



Case Study

Study Text

The Institute of Chartered  
Accountants of Nigeria

**ICAN**

**Case study**

**Professional level**



The Institute of  
Chartered Accountants  
of Nigeria (ICAN)

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PC 16, Idowu Taylor Street  
Victoria Island, Lagos, Nigeria  
Email: [info.ican@ican.org.ng](mailto:info.ican@ican.org.ng)  
[www.ican-ngr.org](http://www.ican-ngr.org)

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## Foreword

The business environment has been undergoing rapid changes caused, by globalisation and advancement in Information Technology. The impact of these changes on the finance function and the skills set needed by professional accountants to perform their various tasks have been profound. These developments have made it inevitable for the Institute's syllabus and training curriculum to be reviewed to align its contents with current trends and future needs of users of accounting services.

The Institute of Chartered Accountants of Nigeria (ICAN) reviews its syllabus and training curriculum every three years, however, the syllabus is updated annually to take cognisance of new developments in the national environment and the global accountancy profession. The Syllabus Review, Professional Examination and Students' Affairs Committees worked assiduously to produce a 3-level, 15-subject ICAN syllabus. As approved by the Council, examinations under the new syllabus will commence with the November 2021 diet.

It is instructive to note that the last four syllabus review exercises were accompanied with the publication of Study Texts. Indeed, when the first four editions of Study Texts were produced, the performances of professional examination candidates significantly improved. In an effort to consolidate on these gains and to further enhance the success rates of students in its qualifying examinations, the Council approved that a new set of learning materials (Study Texts) be developed for each of the subjects. Although, these learning materials may be regarded as the fifth edition, they have been updated to include IT and soft skills in relevant subjects, thereby improving the contents, innovation, and quality.

Ten of the new learning materials were originally contracted to Emile Woolf International (EWI), UK. However, these materials were reviewed and updated to take care of new developments and introduced IT and soft skills in relevant subjects. Also, renowned writers and reviewers which comprised eminent scholars and practitioners with tremendous experiences in their areas of specialisation, were sourced locally to develop learning materials for five of the subjects because of their local contents. The 15 subjects are as follows:

**Professional Level**

<b>Foundation Level</b>		
1.	Business, Management and Finance	EWI/ICAN
2.	Financial Accounting	EWI/ICAN
3.	Management Information	EWI/ICAN
4.	Business Law	ICAN

<b>Skills Level</b>		
5	Financial Reporting	EWI/ICAN
6	Audit and Assurance	EWI/ICAN
7.	Taxation	ICAN
8.	Corporate Strategic Management and Ethics	EWI/ICAN
9.	Performance Management	EWI/ICAN
10.	Public Sector Accounting and Finance	ICAN

<b>Professional Level</b>		
11.	Corporate Reporting	EWI/ICAN
12.	Advanced Audit and Assurance	EWI/ICAN
13.	Strategic Financial Management	EWI/ICAN
14.	Advanced Taxation	ICAN
15.	Case Study	ICAN

As part of the quality control measures, the output of the writers and reviewers were subjected to further comprehensive review by the Study Texts Review Committee.

Although the Study Texts were specially produced to assist candidates preparing for the Institute's Professional Examination, we are persuaded that students of other professional bodies and tertiary institutions will find them very useful in the course of their studies.

**Haruna Nma Yahaya (Mallam), mni, BSc, MBA, MNIM, FCA**  
**Chairman, Study Texts Review Committee**

A

## Acknowledgement

The Institute is deeply indebted to the underlisted locally-sourced rewriters, reviewers and members of the editorial board for their scholarship and erudition which led to the successful production of these new study texts. They are:

### Taxation

- |    |                            |          |
|----|----------------------------|----------|
| 1. | Enigbokan, Richard Olufemi | Reviewer |
| 2. | Clever, Anthony Obinna     | Writer   |
| 3. | Kajola, Sunday Olugboyega  | Writer   |

### Business Law

- |    |                      |                 |
|----|----------------------|-----------------|
| 1. | Oladele, Olayiwola.O | Writer/Reviewer |
| 2. | Adekanola, Joel .O   | Writer          |

### Public Sector Accounting and Finance

- |    |                  |                 |
|----|------------------|-----------------|
| 1. | Osho, Bolaji     | Writer/Reviewer |
| 1. | Biodun, Jimoh    | Reviewer        |
| 2. | Osonuga, Timothy | Writer          |
| 3. | Ashogbon, Bode   | Writer          |

### Advanced Taxation

- |    |                               |          |
|----|-------------------------------|----------|
| 1. | Adejuwon, Jonathan Adegboyega | Reviewer |
| 2. | Kareem, Kamilu                | Writer   |

## Case Study

- |                              |                 |
|------------------------------|-----------------|
| 1. Adesina, Julius Babatunde | Writer/Reviewer |
|------------------------------|-----------------|

### Professional level

## Information Technology Skills

- |                      |          |
|----------------------|----------|
| 1. Ezeilo, Greg      | Reviewer |
| 2. Ezeribe, Chimenka | Writer   |
| 3. Ikpehai, Martins  | Writer   |

## Soft Skills

- |                              |          |
|------------------------------|----------|
| 1. Adesina, Julius Babatunde | Reviewer |
| 2. Adepate, Olutoyin Adeagbo | Writer   |

The Institute also appreciates the services of the experts who carried out an update and review of the following Study Texts:

## Business Management and Finance

- |                        |
|------------------------|
| 1. Ogunniyi, Olajumoke |
|------------------------|

## Management Information

- |                              |
|------------------------------|
| 1. Adesina, Julius Babatunde |
| 2. Ezeribe, Chimenka         |

## Financial Accounting

- |                             |
|-----------------------------|
| 1. Adeyemi, Semiu Babatunde |
|-----------------------------|

## Financial Reporting

- |                      |
|----------------------|
| 1. Okwuosa, Innocent |
|----------------------|

## Performance Management

- |                         |
|-------------------------|
| 1. Durukwaku, Sylvester |
|-------------------------|

## Corporate Strategic Management and Ethics

- |                              |
|------------------------------|
| 1. Adepate, Olutoyin Adeagbo |
|------------------------------|

## Audit & Assurance

- |                     |
|---------------------|
| 1. Amadi, Nathaniel |
|---------------------|

## Corporate Reporting

- |                       |
|-----------------------|
| 1. Adeadebayo, Shuaib |
|-----------------------|

## Professional level

### Advanced Audit and Assurance

1. Okere, Onyinye

### Strategic Financial Management

1. Omolehinwa, Ademola

The Institute also appreciates the services of the following:

### STUDY TEXTS REVIEW COMMITTEE

#### Members

Haruna Nma Yahaya (Mallam), mni, BSc, MBA, ANIM, FCA	Chairman
Okwuosa, Innocent, PhD, FCA	Adviser
Akinsulire, O. O. (Chief), B.Sc, M.Sc., MBA, FCA	Deputy Chairman
Adesina, Julius, B. B.Sc, M.Sc, MBA, FCA	Member
Adepate, Olutoyin, B.Sc, MBA, FCA	Member
Enigbokan, Richard Olufemi, PhD, FCA	Member
Anyalenkeya, Benedict, B.Sc, MBA, FCA	Member (Deceased)

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Anifowose, Isaac, B.Sc., MMP	Manager, Students' Affairs
Evbomwan, Yewande, B.Sc. (Ed.), M.Ed., ACIS	Asst. Manager, Students' Affairs

**Ahmed M. Kumshe, (Prof.), FCA**  
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# Syllabus and examination questions format

## Examination Structure

The examination structure is as stated below:

### Foundation level

Each paper in Foundation level shall consist of two sections A and B

**Section A:** Shall comprise twenty (20) compulsory multiple-choice questions which shall cover the entire contents of the syllabus. This section shall make up 20% of the total marks.

