accurate by reading off the measures that we have already calculated in this Unit: the breakeven point, the margin of safety, the profit for sales of 1,700 units.

The completed graph is shown in Figure 4.1.

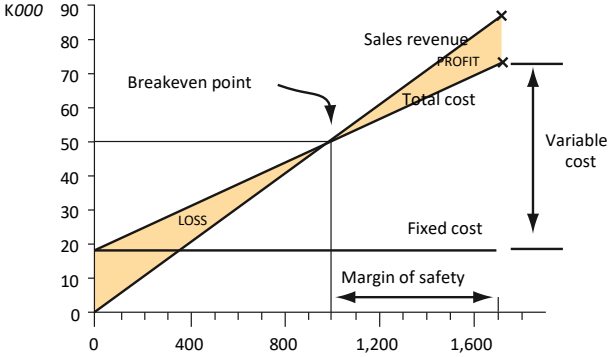


Figure 4.1 Basic Break-even Chart

Your own graph should be considerably larger than this: a full A4 graph-ruled sheet is recommended to facilitate ease of interpretation.

10.9 The Contribution Break-even Chart

One of the problems with the conventional or basic breakeven chart is that it is not possible to read contribution directly from the chart. A contribution breakeven chart is based on the same principles but it shows the variable cost line instead of the fixed cost line (Figure 4.2). The same lines for total cost and sales revenue are shown so the break- even point and profit can be read off in the same way as with a conventional chart. However, it is possible also to read the contribution for any level of activity.
Using the same basic example as for the conventional chart, the total variable cost for an output of 1,700 units is 1,700 x K30 = K51, 000. This point can be joined to the origin since the variable cost is nil at zero activity.

The contribution can be read as the difference between the sales revenue line and the variable cost line.

This form of presentation might be used when it is desirable to highlight the importance of contribution and to focus attention on the variable costs.

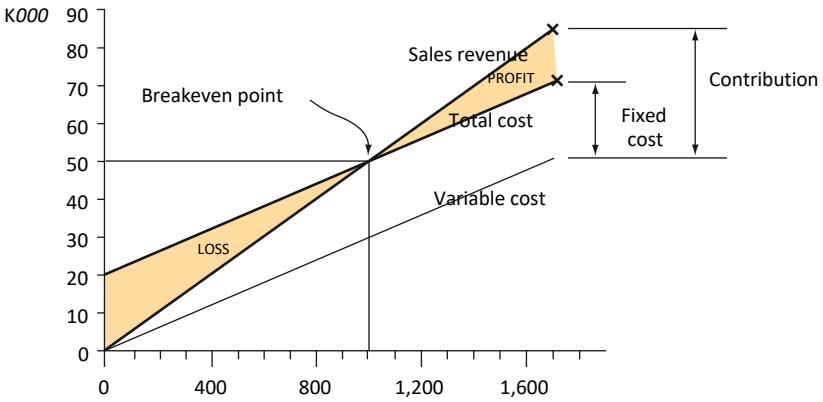


Figure 4.2 Contribution Break-even Chart

10.10 The Profit–Volume Chart

Another form of break-even chart is the profit–volume chart. This chart plots a single line depicting the profit or loss at each level of activity. The breakeven point is where this line cuts the horizontal axis. A profit–volume graph for our example will look like Figure 4.3. The vertical axis shows profits and losses and the horizontal axis is drawn at zero profit or loss.

At zero activity, the loss is equal to K20, 000, that is, the amount of fixed costs. The second point used to draw the line could be the calculated breakeven point or the calculated profit for sales of 1,700 units.

The profit–volume graph is also called a profit graph or a contribution–volume graph.

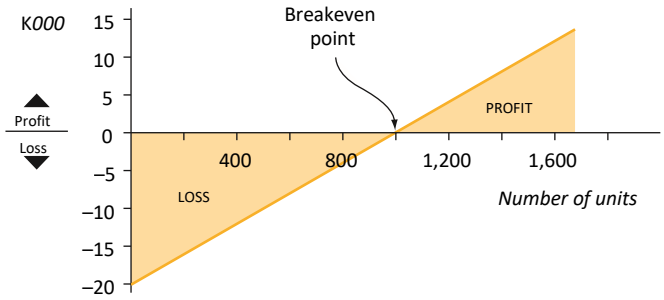


Figure 4.3 Profit–volume chart

10.11 The Advantage of the Profit–Volume Chart

The main advantage of the profit–volume chart is that it is capable of depicting clearly the effect on profit and breakeven point of any changes in the variables. An example will show how this can be done.

Example
A company manufactures a single product which incurs fixed costs of K30, 000 per annum. Annual sales are budgeted to be 70,000 units at a sales price of K30 per unit. Variable costs are K28.50 per unit.

(a) Draw a profit–volume graph, and use it to determine the breakeven point.

The company is now considering improving the quality of the product and increasing the selling price to K35 per unit. Sales volume will be unaffected, but fixed costs will increase to K45, 000 per annum and variable costs to K33 per unit.

(b) Draw, on the same graph as for part (a), a second profit–volume graph and comment on the results.

Solution
The profit–volume chart is shown in Figure 4.4. The two lines have been drawn as follows:

Situation (a). The profit for sales of 70,000 units is K75,000.

	K000
Contribution 70,000 K (30 - 28.50)	105
Fixed costs	30
Profit	75

This point is joined to the loss at zero activity, K30, 000, that is, the fixed costs.