**Section B:** Shall comprise six questions (essay, computational or scenario-based) carrying 20 marks each of which candidates will be required to answer any 4.

### Skills and Professional levels

Examination at these levels will be in three sections.

**Section A.** A 30-mark compulsory scenario-based question on the core area of the subject.

**Section B.** 3 questions of 20 marks each and candidates will be required to attempt any two.

**Section C.** 3 questions of 15 marks each and candidates will be required to attempt any two.

**Case Study.** This will be a scenario-based paper, consisting of pre-seen and unseen parts, which will require candidates to write a report based on two requirements from the case.

**Duration:** Each paper will be for three hours with additional fifteen minutes reading time, except Case Study which will be for four hours including reading time.

**Pass mark:** The pass mark for each ICAN examination subject is 50%.

**Professional Level  
Case study**


# Syllabus

**Purpose**

To ensure that candidates can provide advice in respect of complex business issues in the form of a written report. The objective of Case Study is to assess candidates' understanding of complex business issues and their ability to analyse financial and non-financial data, exercise professional and ethical judgements, draw conclusions and make recommendations.

<b>Content and competencies - Overview</b>	
<b>Grid</b>	<b>Weighting %</b>
A. Financial statement analysis	<b>34</b>
B. Financial data analysis	<b>33</b>
C. Business strategic and operational analysis	<b>33</b>
<b>Total</b>	<b>100</b>

**Professional Level  
Case study**



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# Introduction to the ICAN Case Study Text

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- 1.1 Purpose
- 1.2 The ICAN Case Study
- 1.3 The Case Study examination
- 1.4 Preparing for the Case Study examination

# 1 INTRODUCTION TO THE ICAN CASE STUDY TEXT

## 1.0 Purpose

By the end of this chapter you should be able to:

- ▶ Understand the purpose of Case Study examination;
- ▶ Understand differences between Case Study and other subjects of the ICAN professional examination;
- ▶ Understand how to deal with Case Study materials in the examination;
- ▶ Understand the requirements for succeeding in Case Study examination; and
- ▶ Understand how to prepare for Case Study examination.

## 1.1. The ICAN Case Study

### 1.1.1 Introduction

Chartered Accountants are financial and business advisors. As a Chartered Accountant your unique selling point when compared with other advisors to businesses, such as lawyers, marketing or human resource specialists, is that you are expected to have the knowledge and skills to understand and interpret financial and other business data and communicate the underlying issues to your clients or employers. This professional skill, which combines financial confidence concerning a client's business and presenting information in a clearly understandable way to that client, is a key attribute of ICAN member.

During the preparation for other subjects of the ICAN professional examination, candidates would have received a thorough grounding in the concepts and principles that underlie the preparation, interpretation and use of financial and business information. Through the various stages of assessment, a candidate's technical knowledge would have been assessed by having to tackle increasingly complex and integrated technical problems.

The overall aim of the Case study paper is to test candidate's ability to provide advisory services in the context of complex business scenarios in the form of a written report.

The objective of the Case Study is to assess a candidate's understanding of more complex inter-related business issues, the ability to analyse financial and non-financial data, exercise judgement and develop conclusions and recommendations.

Marks are only awarded for clear demonstration of these professional skills.

Each Case Study is based on real-life situations and generally centres on a request for advice or assistance, from either your client or your boss. The examination requirements will involve evaluation and practical discussion on current commercial issues. You must be able to identify the key issues relevant to the case, – that is, you must understand and deal with the requirements of the case in your report.

To be successful in the Case Study examination, you will need to bring to bear the following skills:

- ▶ Identification of business, technical and ethical issues;
- ▶ Application of technical knowledge to identified issues in the case scenario;
- ▶ Understanding of the business situation, i.e. where it is located in its lifecycle (start-up, transition, maturity, decline) and the generic issues it will be facing at that stage of development;
- ▶ Understanding of business scenario and wider issues;
- ▶ Selection of appropriate tools for analysis;
- ▶ Use of relevant data, identification of interrelationships and generating new ideas and information;
- ▶ Development of relevant and appropriate analysis, using the financial and non-financial data provided;
- ▶ Application of professional scepticism and demonstration of ethical awareness and understanding;
- ▶ Evaluation of outcome of analysis and provision of clear judgement based on your work;
- ▶ Development of clear conclusions and statement of any reservations;
- ▶ Ability to make recommendations based on analysis; and
- ▶ Production of a well-structured, tactical and objective report, which will include an executive summary and appropriate appendices, using suitable language to communicate your ideas to your audience.

This study text is designed to assist you in developing the necessary skills and knowledge to meet these requirements.

## **1.1.2 Comparison between the Case Study and other ICAN professional examination subjects**

### **1.1.2.1 Differences in structure**

In the four-hour examination, you will be expected to produce only one report, although it will have an executive summary, a number of sections and relevant appendices. Even if you are fully prepared, you will find that the four hours are insufficient for you to express all that you would like to in the report and the challenge will be how to discipline yourself to answer the requirements stated in the case and present your advice in a succinct way.

### **1.1.2.2 Differences in student preparation required prior to the examination**

The main distinguishing feature of the Case Study examination is that it is a 'real-life' situation requiring you to bring to bear all the expertise and experience, your professional skills and competencies which you have acquired in the other subjects of the ICAN professional examination and accumulated from your work experience, respectively.

These skills and competences cannot be developed over a few weeks of preparation for the examination. You will need to have planned and developed your professional skills using a development programme throughout your training period.

### **1.1.2.3 Differences in the assessment criteria for the Case Study**

The Case Study is marked by reference to a Competency Based Assessment (CBA) key. All the marks are awarded for the demonstration of professional skills. Where you are required to demonstrate your technical knowledge, marks will be awarded in the context of how you analyse the problem, develop and present your

solutions. Because of this focus on skills, there will not be a 'right' or 'wrong' answer (there may be for individual calculations, but these will form only a small part of the total answer).