Situation (b). The profit for sales of 70,000 units is K95, 000.

	K 000
Contribution 70,000 K (35 - 33)	140
Fixed costs	45
Profit	95

This point is joined to the loss at zero activity, K45,000, that is, the fixed costs.

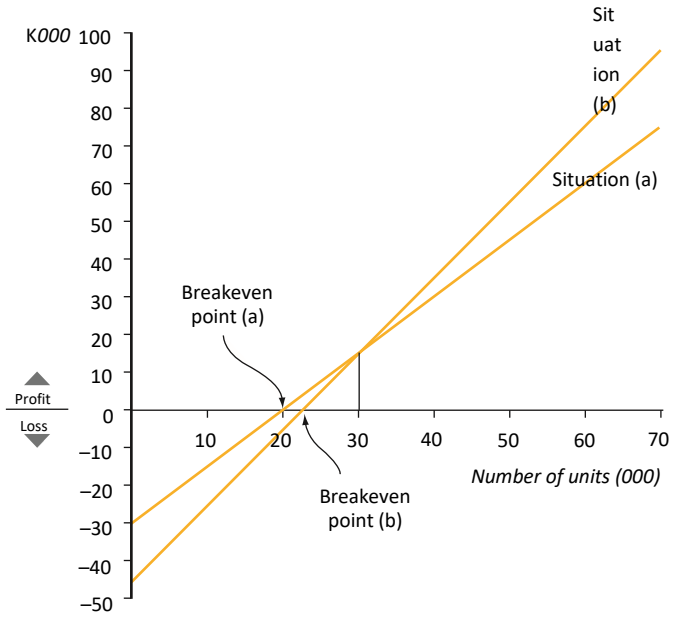


Figure 4.4 Showing changes with a profit–volume chart

Comment on the Results

The graph depicts clearly the larger profits available from option (b). It also shows that the breakeven point increases from 20,000 units to 22,500 units but that this is not a large increase when viewed in the context of the projected sales volume. It is also possible to see that for sales volumes above 30,000 units, the profit achieved will be higher with option (b). For sales volumes below 30,000 units, option (a) will yield higher profits (or lower losses).

The profit–volume graph is the clearest way of presenting information like this. If we attempted to draw two conventional breakeven charts on one set of axes the result would be a jumble, which is very difficult to interpret.

10.12 The Limitations of Breakeven (or CVP) Analysis

The limitations of the practical applicability of breakeven analysis and breakeven charts stem mostly from the assumptions which underlie the analysis:

(a) Costs are assumed to behave in a linear fashion. Unit variable costs are assumed to remain constant and fixed costs are assumed to be unaffected by changes in activity levels. The charts can, in fact, be adjusted to cope with non-linear variable costs or steps in fixed costs but too many changes in behaviour patterns can make the charts very cluttered and difficult to use.

(b) Sales revenues are assumed to be constant for each unit sold. This may be unrealistic because of the necessity to reduce the selling price to achieve higher sales volumes. Once again the analysis can be adapted for some changes in selling price but too many changes can make the charts unwieldy.

(c) It is assumed that activity is the only factor affecting costs, and factors such as inflation are ignored. This is one of the reasons why the analysis is limited to being essentially a short-term decision aid.

(d) Apart from the unrealistic situation of a constant product mix, the charts can only be applied to a single product or service. Not many organisations have a single product or service and if there is more than one, then the apportionment of fixed costs between them becomes arbitrary.

(e) The analysis seems to suggest that as long as the activity level is above the breakeven point, then a profit will be achieved. In reality, certain changes in the cost and revenue patterns may result in a second breakeven point after which losses are made. This situation will be depicted in the next section of this Unit.

10.13 Using CVP Analysis to Evaluate Proposals

Use your understanding of breakeven analysis and cost behaviour patterns to evaluate the proposals in the following exercise.

(a) Limiting Factor Analysis

A limiting factor is any factor which is in scarce supply and which stops the organisation from expanding its activities further, that is, it limits the organisation's activities.

The limiting factor for many trading organisations is sales volume because they cannot sell as much as they would like. However, other factors may also be limited, especially in the short term. For example, machine capacity or the supply of skilled labour may be limited for one or two periods until some action is taken to alleviate the shortage.

The concept of contribution can be used to make decisions about the best use of a limited resource.

(b) Decisions Involving a Single Limiting Factor

If an organisation is faced with a single limiting factor, for example, machine capacity, then, it must ensure that a production plan is established which maximises the profit from the use of the available capacity. Assuming that fixed costs remain constant, this is the same as saying that the contribution must be maximised from the use of the available capacity. The machine capacity must be allocated to those products which earn the most contribution per machine hour.

This decision rule can be stated as 'maximising the contribution per unit of limiting factor'.

Example

XYZ Ltd manufactures three products L, M and N. The company which supplies the two raw materials which are used in all three products has informed LMN that their employees are refusing to work overtime. This means that supply of the materials is limited to the following quantities for the next period:

Material A	1,030 kg
Material B	1,220 kg

No other source of supply can be found for the next period.

Information relating to the three products manufactured by XYZ Ltd is as follows:

	L	*M*	*N*
Quantity of material used per unit manufactured:			
Material A (kg)	2	1	4
Material B (kg)	5	3	7
Maximum sales demand (units)	1 20	160	110
Contribution per unit sold	K 15	K12	K17.50

Owing to the perishable nature of the products, no finished goods are held.