## 1.2 The Case Study examination

### 1.2.1 The case scenario

The Case Study examination will comprise a case scenario package that includes a series of exhibits. These exhibits will contain a mixture of information. Some of them will be mainly in narrative form (e.g. an email or an industry overview), others will be largely numerical (e.g. extracts from a set of financial statements), and the remainder will be a mixture of the two (e.g. a business plan or supplementary schedules to financial information or numerical analysis), together with any relevant legal or other documents, and current press articles.

Within this case scenario package, you will be provided with information concerning:

- ▶ You, your firm/employer, your role and your client or business;
- ▶ The commercial sector in which your client or business operates;
- ▶ Financial, operational and commercial information about your client or business;
- ▶ Business environment and business strategies of your client/employer; and
- ▶ Other information relevant to the case (e.g. customers, suppliers, potential acquirers or targets etc.).

The exhibits presented will be in a variety of formats and styles. There may be an internal memorandum, a commissioned survey conducted by an external industry consultant, a letter from a public body, and so on. The exhibits will all operate together so as to form a whole picture, and there will normally be obvious connections – or perhaps, sometimes, contradictions which need to be evaluated and sorted out before attempting to write your report.

The numerical material could be in a form that you are familiar with and use in daily practice, such as current international financial reporting standard (IFRS). Frequently the financial information is shown as “management accounts” or extracts from the financial statements for ease of presentation with appropriate detail.

### 1.2.2 Dealing with the case study material in the examination

The fact that the case material presented has to be considered as a whole in answering the case requirements is a major difference from other assessments. The volume of material requires a structured approach, both in terms of reading and assimilating, before attempting the requirements.

It is essential that candidates develop a structured approach to the Case Study which will enable them to maximise their chance of success, by doing the following:

- ▶ Always start by reading the Case Study examination requirements, noting your role and the recipient of your report;
- ▶ Read rapidly through the entire Case Study to establish the key contents and parameters of the information supplied;
- ▶ Re-read the requirements to ensure complete understanding of what is required and break the tasks down into constituent components as much as possible;
- ▶ Re-read the Case Study scenario exhibits one by one, noting on a separate sheet of paper the key facts of each exhibit;

- ▶ Re-read the numerical exhibits carefully as the first step in your financial analysis; and
- ▶ Start your analytical work.

The analytical work which you have to perform in the Case Study examination should involve a process which you have learnt and developed as a fundamental part of your preparation as a candidate. As a result of your preparation you should be able to follow a clear and consistent pathway in your analysis and consideration of the issues in the Case Study. These skills and techniques can be developed by practising on real client files, Pilot Case Studies and previous Case Study papers.

The steps to follow, which should be practised as an essential part of a candidate's required preparation for the Case Study, can be broadly listed under five main headings:

- ▶ Assimilation of all the data and information provided;
- ▶ Financial statement analysis – understanding the financial story;
- ▶ Financial data analysis – understanding the specific financial context of an issue;
- ▶ Operational and strategic analysis – understanding the strategic context; and
- ▶ Developing industry and business awareness, including ethical considerations.

### **1.2.3 Developing analytical skills (introduction)**

As part of the process of developing skills and expertise in this analytical process, the following is a brief list of sample questions that candidates could ask as they read the case (or matters that could be considered under each of the headings):

- ▶ Assimilation of the data and information provided
  - What information has been provided?
  - What is your role?
  - What sort of organisation is the subject business?
  - What commercial, organisational or ethical issues may be discerned?
- ▶ Financial statement analysis
  - Is the business making solid profits, marginal profits or losses?
  - What are the main revenue streams?
  - How does it make its profits? Why is it making losses?
  - Is the statement of financial position strong or weak?
  - What is the financial structure of the business? Is it appropriately financed – highly geared or low geared?
  - Is it generating or absorbing cash?
  - What is the future prospect of your client/employer?
- ▶ Financial data analysis
  - What other financial information is provided apart from the main financial statements?
  - What key related non-financial factors are provided: legal agreements; tender documents?
  - What other numerical details are being provided for consideration: budgets or forecasts; pricing parameters for tenders?
  - What key assumptions for the additional financial or non-financial factors are provided?
  - What are the identifiable critical factors concerning the data provided: dates; deadlines; tipping points?

- ▶ Operational and Strategic analysis
  - Where is the business in its lifecycle?
  - What generic issues face businesses at this point?
  - What are the specific (potential) strategic issues facing this business at this point?
  - What are the business strengths and weaknesses?
- ▶ Considering industry, business and ethical awareness
  - What are the known or obvious current industry issues?
  - What are the top companies doing at the moment? What are the current topical issues?
  - What are the potential ethical issues in this scenario, this industry/ similar companies?
  - How can you use your personal experience?
  - What are the opportunities and potential threats in the business environment?
  - What are the business competitive edge and core competences?

#### 1.2.4 The Case Study examination requirements

The specific requirement for each examination is set out in the following form (the example provided relates to a report for a client).

##### Requirement

You are required to prepare a draft report as set out in the email from the partner in your firm to you. Your report should comprise the following elements:

Your responses to the two detailed requirements as set out in Exhibits X - XX, including financial appendices (as required).

State clearly any assumptions that you make. All workings should be attached to your answer.

Your report should be balanced across the two detailed requirements and the following time allocation is suggested:

Reading and planning	1 hour
Performing calculations and analysis	1 hour
Drafting report	2 hours

This time allocation is just a suggestion. Different students work in different ways and, by the time you come to the real examination, you should have a method with which you are comfortable. The key point is that the two detailed requirements carry equal weight.

In the above example a possible, more detailed, time schedule would be as follows (time in minutes):

	Overall	Requirement 1	Requirement 2	TOTAL
Reading & planning	30	15	15	60
Calculations	-	30	30	60
Drafting report	-	60	60	120
	30	105	105	240

Good preparation will mean that you will be able to identify the relevant aspects of the scenario and financial issues quickly in the examination. You will also be able to decide which tools can be appropriately utilised in answering the requirements.

In drafting the report in the examination, you should be able to apply your analytical techniques with confidence, to the requirements as presented to you.

### 1.3 Preparing for the Case Study examination

The skills you develop through your professional work form an integral part of the skills being assessed in the Case Study examination. In taking responsibility for your skills development programme, you should identify those in your work environment who can be of help to you: peers, tutors, managers and partners. Identify the areas on which to concentrate your skills revision programme.

#### 1.3.1 Preparing yourself

Planning is an essential pre-requisite to passing any examination, most especially the Case Study. Planning for the Case Study occurs throughout your professional training and is tied into the work you have covered in completing the other subjects of the ICAN professional examination. Although it is easy to compartmentalise professional life into the separate areas of work and study, however, viewing the two areas as complementary is critical for the Case Study. Your workplace experience should help you to put your preparation for the Case Study into a meaningful practical context.

#### 1.3.2 Technical and business knowledge

Good technical and business knowledge is also the foundation to demonstrating your skills in business and financial analysis. The following are recommended:

- ▶ Reading appropriate professional journals and magazines; and
- ▶ Seeking opportunities to practise technical skills and accounting techniques in the workplace, questioning colleagues, whenever necessary.