Requirements

(a) Recommend a production mix which will maximise the profits of XYZ Ltd for the forthcoming period.

(b) XYZ Ltd has a valued customer to whom they wish to guarantee the supply of 50 units of each product next period. Would this alter your recommended production plan?

Solution

(a) The first step is to check whether the supply of each material is adequate or whether either or both of them represent a limiting factor.

	L	M	N	*Total*
Maximum sales demand (units)	120	160	110	
Material A required per unit (kg)	2	1	4	
Total material A required (kg)	240	160	440	840
Material B required per unit (kg)	5	3	7	
Total material B required (kg)	600	480	770	1,850

There will be sufficient material A to satisfy the maximum demand for the products but material B will be a limiting factor.

The next step is to rank the products in order of their contribution per unit of limiting factor. The available material B can then be allocated according to this ranking.

	L	*M*	*N*
Contribution per unit sold	K 15	K12	K17.50
Material B consumed (kg)	5	3	7
Contribution per kg of material B	K 3	K4	K2.50
Ranking	2	1	3

The available material B will be allocated to the products according to this ranking, to give the optimum production plan for the next period.

Product	Recommended Production (Units)	Material B Utilised(Kg)
M	160 (maximum)	480
L	120 (maximum)	600
N	20	140 (balance)
		1,220

The available material B is allocated to satisfy the maximum market demand for products M and L. The balance of available material is allocated to the last product in the ranking, product N.

(b) The recommended production plan in part (a) does not include sufficient product N to satisfy the requirement of 50 units for the valued customer. Some of the material allocated to product L (second in the ranking) must be allocated to product N. The recommended production plan will now be as follows:

Product	Recommended Production(units)	Material B utilised (kg)
N	50	350
M	160	480
L	78	390 balance
		1,220

This recommendation makes the best use of the available material B within the restriction of the market requirements for each product.

Example

Barrow World Limited manufactures three products E, F and G. The products are all finished on the same machine. This is the only mechanised part of the process. During the next period, the production manager is planning an essential major maintenance overhaul of the machine. This will restrict the available machine hours to 1,400 hours for the next period. Data for the three products are:

	Product E	Product F	Product G	
	K per unit	K per unit	K per unit	
Selling price	30	17	21	
Variable cost	13	6	9	
Fixed production cost	10	8	6	
Other fixed cost	2	1	3.5	
Profit	5	2	2.5	
Maximum demand(units per period)	250	140	130	

No inventories are held.

Fixed production costs are absorbed using a machine hour rate of K2 per machine hour.

You are required to determine the production plan that will maximise profit for the forthcoming period.

Solution
The first step is to calculate how many machine hours are required for each product. We can then determine whether machine hours are really a limiting factor.

	Product E	*Product F*	*Product G*	*Total*
Fixed production cost per unit @ K2 per hour	K10	K8	K6	
Machine hours per unit	5	4	3	
Maximum demand (units)	250	140	130	
Maximum hours required	1,250	560	390	2,200

Since 2,200 machine hours are required and only 1,400 hours are available, machine hours are a limiting factor.

The optimum production plan is the plan which maximises the *contribution* from the *limiting factor*.

Do not make the common mistake of allocating the available hours according to the profit per unit of product or according to the profit per hour.
The next step is to calculate the contribution per hour from each of the products.

	Product E	*Product F*	*Product G*
	K	K	K
Selling price per unit	30	17	21
Variable cost per unit	13	6	9
Contribution per unit	17	11	12
Machine hours per unit	5	4	3
Contribution per hour	K3.40	K2.75	K4.00
Ranking	2	3	1

The available hours can be allocated according to this ranking.

	Units to be Produced	**Machine Hours required**
Product G (maximum demand)	130	390
Product E (balance of hours)	202	1,010
		1,400

10.14 Limitations of Marginal Costing

The marginal costing suffers from the following limitations:

a) Wrong assumption of classification of expenses
Here it is assumed that the expenses are grouped as fix and variable while certain expenses, such as Bonus to employees, welfare activities expenditure are purely caused by management decisions and have no reference to output or time.

b) Marginal costing technique does not give due attention to time factor.
There are cases where the marginal cost of two output is the same yet one takes twice time than the other thus, job taking more time is costly than the lesser time.

c) Not applicable to all industries.
The technique of marginal costing is not applicable to all industries such as Ship Building and Contracts.

d) Fixed expenses are controllable.
Marginal costing technique ignores the fact that fixed costs are always controllable. The technique of budgetary control can be helpful in controlling the amount of fixed overheads.

e) Lack of calculation
The technique of marginal costing does not provide any standard for the evaluation of performance. A system of budgetary control and standard costing gives more effective control than the technique of marginal costing.

g) Wrong basis of stock and work in progress
Under marginal costing, stock and work in progress are valued on the basis of marginal cost and the fixed costs are taken into account thus these expenses are lesser charge.

h) Limited output
The study of marginal costing is suitable upto a limited extent. There is every possibility that beyond a specific limit of output, fixed expenses can show unusual jump.

i) Various factors that affect production cost.
The BEP is effected by fixed and variable costs. Yet there are other factors that affect output such as: efficiency of man and machinery, plant capacity and technical ability.

10.14 Unit Summary

Having read this Unit the main points that you should understand are as follows.

- Marginal cost is the variable cost of one unit of product or service.