Specific exercises – which can be done either alone or in small groups – might comprise:

- ▶ Studying financial statements prepared or audited by your office;
- ▶ Reading correspondence between your office and the taxation authorities; and
- ▶ Reading any due diligence reports prepared by your office in connection with a proposed business acquisition or disposal.

#### 1.3.3 Analytical skills

As already introduced above, sound analysis is the basis for exercising professional judgement and developing conclusions, considering reservations and making recommendations. It can be broadly divided into two main aspects:

- ▶ A concise overview of the business set in its wider context – summarising the business circumstances; and
- ▶ The relevant key components of the Case Study issues being considered and evaluated.

You will need to be able to demonstrate your understanding of where the business is placed in its lifecycle and appreciation of any obvious macro issues facing the business in its context. To do this, you should be comfortable in applying tools for corporate and strategic analysis, such as PESTLE, SWOT or Porter's Five Forces; etc. (see Chapter

6) but then quickly honing that broad analysis into the specific business issues to be addressed.

Having assessed the wider context, you will then need to analyse the key components of the specific tasks that you have been set. For this part of the analysis, you need to be able to:

- ▶ Select and use the relevant strategic management tools, such as, SWOT, PESTLE, Porter's Five Forces, etc.;
- ▶ Incorporate relevant numerical analysis; and
- ▶ Integrate your numerical analysis into your written work for a cohesive report.

To develop your analytical skills, you should make use of the material in the chapters on 'Financial Statement Analysis' (Chapter 2); Data Analysis (Chapter 3); Business analysis (Chapter 5) and Tools for business analysis and performance management (Chapter 6). These are the analytical skills which will be assessed in the Case Study and are critical to your success.

#### **1.3.4 Communication skills**

It is important to practise producing as many different types of formal written report as you can. You should also read the written reports prepared by professional colleagues. Each type of document involves a different set of skills.

However, it is very important to practise writing reports. Initially you may find that it is not easy to express complex ideas in a clear and unambiguous way to a 'client'. There will be many examples of all these different types of report in your office. As well as practising your own writing, ask colleagues about how they devise the format, contents and their style of report writing. Avoid informal, especially text, sms and chat styles, when writing your Case Study examination report.

#### **1.3.5 Case study examination differentiators**

From previous Case Study examinations, the following have been identified as features that regularly distinguish successful candidates from those who failed. Here (in no particular order) are the 'top ten' most common differentiators, or 'critical success factors':

- ▶ Good planning and strict time management to ensure the whole examination is completed;
- ▶ Good-quality written financial statement analysis that explains the financial facts derived from the financial information to the appropriate audience;
- ▶ Good-quality financial data analysis, properly explained to its intended audience;
- ▶ Good quality financial appendices, cross-referenced in the body of the report;
- ▶ Appropriate use of relevant materials from the case scenario;
- ▶ Development of analysis through judgement into reasoned conclusions and recommendations;
- ▶ An absence of irrelevant materials and answers to non-existent questions;
- ▶ References to appropriate economic and industry factors, including ethical issues;
- ▶ Demonstration of professional scepticism and the ability to challenge assumptions; and
- ▶ Application of common sense to ensure proposals are reasonable.

# Financial statement analysis

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## 2 FINANCIAL STATEMENT ANALYSIS

### 2.0 Purpose

By the end of this chapter you should be able to:

- ▶ Explain the purpose of financial statement analysis in Case Study examination;
- ▶ Explain types of financial statement analysis that may be required in a Case Study examination;
- ▶ Use various techniques for financial statement analysis; and
- ▶ Understand the use of financial statement analysis in Case Study examination.

### 2.1 Introduction to financial analysis

The Case Study examination requires analysis of a business by a potential chartered **accountant**. The analysis is conducted from a number of different perspectives:

- ▶ financial statement analysis – a core professional skill and the subject of this chapter;
- ▶ financial data analysis – another core professional skill (see Chapter 3); and
- ▶ operational and strategic analyses, including business trust and ethical awareness – analysing the activities and the current context in which a business operates (see Chapters 5 & 6).

These three perspectives form the basis for the analysis of a business in the Case Study examination. These topics may be viewed independently, but the skill of business analysis, by an independent professional, is to try to combine these analytical perspectives into an integrated whole.

These analytical steps are all inter-related both in terms of scope and timescales. The financial statement analysis – the analysis of how the business has been performing in its immediate past – informs the financial data analysis – which usually considers a current issue facing the business. The analysis of the business from these two perspectives (past and present) is set in the context of the operational and strategic analyses, which consider the business from the present to the future.

### 2.2 The spectrum of financial analysis

The objective of the Case Study examination is to assess whether you have the appropriate level of professional skills to become an ICAN chartered accountant. One of the primary skills expected of a chartered accountant is the ability to perform financial analysis on a business.

Financial analysis covers a range of topics including: an analytical review of the financial statements prepared by an organisation; the analysis and consideration of the current viability of a specific project or course of action; and the assessment of a future proposal.

This range of analysis is therefore both over time that is, from analysis of past performance through current assessment of relevant operations to future operational and strategic actions. It covers the whole spectrum of business financial activity, from consideration of the performance of single revenue streams through to assessing investment opportunities affecting the whole organisation. A proven expertise in financial analysis is a necessary skill for a chartered accountant.

### 2.3 Introduction to financial statement analysis in Case Study examination

The financial statements of a business provide the numerical summary of business activities over a period of time. The ability to read, understand, evaluate and eventually explain that summary to a 'client' is a critically important professional skill. Within the framework of the Case Study examination, that skill is tested in a number of ways, but it is most explicitly tested by examining a candidate's competence in financial statement analysis. This ability to understand, evaluate and analyse the information contained in a set of financial statements and then present that analysis in a succinct and comprehensible way to the reader, is a key element for candidates' success in Case Study examination.

Always remember that, in the Case Study examination, your financial statement analysis work is to enable you demonstrate a critically important skill through your answer to the examination questions. By working from information supplied and using the professional skills you have developed, both at work and through studies, you should be offering clearly explained analysis and providing a critical professional evaluation of the numerical information reviewed, in order to arrive at a logical conclusion and recommendations.

### 2.4 Definition of financial statement analysis

Financial statement analysis is an evaluation and explanation of the financial and other related information contained in the financial statements, including summary statements, management accounts, budgets and forecasts, of a business.

This analysis covers the **financial performance** (income statement including SOCIE), **financial position** (statement of financial position), and **cash flow** (statement of cash flows). This analysis should also consider all the contextual information that is provided on the company and its operating environment.

Financial analysis is also the process of identifying financial strengths and weaknesses of a business by establishing relationship between the elements of Statement of Financial Position and Statement of Comprehensive Income. It is through the process of financial analysis that the key performance indicators such as liquidity, solvency, profitability, and efficiency of operations are determined, and the short-term and long-term prospects of a business can be evaluated. According to Drake (2013), "Financial analysis is the selection, evaluation and interpretation of financial data, along with other pertinent information, to assist in investment decision".