- Contribution is an important measure in marginal costing, and it is calculated as the difference between sales value and marginal or variable costs.
- In marginal costing, fixed production costs are treated as period costs and are written off as they are incurred.
- Cost–volume–profit (CVP) analysis is the study of the effect on profit of changes in costs and sales price, quantity and mix. Another common term used in this context is "break-even analysis".
- Contribution is calculated as sales value minus variable cost.
- The ratio of a cost unit's contribution to its selling price is usually assumed to be constant. This ratio may be referred to as the contribution to sales (C/S) ratio or the profit volume (P/V) ratio, both of which are usually expressed as a percentage.
- The break-even point can be calculated as (fixed costs/contribution per unit) or (fixed costs/PV ratio).
- The margin of safety is the difference between the expected level of sales and the break-even point. It may be expressed as a percentage of the expected sales.
- A breakeven chart is a pictorial representation of costs and revenues depicting the profit or loss for the relevant range of activity.
- A contribution breakeven chart shows the variable cost line instead of the fixed cost line so that contribution can be read directly from the chart.
- A profit–volume (PV) chart depicts a single line indicating the profit or loss for the relevant range of activity. It is particularly useful for demonstrating the effect on profit of changes in costs or revenues.
- Breakeven or CVP analysis has a number of limitations and managers should be aware of these if they are to apply the technique effectively.
- A limiting factor is any factor which is in scarce supply and stops the organisation from expanding its activities further. The decision rule in this situation is to maximise the contribution per unit of limiting factor.

Review Questions

Question 1

Profit statements and break-even analysis

BSE Veterinary Services is a specialist laboratory carrying out tests on cattle to ascertain whether the cattle have any infection. At present, the laboratory carries out 12,000 tests each period but, because of current difficulties with the beef herd, demand is expected to increase to 18,000 tests a period, which would require an additional shift to be worked. The current cost of carrying out a full test is:

	K *per test*
Materials	115
Technicians ' wages	30
Variable overhead	12
Fixed overhead	50

Working the additional shift would:

(i) require a shift premium of 50 per cent to be paid to the technicians on the additional shift;

(ii) enable a quantity discount of 20 per cent to be obtained for all materials if an order was placed to cover 18,000 tests;

(iii) increase fixed costs by K700,000 per period.

The current fee per test is K300.

Requirements

(a) The profit for the period at the current capacity of 12,000 tests is K_____.

(b) A framework for a profit statement if the additional shift was worked and 18,000 tests were carried out is as follows

(i) Sales
(ii) Direct materials
(iii) Direct labour
(iv) Variable overhead
(v) Fixed costs
(vi) Profit

(c) It has been determined that for a capacity of 15,000 tests per period, the test fee would be K300. Variable costs per test would amount to K140, and period fixed costs would be K1, 200,000. The breakeven number of tests at this capacity level is_____ tests.

Question 2

Profit–volume Graphs

MC Limited manufactures one product only, and for the last accounting period has produced the simplified income statement below:

		K	K	
Sales			300,000	
Costs:				
	Direct materials	60,000		
	Direct wages	40,000		
	Prome cost	100,000		
	Variable production overhead	10,000		
	Fixed production overhead	40,000		
	Fixed administration overhead	60,000		
	Variable selling overhead	40,000		
	Fixed selling overhead	20,000		
			270,000	
	Net profit		30,000	

Requirements

(a) A profit–volume graph is to be drawn for MC Ltd's product.

(i) The profit line drawn on the graph would cut the vertical axis (y -axis) at the point where y is equal to K...

(ii) The profit line drawn on the graph would cut the horizontal axis (x -axis) at the point where x is equal to K…….

(iii) The margin of safety indicated by the graph would be K……..

Question 4

Decision-making, limiting factor

ABC Ltd makes three products, all of which use the same machine, which is available for 50,000 hours per period. The standard costs of the product, per unit, are:

Direct materials	70	40	80
Direct labour:			
Machinists (K8/hour)	48	32	56
Assemblers (K6/hour)	36	40	42
Total variable cost	154	112	178
Selling price per unit	200	158	224
Maximum demand (units)	3,000	2,500	5,000

Fixed costs are K300,000 per period.

Requirements

(a) The deficiency in machine hours for the next period is ☐ hours.

(b) The optimum production plan that will maximise ABC Ltd's profit for the next period is:

Product A _____ Units
Product B _____ Units
Product C_____ Units

Information relates for the question that follows below:

Munyaule develops musical CDs for which the budgeted profit per unit is as follows:

	K
Materials	2,000
Labour	3,000
Variable Production overhead	3,000
Fixed Production overhead	4,000
Variable selling cost	1,000
Fixed Selling expenses	2,000
Profit	5,000

Sales Price	**20,000**

Both types of fixed overheads were based on a budget of 10,000 CDs a year. In the first year of production, the only difference from the budget was that Munyaule produced 11,000 musical CDs and sold 9,000.

Required

Prepare a Profit statement made under Marginal costing.

UNIT 11

BUDGETORY CONTROL

11.1 Introduction

The purpose of management is to implement an organisation's strategies. The process of identifying, evaluating and deciding on these strategies is called strategy formulation. The process of implementing the organisation's strategies is known as the budgetary process. This unit therefore examines the budgetary process as a tool for management planning and control process and looks at different types of budgets and their uses.