Financial statement is an organised and systematic collection of data based on logical and consistent accounting principles and procedures for the purpose of conveying an understanding of some financial aspects of a business entity. It reveals the financial position of the entity at a moment of time and the results of the series of activities over a given period of time. The contents of the financial statements are:

- ▶ Statement of comprehensive income;
- ▶ Statement of financial position;
- ▶ Statement of changes in equity; and
- ▶ Statement of cash flow.

However, the information as provided in the financial statements is not adequately helpful in drawing meaningful conclusions and to make informed judgement. Thus, the analysis and interpretation of financial statements is very essential to measure the efficiency, profitability, financial health and future prospects of the business units.

The focus of financial statement analysis is to diagnose the past and present financial performance and position of a firm together with an insight into its future prospects.

However, the focus depends on the person who commissioned the analysis and the purpose for commissioning the analysis. As Eugene F. Brigham stated, from an investor's perspective, the focus of financial statement analysis is to predict the future performance of the firm, while for the management, the purpose of financial statement analysis is to understand the present financial condition, as a basis for planning and anticipating future performance and financial condition.

The objective of financial statement analysis, therefore, is to draw information which will facilitate:

- ▶ An evaluation of the strengths and weaknesses of the business entity;
- ▶ The measurement of profitability of the business entity;
- ▶ The pattern and trend of an entity's performance over the years;
- ▶ The determination of the future earning capacity of the business entity;
- ▶ The comparison of the entity's performance and position in relation to other entities;
- ▶ The determination of the liquidity and solvency of the business entity; and
- ▶ The assessment of the growth potential of the business entity.

The purpose of financial statement analysis in Case Study examination is to test the candidate's ability to select relevant information, analyse the information and interpret one's analysis so as to make informed judgement on a company's past, current and future financial condition and operating performance. To achieve this objective, apart from the data from the financial statements, consideration must be given to other available data such as, market data, economic data and operational data. Also, events that may help to explain the company's present condition and thus have a bearing on its future prospects must be considered in the candidate's analysis of the company's financial statements.

There is an expectation that a qualified ICAN chartered accountant should be able to act as the skilled analyst of these standard financial documents and communicate the information contained in them using language that is comprehensible to the client or recipient of any analytical work that has been requested.

## 2.5 Types of financial analysis

There are various types of financial statement analysis, these are:

**External analysis:** This is an analysis carried out by external parties to the entity and the entity's published financial statements form the basis of this analysis;

**Internal analysis:** This is an analysis carried out by the entity's financial managers to provide information to top management for decision making;

**Short-term analysis:** This is concerned with the analysis of an entity's working capital. It involves the analysis of the entity's current assets and current liabilities to be able to determine the short-term liquidity or cash position of the entity. It shows whether the entity will be able to meet its short-term cash commitments;

**Horizontal analysis:** This involves comparative analysis of financial statements for number of years. It is also known as Dynamic Analysis; and

**Vertical analysis:** This involves calculation of financial ratios based on a single year's financial statements. It is also known as Static Analysis.

## 2.6 Techniques for financial analysis

A number of techniques are normally employed in analysing a business entity's financial statements. These include:

- a. **Comparative financial statements:** This involves a comparison of an entity's financial statements over a period of time, say at least over two-year period. It compares the entity's income statement and statement of financial position over the period. It provides meaningful information when compared to similar data of prior periods. The comparison of the income statement enables a review of the operational performance of the entity over a period of time so as to draw conclusions as to the direction of the entity's performance. So also, a comparison of the statement of financial positions during the period will reveal the effects of operations on the assets and liabilities of the entity. It may also involve the comparison of the financial performance and position for two or more entities for one or more accounting periods. This is carried out by determining the absolute and percentage changes in the compositions of the income statements and statements of financial position within the periods chosen.
- b. **Common size statements:** This analysis is done by converting the figures of the financial statements to percentages. For the income statement, the figure for revenue is taken as 100 percent and the figures of the other items of the income statement are expressed as a percentage of the revenue figure. Also, for the statement of financial position, the figure for the total assets is taken as 100 percent while the other items of the statement of financial position are expressed as a percentage of the total assets.
- c. **Statement of changes in working capital/analysis of cash flow:** The statement of changes in working capital provides information in relation to working capital between the financial periods. The amount of working capital for each period is determined by deducting the total of current liabilities from the total of current assets. The explanation for this change is expressed by breaking the changes into the makeup of the total current assets.
- d. **Trend analysis:** Under this analysis, a particular year is chosen as the base year and 100 is assigned to all the figures in the financial statements for that year, especially, the income statement. Any percentage change, in relation to the base year, is then calculated for all the other years. Generally, the first year of the financial statements provided is taken to be the base year. Trend analysis is used to determine whether the financial

health of a business entity is improving or deteriorating and whether the results of its operation is improving or on a downward trend.

- e. **Ratio analysis:** This is the most popular way of carrying out financial analysis. It is widely used for analysing financial statements. Financial ratios show the relationship between the individual items or group of items of the entity's income statement and statement of financial position. Ratios can be grouped under these five major headings – profitability, liquidity, activity or efficiency, leverage and shareholders – return or investment. Ratios therefore highlight the key performance indicators of a business entity. It also reveals a lot about the changes in the financial conditions of a business.

## 2.7 Ratios analysis

The term ratio refers to the mathematical relation between any two inter-related variables. It establishes the relationship between two items expressed in quantitative form.

Accounting ratios can be defined as the significant relationships between figures shown in the statement of financial position and income statement. Alan Melville, in International Financial Reporting (pg. 354) described an accounting ratio as “a measure of the relationship which exists between two figures shown in a set of financial statements”. Financial ratios assist in the analysis and interpretation of financial statements.

In comparing and evaluating the performance of a business entity, accounting ratio is a useful tool as it eliminates the problem of comparability using absolute figures. Accounting ratios are used as a means of comparing an entity's performance over two or more periods as well as a means of comparing an entity's performance with that of another entity in the same industry, and of course with the industry average.

### 2.7.1 Types of accounting ratios

Accounting ratios can be classified based on the way they are constructed and based on general characteristics. Ratios can be seen as a coverage ratio, a return ratio, a turnover ratio or component percentage ratio and according to how they are calculated.

**Coverage ratio:** this shows the ability of the company to meet its obligations, e.g., interest coverage ratio that shows how many times the interest on fixed interest capital of the company is covered by the company's operating profit.

**Return ratio:** This measures the benefit accruing to the company arising from resources committed. It is the relationship between the benefits obtained and the resources employed. An example is the return on investment ratio, which shows the level of profit earned by the capital invested over a period of one year.

**Turnover ratio:** This shows how many times the company has been able to make use of a particular resource to generate benefit to the company, e.g inventory turnover ratio, which measures how many times the company has been able to use the amount committed to inventory to generate sales during a particular year.

**Component percentage:** This measures the relationship between the various components of an item to the item in percentage term. An example is gross profit to sales, total overhead to sales.

There are five groups of ratios that can be calculated from the income statement and the statement of financial position of a company. These groups of ratios measure the operating performance and the financial conditions of the company. These are:

- a. **Profitability ratios:** These ratios are used to assess the level of profitability of a business entity in relation to the revenue generated and the capital invested;
- b. **Liquidity ratios:** These are ratios that measure the ability of a business entity to meet its short-term obligation, that is, pay its day to day debts as they fall due by using assets that can be quickly converted to cash. These assets are normally referred to as liquid assets and they are shown in the statement of financial position as current assets. They are also referred to as circulating or working capital. The ability of the company to utilise its long-term resources in its day to day operations depends on the adequacy of its working capital. The difference between these current assets and the company's short-term obligations, current liabilities, is known as net working capital.
- c. **Efficiency /activity ratios:** These ratios measure how efficient the business entity has been utilising its assets;
- d. **Long term solvency/leverage ratios:** These are ratios that show the capital structure of a business entity. They show the mixture of the business capital between equity (proprietary capital) and debts (long term liabilities). They provide information on the degree of a company's fixed financing obligations and its ability to satisfy these financial obligations.
- e. **Investment ratios:** These are ratios that are of interest to investors and potential investors. They show the level of returns that an investor can expect from investing in the business entity. They are also referred to as shareholders' ratios.

## 2.7.2 Profitability ratios

The main profitability ratios are:

### Return on capital employed (ROCE)

This ratio expresses a business entity's profit as a percentage of the amount of capital invested in the entity. Its common definition is:

$$\text{ROCE} = \frac{\text{Profit before long term interest and tax (PBIT)}}{\text{Share capital and reserves plus non-current liabilities}} \times \frac{100}{1}$$

It could also be expressed as:  $\frac{\text{PBIT}}{\text{Net Assets}}$

Where, net assets mean total assets minus current liabilities.

This ratio (ROCE) can also be broken down into subsidiary components as follows:

$$\text{ROCE} = \frac{\text{PBIT}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Net assets}}$$

### **Return on equity (ROE)**

It is a variation of ROCE, but it concentrates on the entity's equity holders and compares the equity capital with the amount of profit which can be attributed to them. The ratio is calculated as follows:

$$\text{ROE} = \frac{\text{Profit after interest, tax and preference dividend}}{\text{Ordinary shares capital plus reserves}} \times \frac{100}{1}$$

### **Gross profit margin**

This ratio expresses the entity's gross profit as a percentage of sales revenue and is also known as gross profit percentage. It is simply calculated as:

$$\text{Gross profit margin} = \frac{\text{Gross profit}}{\text{Sales}} \times \frac{100}{1}$$

### **Net profit margin**

It expresses the entity's net profit as a percentage of sales revenue. It is calculated as:

$$\text{Net profit margin} = \frac{\text{Net profit}}{\text{Sales}} \times \frac{100}{1}$$

## **2.7.3 Liquidity ratios**

The main liquidity ratios are:

### **Current ratio**

The ratio establishes the relationship between an entity's current assets and current liabilities. Its purpose is to measure the entity's ability to meet its short-term financial obligations out of its current assets. It is calculated as:

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

### **Quick assets ratio**

Since an entity's inventories may not, in most cases, be quickly turned into cash, it is eliminated from the current assets in calculating the quick assets ratio. It is a more stringent test of the entity's ability to meet its short – term financial commitments. It is calculated as:

$$\text{Quick asset ratio} = \frac{\text{Current assets less inventories}}{\text{Current liabilities}}$$

### **Absolute liquid ratio**

This ratio can also be called cash position ratio or overdue liability ratio. It establishes the relationship between the absolute liquid assets and current liabilities. Absolute liquid assets include cash in hand, cash at bank, marketable securities and temporary investment such as short-term deposits. It is calculated as:

$$\text{Absolute liquid ratio} = \frac{\text{Absolute Liquid assets}}{\text{Current liabilities}}$$

In interpreting these ratios, the larger these ratios, the better is the ability of the company to meet its short-term obligations. However, the company must strike a balance between holding large working capital and having an inadequate working capital. Where too much cash is tied down in working capital relative to what is needed to meet day to day operations, the company will be losing money for holding idle cash that are not generating any income. And if the company does not hold enough working capital to meet its short-term obligations as at when due, the company will run the risk of creditors petitioning for winding up of the company. The company, therefore, needs to always strike a balance between liquidity and profitability to remain in operation.

### **Operating cycle**

A company's operating cycle is the time it takes the company to convert its investment in inventory back into cash. It considers the number of days the company ties down cash it invested in inventory before the cash is realised after collection of receivables.

The operating cycle of a company that manufactures and sell goods comprises of four phases as follows:

- ▶ Raw materials are purchased and goods are produced and kept in inventory;
- ▶ Goods are sold from inventory to generate sales revenue which may be on credit, in cash or both;
- ▶ Extend credits to its customers which leads to accounts receivable; and
- ▶ Accounts receivable are collected to generate cash.

However, for a company that only buys goods to resell, the first phase above will not apply, its operating cycle will only involve the last three phases. The same thing applies to a company that only renders services to its customers. Operating cycle is normally measured by number of days in each of the phases listed above. For example:

The number of days fund is tied up in inventory is measured by:

- ▶ The total fund invested on inventory; and
- ▶ The average days of cost of goods sold.

Usually, the fund tied up in inventory is represented by the closing inventory shown on the company's financial position at the end of the financial year. However, it is felt that the average fund invested in both the cost of inventory at the beginning and at the end of the financial year is more representative of funds tied up in inventory during the year. Both methods of calculating the number of days funds are tied up in inventory are, however, acceptable. The average days cost of goods sold is the cost of goods sold on average, daily in the year which is measured by dividing the cost of goods sold by the number of days in the year. The number of days in the

year is normally taken to be 365 days unless otherwise stated. Therefore, the number of days funds are tied up in inventory is calculated as follows:

$$\begin{aligned}\text{Number of days in inventory} &= \frac{\text{Inventory}}{\text{Average cost of goods sold per day}} \\ &= \frac{\text{Inventory}}{\text{Cost of goods sold}/365}\end{aligned}$$

In the same way, we can calculate the number of days funds are tied up between the time goods are sold on credit before they turn to cash. The accounts receivable in the statement of financial position at the end of the financial year is used, if this is representative of receivables during the year, otherwise, the average of accounts receivable at the beginning of the year and at the end of the year can be used. This is calculated as follows:

$$\begin{aligned}\text{Number of days receivables} &= \frac{\text{Accounts receivable}}{\text{Average days of sales on credit}} \\ &= \frac{\text{Accounts receivable}}{\text{Sales on credit}/365}\end{aligned}$$

#### **Net working capital to sales ratio**

This ratio shows the relationship between the company's liquid assets after meeting its short-term obligations to its need for liquidity which is measured by sales revenue. It is calculated as follows:

$$\text{Net working capital to sales ratio} = \frac{\text{Current assets} - \text{current liabilities}}{\text{Sales revenue}}$$

The addition of the number of days in inventory and the number of days in receivables gives the operating cycle of the company. The purpose of calculating the operating cycle is to determine the amount of working capital that will be needed to meet the company's short-term obligations or what is referred to as the adequacy of working capital. The longer the operating cycle, the more the current assets needed, relative to current liabilities, because it takes longer time to convert inventory back to cash.