11.2 Learning Outcomes

At the end of the unit, you should be able to:

- Appreciate the uses of a budget
- Explain the budget making process
- Define the master budget and other related budgets nd explain their uses
- Prepare different types of budgets
- Work out some examples

11.3 Budgeting and Budgetary Control

A budget is a formal statement of estimated income and expenses based on future plans and objectives. In other words, a budget is a document that management makes to estimate the revenues and expenses for an upcoming period based on their goals for the business.

All economic entities – businesses, churches, universities, government agencies and even individuals engage in some form of budgeting. A factory worker, as an example, with limited financial resources may prepare a list of monthly cash payments to ensure that they do not exceed the expected monthly salary.

Most businesses engage in some degree of planning. The extent to which plans are formalized in written budgets varies from business to business. Medium to large companies however, carefully develop budgets for every aspect of their operations.

The use of a budget is a key element of financial planning and control. Managers compare the actual costs with the budgeted amounts and take corrective action as necessary.

Management controls the activities of an organization in a number of ways including the following:

- Strategic Planning
- Budgeting
- Measurement and
- Evaluation

Strategic planning is a process of deciding on the programs an organisation undertakes and the approximate amounts of resources to be allocated to each program. **Budgeting** is also a planning tool but the essential difference between the two is that strategic planning looks forward several years into the future whereas budgeting focusses on the next year.

In preparing a budget, each program is translated into terms that correspond to the responsibility of those managers who have been charged with executing the program
.

11.4 Objectives of Budgetary Control

The following are the objectives of budgetary control:

(i) To state clearly and unambiguously the targets for different Budget Centres and also for the whole company. That means, the Budgets have to state explicitly what the firm expects to achieve during the Budget Period from different Budget Centres,
(ii) To communicate to the heads of Budget Centres about what they are required to achieve during the Budget Period. This is necessary to avoid confusion and to ensure the accomplishment of the target results,
(iii) To provide a comprehensive plan of action in the form of guidance to departmental heads to achieve the budgeted results, and
(iv) To provide a means for evaluating the performance of different Budget Centres. This can be done by comparing the actuals with the budgeted results.

11.5 Steps in Budgetary Control Process

The process of controlling budgets can be broken down into several steps:

- Establishing actual position
- Comparing actual with budget
- Calculating variances
- Establishing reasons for variances
- Taking action to exert control

Step 1 – Establish Actual Position

All organizations have some form of an accounting system which records their income and expenditure. Depending on the system, budgets will be identified by some form of budget code. Income and expenditure is then recorded against the budget code. This enables budget holders to identify their actual budget position at any point in time.
This information is normally provided in the financial management report. The style and content of the report will vary from one organisation to another and will be dependent on the financial system used.

To establish the actual position, the budget holder will need to examine and understand the financial information available. They will need to know how current the information is and adjust it for any outstanding transactions. These may include debtors and creditors. The

budget holder will also need to know if any part of their budget has been "committed" – i.e. if goods and services have been ordered but not yet received.
Therefore, depending on the organisation, establishing the actual position may require information from several different sources.

Step 2 – Compare Actual with Budget

After completing Step 1, the information gathered needs be compared to the budgeted figures set at the beginning of the financial year. This comparison should be simple if the actual income and expenditure headings match those that were originally set.
The difference between the actual income and expenditure and the budgeted income and expenditure is called a "variance". Variance analysis is an important technique in the budgetary control process.

Step 3 – Calculating Variances

In the context of budgetary control, the term variance refers to the difference between actual and budget (planned) income and expenditure. An example of a variance is shown as follows:

Month 6

Budget heading	**Budget to date (Expected spend)**	**Actual to date (Actual spend)**	**Variance +/(-)**
Salaries	K 120,000	K 132,000	(K12,000)

The above example shows that by month six the budgeted expenditure on salaries was set at K120, 000. However, the actual spending on salaries in those six months totalled K132, 000. The difference between these two figures is K12, 000. This represents the variance from the budget. In this case the variance is negative. The brackets represent over spending.

The "budget to date" column shows the amount of budget that should have been spent by month 6. Ideally, the budget would be "profiled" to reflect the pattern of expenditure over the year. Therefore, when the actual expenditure for that period is compared with the budget, the true variance can be calculated.
There are other variance calculations methods that can be used in assisting the budget holder to control the budget. As mentioned in Step 2, we have other resources that discuss this topic in further detail.

Step 4 – Establish Reasons for Variances

There are several reasons that can account for differences found between the budgeted and actual expenditure. The reasons for all variances needs to be identified. This process is critical to effective budgetary control, as the budget holder needs to know when it is appropriate to take corrective action. Variances can be both positive and negative, reflecting excess spending or under spending, or over/under performance on income. All require investigation.

The reasons for variances may include:

Error	Incorrect figures entered on the accounting system
Delays	Delays in entering information on the accounting system
Profiling	Often incorrect budget profiles are entered, which bear no relevance to the pattern of actual expenditure and income (e.g. no account taken of seasonal fluctuations)
Poor budgeting	Little consideration given to initial budget preparation
Unplanned changes	For example, increases and decreases in demand for services, or introduction of new legislation

Step 5 – Take Action

Budgets can only be controlled if corrective action is taken in response to the variances. Sometimes the explanation for the variance results in no action being required. For example, timing differences. This is where the variance will diminish over time as the actual income and expenditure figures naturally match up with the budget. Variances that arise because of fundamental changes, such as an increase in demand for a service, require action. This is necessary to regain budgetary control.

11.6 Types of Budgets

11.6.1 Sales Budget

A sales budget is an estimate of expected total sales revenue and selling expenses of the firm. It is known as a nerve centre or backbone of the enterprise. It is the starting point on which other budgets are also based. It is a forecasting of sales for the period both in quantity and value. It shows what product will be sold, in what quantities, and at what prices. The forecast not only relates to the total volume of sales but also its break-up product wise and area wise. The responsibility for preparing sales budget lies with the sales manager who takes into account several factors for making the sales budget.

Some of these factors are:
(i) Past sales figures and trend;
(ii) Estimates and reports by salesmen;
(iii) General economic conditions;
(iv) Orders in hand ;
(v) Seasonal fluctuations;
(vi) Competition; and
(vi) Government's control.

11.6.2 Production budget

Production budget is prepared on the basis of the sales budget. But it also takes into account the stock levels required to be maintained. It contains the manufacturing programmes of the enterprise. It is helpful in anticipating the cost of production.
The nature of production budget will differ from enterprise to enterprise. For practical purposes, the overall budget should be divided into production per article per month, looking into the estimate of the likely quantity of demand. It is the responsibility of production department to adjust its production according to sales forecast.

It is made by the production manager keeping in mind the following important factors:
(i) The sales budget;
(ii) Plant capacity;
(iii) Inventory policy; and
(iv) Availability of raw-materials, labor, power, etc.

The production budget is often divided into several budgets:
(i) Material Budget- which fixes the quantity, quality and cost of raw materials needed for uninterrupted production;
(ii) Labour Budget-which specifies the requirements of labor in terms of the number and type of workers for various jobs;
(iii) Plant and equipment Budget- which lays down the needs of machines, equipment and tools including their repairs and maintenance; and
(iv) Research and Development Budget-which specifies the estimated cost on research and development for developing new products and for improving existing ones.

11.6.3 Financial budget

This budget shows the requirement of capital for both long-term and short-term needs of the enterprise at various points of time in future. Its objective is to ensure regular supply of adequate funds at the right time. An important part of the financial budget is the cash budget.
Cash budget contains estimated receipts and payments of cash over the specified future period. It serves as an effective device for control and coordination of activities that involves receipt and payment of cash. It helps to detect possible shortage or excess of cash in business. The financial budget also contains estimates of the firm's profits and expenditure i.e., the operating budget.

11.6.4 Overheads budget

It includes the estimated costs of indirect materials, indirect labor and indirect factory expenses needed during the budget period for the attainment of budgeted production targets. In other words, an estimate of factory overheads, distribution overheads and

administrative overheads is known as the overheads budget. The capital expenditure budget contains a forecast of the capital investment.
This budget is prepared on departmental basis for effective control over costs. The factory or manufacturing overheads can be divided into three categories: (i) fixed, (ii) variable, (iii) semi-variable. This classification helps in the formulation of overhead budgets for each department.

11.6.5 Personnel budget

It lays down manpower requirements of all departments for the budget period. It shows labor requirements in terms of labor hours, cost and grade of workers. It facilitates the personnel managers in providing required number of workers to the departments either by transfers or by new appointments.

11.6.6 Master budget

The Institute of Cost and Management Accountants, England defines master budget as the summary budget incorporating all the functional budgets, which is finally approved, adopted and applied. Thus, master budget is prepared by consolidating departmental or functional budgets. It is a summarized budget incorporating all functional budgets. It projects a comprehensive picture of the proposed activities and anticipated results during the budget period. It must be approved by the top management of the enterprise. Though practices differ, a master budget generally includes, sales, production, costs-materials, labor, factory overhead, profit, appropriation of profit and major financial ratios.

11.7 Limitations of Budgetary Control

Limitations of budgetary control are:

- danger of inaccurate estimates
- danger of rigidity
- human factor
- expensive
- hide inefficiencies
- departmental outlook
- danger of over budgeting
- no substitute for efficient management and
- lack of cost-benefit analysis!

(a) Danger of inaccurate estimates

Budgets are based on estimates and they involve forecasting of future events. The effectiveness of budgetary programme depends to a great extent on the accuracy with which estimates are made.

(b) Danger of rigidity:

In practice, budgets often tend to become rigid. It becomes difficult to make changes in budgets to suit the changing circumstances.
Budgetary limits are regarded as final and little scope is left for initiative and judgment on the part of the subordinate staff. Inflexibility makes budgets unrealistic and invalid under the changed conditions.

(c) Human factor
Budgets need the willing co-operation and active participation of people working in the enterprise. It is not always possible to get the voluntary cooperation and support from all in the construction and implementation of budgets.

(d) Expensive
It requires a lot of expenditure in terms of money, time and effort. A considerable time is needed in learning effective budgeting. Budgets cannot give results overnight and great patience is required on the part of the management. Management may lose interest and confidence in budgeting, where quick results are expected.

(e) Hide Inefficiencies
Budgets are sometimes used to hide inefficiencies. Budgets tend to grow from the precedent. Many items which cease to be relevant are continued because of their use in previous budgets.

(f) Departmental Outlook
Budgeting fails when departmental goals are allowed to supersede enterprise objectives. Functional budgets may not reflect the overall goals of the organisation in their proper perspective.
Similarly, situation may demand that the departmental manager should not cross budget limit in the interest of overall business objectives. However, in this enthusiasm and zeal to keep within budget limits, a departmental manager may overlook the enterprise goals.