This means that the longer the operating cycle, the more the net working capital that will be required.

However, in determining the liquidity required by the company, net operating cycle is more appropriate because the longer the net operating cycle, the more the liquidity the company will require. Net operating cycle is determined by removing the number of days the company enjoys on accounts payable from the operating cycle calculated above. The same method used in calculating number of days in receivables will be used in calculating number of days payable by substituting receivable for payable, as follows:

$$\begin{aligned} \text{Number of days payable} &= \frac{\text{Accounts payable}}{\text{Average day's purchases}} \\ &= \frac{\text{Accounts payable}}{\text{Purchases}/365} \end{aligned}$$

Therefore, net operating cycle is calculated as follows:

$$\text{Net operating cycle} = \frac{\text{Number of days of inventory}}{\text{of inventory}} + \frac{\text{Number of days of receivables}}{\text{of receivables}} - \frac{\text{Number of days payables}}{\text{payables}}$$

## 2.7.4 Efficiency / activity ratios

The main efficiency ratios are:

### Total asset turnover

The ratio measures the efficiency and effectiveness with which an entity's assets are used to generate sales revenue. The higher the turnover rate, the more effective the company is in the use of resources invested in its assets. These ratios can be used to measure the effectiveness of a company in the use of all its assets or each component of the assets. The above ratio is calculated as follows:

$$\text{Total asset turnover} = \frac{\text{Sales}}{\text{Total assets}}$$

It measures the rate at which total assets generate sales revenue.

Or

$$\text{Net asset turnover} = \frac{\text{Sales}}{\text{Net assets}} = \frac{\text{Sales}}{\text{Capital employed}}$$

This measures the rate at which net assets or capital employed generates sales revenue.

### Non-current assets turnover

The non-current assets turnover measures the rate at which non-current assets of the company generates sales revenue. It measures the effectiveness at which the company is putting its non-current assets into use to generate revenue. It is calculated as follows:

$$\text{Non-current assets turnover} = \frac{\text{Sales}}{\text{Non-current assets}}$$

### Inventory turnover

Inventory turnover measures the number of times an inventory is bought and sold or used in production during the year. It is calculated as follows:

$$\text{Inventory turnover} = \frac{\text{Cost of sales}}{\text{Average inventory}}$$

Alternatively, it can be termed inventory holding period and is calculated as follows (just as we have calculated under operating cycle):

$$\text{Inventory holding period (in days)} = \frac{\text{Average inventory}}{\text{Cost of sales}} \times \frac{365}{1}$$

### **Trade receivables turnover**

Trade receivables turnover measures the average number of times credit sale have been created and payment received from customers during the year. It is calculated as follows:

$$\text{Trade receivables turnover} = \frac{\text{Credit sales}}{\text{Average trade receivables}}$$

Alternatively, it can be termed trade receivables collection period and it is calculated as follows (just as we have calculated under operating cycle):

$$\text{Trade receivables collection period (in days)} = \frac{\text{Average trade receivables}}{\text{Credit sales}} \times \frac{365}{1}$$

Thus, candidates will notice that there is a relationship between operating cycle discussed earlier and activity ratios. The reason is that the same data is used in calculating the ratios in a different way. For example, the number of days inventory measures how long the inventory stays in the store of the company whereas, inventory turnover measures how many times in the year inventory is purchased or manufactured and sold during the year. So, let us assume that the number of days inventory is 45days, this means that the inventory turnover in the year will be 365/45, which is 8.1 times, that is

$$\text{Inventory turnover} = \frac{365}{\text{Number of days inventory}}$$

$$\text{Which equals } \frac{365/\text{Inventory}}{\text{Cost of goods sold}/365}$$

$$\text{Or } \frac{\text{Cost of goods sold}}{\text{Inventory}}$$

## **2.7.5 Long term solvency/leverage ratios**

The main long-term solvency ratios are:

### **Capital gearing ratio**

The capital gearing ratio measures the extent to which an entity's long-term funds have been provided by lenders. It can be calculated as:

$$\text{Capital gearing} = \frac{\text{Preference share capital plus non-current liabilities}}{\text{Total share capital and reserve plus non-current liabilities}}$$

### **Debit–equity ratio**

Debt–equity ratio measures the relationship that debt has to equity capital of an entity. It is calculated as:

$$\text{Debt–equity ratio} = \frac{\text{Debt}}{\text{Equity}}$$

### **Interest cover**

Interest cover measures the number of times that the interest payable for an accounting period could have been paid out of the available profit. It is calculated as:

$$\text{Interest cover} = \frac{\text{Profit before interest and tax}}{\text{Interest payable}}$$

## **2.7.6 Investment ratios**

The main investment ratios are:

### **Earnings per share**

Earnings per share measures the amount of profit earned during an accounting period for each ordinary share in issue during the period. It is calculated as:

$$\text{EPS (in kobo)} = \frac{\text{Profit after tax and preference dividend}}{\text{Number of ordinary shares in issue}} \times \frac{100}{1}$$

### **Price earnings ratio (P/E ratio)**

The price earnings ratio compares the earning per share with the market price of ordinary shares to calculate the number of years it would take to recover the market price for a share if earnings remained constant in future years.

It is calculated as:

$$\text{P/E ratio} = \frac{\text{Market price per ordinary share}}{\text{Earnings per share}}$$

### **Dividend cover**

Dividend cover measures the number of times the ordinary share dividend for an accounting period could have been paid out of the available profit for the period. It is calculated as:

$$\text{Dividend cover} = \frac{\text{Profit after tax and preference dividend}}{\text{Ordinary share dividend}}$$

### **Dividend yield**

The dividend yield expresses the dividend per ordinary share as a percentage of the market price per ordinary share. It is calculated as:

$$\text{Dividend yield} = \frac{\text{Dividend per ordinary share}}{\text{Market price per ordinary share}} \times 100\%$$

## **2.8 Financial statement analysis in Case Study examination**

In every Case Study, candidates are presented with accounting information. This normally takes the form of truncated financial statements frequently referred to as management accounts, extracts from financial statements or summarised financial statements. This is a practicality to avoid the need to provide unnecessarily detailed disclosures that would be required for a full set of IFRS-compliant financial statements. To all intents and purposes, unless otherwise stated, the accounts should be treated as having been drawn up on a rigorous basis by competent financial professionals and suitable for audit purposes. The basis of preparation is not intended to be questioned (unless a specific indication is given to the contrary, e.g. that the accounts have been challenged by the auditors).