(g) Danger of over budgeting
Budgets are often so detailed that they become cumbersome, meaningless and unduly expensive. Over budgeting usually reflects the superior manager's desire to maintain control. However, to derive full benefits of budgetary control, over budgeting should be avoided and subordinates should be adequately trained to read and administer budgets in the proper manner.

(h) No substitute for efficient management
No doubt, budgeting is of a great help in arriving at right decisions. But budget does not replace management and administration. It is a servant and not a master. It opens up vistas but someone has to read it, interpret it and implement it.

(i) Lack of cost-benefit analysis
Budget making is a tempting exercise. It can be effective only when there is a correlation between the cost of the system and the benefits to be derived from it.

In spite of these limitations, budgets provide guidelines to managerial action in more concrete terms. However, budgets should be used only as a tool of planning and control. The various limitations should be taken into consideration while using budgetary control system.

11.8 Summary

This unit looked at the budgeting and budgetary control process as a tool for planning and controlling. We defined the budgetary control process, it's objectives as well as its limitations. A master budget and its related budgets were also discussed.

Review Questions

1. Briefly explain three benefits that accrue from preparing a budget
2. Outline a logical sequence and explain the major steps in the preparation of s master budget
3. What is a flexible budget? Explain how the flexible budget increases the usefulness of budgeting as a means of evaluating performance
4. Explain the relationship between the managerial functions of planning and controlling costs

UNIT 12
STANDARD COSTING

12.1 Introduction

This unit introduces you to the concept of standards, an idea which is fairly common to many days to day activities. For instance, as a student of accountancy how many times have you heard your fellow students comment on the standard of tuition they are receiving. In a similar vein as a management accountant you can set a standard cost for products and services. This unit looks at the uses of standard costing, the standard setting process and review of such standards.

12.2 Learning Outcomes

After studying this unit, you should be able to:

- Define standard cost and standard costing.
- Explain types of operations most suited for standard costing.
- Understand how standards are set.
- Explain why standards should be continuously reviewed.

12.3 Introduction

We shall start this unit by defining the following terms:

- Standards
- Standard cost
- Standard costing

(a) Standard

A standard is a benchmark measurement of resource usage, set in defined conditions.

(b) Standard Cost

A standard cost is the planned unit cost of the products, components or services produced in a period. The main uses of standard costs are in performance measurement, control, stock valuation and in the establishment of selling prices. **(CIMA *Official Terminology)***

A standard cost is built up using the following elements of cost:

- Labour.
- Materials.
- Variable overheads.

- Fixed overheads.

(c) Standard Costing

Standard costing involves the establishment of predetermined estimates of the costs of products or services, the collection of actual costs and the comparison of the actual costs with predetermined estimates. The predetermined costs are known as standard costs and the difference between standard and actual costs is known as a variance.

Standard costing was developed primarily for use in the manufacturing industry as a formal method for calculating the expected costs of products. It differs from general budgeting (which is normally concerned with the costs of sections of organisation), because it focuses on the cost of what the organisation produces – the units costs.

12.4 Difference Between Standard and Budgetary Control

Both Standard Costing and Budgetary Control are based on the principle that costs can be controlled along certain lines of supervision and responsibility, that focuses on controlling cost by comparing actual performance with the predefined parameter. However, the two systems are neither similar nor interdependent. Standard Costing delineates the variances between actual cost and the standard cost, along with the reasons.

On the contrary, Budgetary Control, as the name suggest, refers to the creation of budgets, then comparing the actual output with the budgeted one and taking corrective action immediately.

The two systems aim at measuring performance by fixing targets. Nevertheless, the former, forecasts, cost accounts but the later projects detail about financial accounts.

Similarly, there are many differences between Standard Costing and Budgetary Control, which has been discussed below.

Basis for Comparison	**Standard Costing**	**Budgetary Control**
Meaning	The costing method in which evaluation of performance and activity is done by making a comparison between actual and standard costs, is Standard Costing.	Budgetary Control is the system in which budgets are prepared and continuous comparisons are made between the actual and budgeted figures to achieve the desired result.
Basis	Determined on the basis of data related to production.	Budgets are prepared on the basis of management's plans.
Range	It is limited to cost details.	It includes cost and financial data.
Concept	Unit Concept	Total Concept
Scope	Narrow	Wide

Basis for Comparison	Standard Costing	Budgetary Control
Reporting of Variances	Yes	No
Effect of temporary changes in conditions	The short term changes will not influence the standard costs.	The short term changes will be shown in the budgeted costs.
Comparison	Actual costs and standard cost of actual output	Actual figures and budgeted figures
Applicability	Manufacturing concerns	All business concerns

12.5 Where Should Standard Costing Be Used

Standard costing can be used in a variety of operations such as jobbing manufacture, process manufacture and mass production.

However, the greatest benefit can be gained by operations that are highly repetitive where the average or expected usage of resources can be determined. It is therefore most suited to mass production and repetitive assembly work.

12.6 Composition Of Standard Costs

The composition of standard costs whether you are calculating the standard cost of a rubber washer, an airplane or ship replacement operation can be analysed into common elements. These are the same elements of cost that you have come across before in the earlier units:

Direct costs	**Indirect Costs**
Direct materials	Variable overheads
Direct Labour	Fixed overheads
Direct Expenses	

Traditionally these elements of cost are shown on a standard cost card like the one below:

STANDARD COST CARD		
Direct materials		**K'000**
Material X	5kgs @ K20,000/Kg	100
Material Y	3Kgs @ K10,000/Kg	30

Direct Labour			
Grade A		6hrs @ K15,000/Hr	90
Grade B		8hrs @ K20,000/Hr	160
Variable overhead	Production	14 Hrs @ 10,000/hr	140
Fixed overhead	Production	14 Hrs @ 5,000/hr	70
Total standard cost			590

12.7 Deriving Standards

The responsibility for deriving standard costs should be shared between managers able to provide the necessary information about levels of expected efficiency, prices and overheads.

Sources of Information for Standard Setting

Element of cost	Source of information
Materials price	• Data from suppliers • Record of previous prices paid • Anticipated cost inflation • Anticipated demand for scarce supplies • Production schedules and bulk buying discounts • Seasonality of prices • Anticipated currency exchange rates
Material usage	• Product specification • Technical data from suppliers • Historical data on quantities used in the past • Observation of manufacture • Estimates of wastage • Quality of materials • Production equipment
Labour rate	• Current pay rates • Anticipated pay rises • The expected effects of bonus schemes • Equivalent pay rates of other employers • Changes in legislation • Grade of labour
Labour hours	• Data on previous output and efficiency levels • Results of formal observations (work study)

	• Anticipated changes in work practices or productivity levels • The level of skills of employees to be used
Overheads	• Accounting

12.6 The Uses of Standard Costing

Although standard costing has several uses, the two principal uses of standard costing are:

- To act as control device.
- To value stocks and production.

Other use of standard costing includes

- To assist in budget setting.
- To provide a prediction of future costs to be used in decision making situations.
- To motivate staff and management by the provision of challenging targets.
- To provide guidance on possible ways of improving efficiency.

12.7 Types of Standard

- **Ideal standard**- a standard which can be attained under perfect working conditions: no allowance is given for wastage, idle time and break downs.

- **Attainable standard**- a standard which assume efficient levels of operation, but which include allowances for normal losses waste and machine down time.

- **Current standard**- a standards based on current levels of efficiency in terms of allowances for breakdowns, wastage, losses and so on

- **Basic standard**- a standard established for use over a long period of time from which a current standard can be developed.

12.8 Impact of Standards on Employee Behavior

Type of standard	Impact
Ideal	The employees may feel that the goals are unattainable and so they will not work so hard.
Attainable	The employees are likely to be motivated to work harder as the standards are challenging but achievable

Current	Employees are unlikely to be motivated to do more than they are doing at the moment.
Basic	Employees are unlikely to be motivated by these standards which are easily achievable by employees.

12.9 Problems of Setting Standards

Common problems encountered in the standard setting process include:

- How to deal with inflation
- Who to set efficiency standards
- How to incorporate the need for continuous improvement.

12.10 Reviewing Standards

Management should not think that once standards are set, they would remain useful forever. Standards must evolve to reflect the organisation's changing methods and processes. Comparing out of date standards with actual results will provide misleading information.

Many organizations have adopted the approach of revising standards whenever changes of a permanent and reasonably long-term nature occur.

12.11 Variance Analysis

Variance analysis is defined as:

"The evaluation of performance by means of variances, whose timely reporting should maximise the opportunity for managerial action".

Variance analysis is usually associated with a manufacturer's product costs. In this setting, variance analysis attempts to identify the causes of the differences between a manufacturer's 1) standard or planned costs of the inputs that should have occurred for the actual products manufactured, and 2) the actual costs of the inputs used for the actual products manufactured.

Example of Variance Analysis

Assume that a company manufactured 10,000 units of product (output). The company's standards indicate that it should have used K 40,000 of materials (an input), but it actually used K 48,000 of materials. The variance analysis may include the following:

(i) There is an K 8,000 unfavorable variance which needs to be analyzed
(ii) The K 8,000 variance can be separated into a price variance and a quantity variance

(iii) The price variance identifies whether the actual cost per pound of the input was more or less than the planned or standard cost per pound

(iv) The quantity variance identifies whether the actual quantity of the input used was more or less than the planned or standard quantity for the actual output

The variance analysis of manufacturing overhead costs is more complicated than the variance analysis for materials. However, the variance analysis of manufacturing overhead costs is important since these costs have become a large percentage of manufacturing costs.

12.12 Unit Summary

- A standard cost is an estimated unit cost built from each element of cost.
- Standard costing is primarily used to value production and stocks and as a cost control tool.
- Standard costing is most suited to mass production and other repetitive operations.
- There are four types of standards namely ideal, attainable, current and basic.
- Standards should be revised when there is change of a permanent nature.

Review Questions

1. Define a standard
2. Define standard cost
3. Define standard costing
4. Mention some sources of information for preparing standards
5. Mention four types of standards
6. From the following data prepare the standard cost card for one unit of the single product manufactured:

Direct materials:
10kg of material X @ K1 600 per kg
7.5kg of material Y @ K2 500 per Kg

Direct Labour:
Preparation 14 hours @ K3 750 per hour
Assembly 5 hours @ K5 000 per hour
The budgeted total overheads for one year are:

	K'000	Hours
Preparation department	88	20,000
Assembly department	150	24,000

The fixed overheads (included in the above figures) are K25 000 and K48 000 respectively.

The standard cost card should show sub totals for:

- Prime cost
- Variable production cost
- Total production cost

7. What is variance analysis?
8. Mention some causes of variances?

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