### **2.8.1 Steps in financial statement analysis**

In order to carry out a thorough financial statement analysis there are a series of steps which should be followed to ensure that the procedure is comprehensive and complete. In this study text, these are developed under the following headings:

- ▶ Initial analysis;
- ▶ Detailed analysis, including ratio analysis, of the key financial statements; and
- ▶ Using financial statement analysis in the Case Study.

Before developing these steps further, it is important for candidates to understand that the development of the skill of good financial statement analysis is a lengthy process. This is both in terms of how long it actually takes to perform a single piece of financial statement analysis properly, and the number of financial statements which have to be analysed to fully develop this competency.

Reading or “auditing” someone else’s financial statement analysis can be deceptive in terms of how difficult or easy that task of analysis is. This is particularly true of financial statement analysis – “auditing” someone else’s financial statement analysis can give a false impression that this topic is easy to master. There is no substitute for doing the analysis yourself in order to appreciate the full dimension and complexity of the work. Ensure that you practice financial statement analysis yourself in order to develop the necessary skills and speed.

### **2.8.2 Initial analysis**

The initial analysis of financial statements should establish the financial headlines of the business by way of a rapid review. The aim of the rapid review is to gain an understanding and assessment of the business as a whole. It is a skimming process, but this should not ignore obvious and important features. In that rapid review, you should be looking to assess the business by reference to the following criteria.

#### **What is the nature of the business?**

- ▶ Service sector, retailing, manufacturing or other?
- ▶ Is it an expanding or contracting business sector?
- ▶ Are there recent events/factors that affect this sector (e.g. changes in foreign exchange rates)?
- ▶ What is the impact of technology on this business?
- ▶ Does e-commerce affect this business?

### **Where is the business in its lifecycle?**

- ▶ Growing, shrinking or static?
- ▶ Total business growth or only certain sections?
- ▶ Is it growing organically or by acquisition?
- ▶ Making good profits, marginal profits or losses: how much, when?
- ▶ Stable or erratic performance: spurts of growth and plateaux?

### **What size is the business?**

- ▶ Small, medium or large: using what criteria (revenue, profit, total assets, net assets)?
- ▶ A single company or group: national or international?
- ▶ Quoted or unquoted: what are the volumes of shares issued?

### **the business stable?**

- ▶ Financially well-structured; appropriate mix of debt (long-/short-term) and equity?
- ▶ Is it solvent: able to meet its current liabilities?
- ▶ With a good life-expectancy: is it starting up, expanding financially or declining?
- ▶ Any budgets and forecasts; achievable or unrealistic; in line with strategic direction?

### **What is the wider context?**

- ▶ Economy: recession or recovery?
- ▶ Home based or involved in imports/exports?
- ▶ Inflation or stagnation in its markets?
- ▶ Availability of finance: any banking constraints; “quantitative easing”; interest rates?
- ▶ Fiscal policy: stimulation for reinvestment or restrictions (any tariffs or quotas)?

Having rapidly conducted the initial analysis, you should have gained a comprehensive overview of the business and will be in a position to start to consider its financial strengths and weaknesses. However, it is important to make sure that from the beginning you integrate your analysis and therefore you should always be aware of the wider context in which you are conducting your review. For example, from the initial analysis, a business may appear to be growing (and therefore possibly succeeding) but if the whole economy is in a period of strong growth and this business is growing less rapidly than others, then it is probably not “succeeding” as well as it should and the reasons should be investigated.

Try to avoid making generalised or final judgements from rapid first impressions. The fact that the economy is currently in recession (or experiencing a weak recovery) is not necessarily the reason for the poor results being achieved by the company you are analysing. There may be a more pertinent and potentially more worrying/alarming reason which you must be able to identify as part of your detailed analysis.

### **2.8.3 Detailed analysis**

The next step in financial statement analysis is to conduct a detailed analytical review of the financial statements. This involves examining and explaining the information provided in each of the three key documents (together with the detailed notes) and breaking that analysis down into individual components:

- ▶ **Income statement (including SOCIE):** how is the business performing? What are the key elements of its results: revenue trend in total and by

stream; sales mix; related costs; gross profits; operating profits; any overall losses, surpluses or deficits? This income statement analysis is developed further below.

- ▶ **Statement of financial position:** Is the business financially stable? Establish its financial position by analysis of the statement of financial position components: total assets; net assets; net current assets; gearing; capital structure; quality of assets; nature of liabilities and the statement of financial position structure. Consider the main components: (1) current assets; (2) current liabilities; (3) non-current assets and (4) equity and non-current liabilities. An analyst is particularly concerned by any shortfall between the amount invested in 3) non-current assets and their financing by (4) the long-term funding – because this means (dangerously) that non-current assets are being funded by short-term finance.
- ▶ **Statement of cash flows:** Is the business using or generating cash? Why? What is the relationship between the operating results and the cash generation/usage?

Always remember the inter-connectivity between the three statements and the effect of the often subjective key “bridges” between them, particularly between the income statement and the statement of financial position. These “bridges” include items such as: closing inventory, including work in progress; depreciation, amortisation or impairment of assets; deferred income and provisions (such as impairment of accounts receivable or doubtful debts). All of these “bridges” affect reported profit, but candidates should always consider the impact of changes in these “bridges” and evaluate the related assets shown in the statement of financial position to identify materiality.

In your analysis of these three key documents you need to break your analysis down into individual components. The specific questions that you need to ask (and be able to answer) are detailed below.

#### 2.8.4 Ratio analysis

Basic ratio analysis should be considered in the same category as a PESTLE or SWOT review (see Chapter 6): a very useful analytical tool but it is only a starting-point for all further analysis and the vital and critical written commentary with which to impress the examiner (and any future clients).

Ratio analysis as a tool provides a numerical pathway to be followed in the assessment and review of figures in financial statements and candidates must be able to calculate the basic groups or ‘families’ of ratios for profitability, liquidity, ROCE, financial structure and asset efficiency – at speed and with accuracy.

Ratio analysis permits comparisons to be made:

- ▶ Between the current results and past results of a business;
- ▶ Between the current results and any forecasts/budgets;
- ▶ Between the current results of the business and some external or industry standards;
- ▶ Between the results of one subsidiary, or division, and those of another;
- ▶ Across business segments or revenue streams within the organisation; and
- ▶ Between the company under review and a rival or takeover target

Having performed the relevant comparative calculations, the real skill is in explaining what those results mean and to evaluate what might have caused any changes in ratios or fluctuations in trends.

### **2.8.5 Income statement analysis – including the SOCIE**

In developing your detailed analysis of the financial statements, the key issues in income statement analysis concern financial results and financial performance. The main questions to be considered (and answered) are:

- ▶ What is the trend in revenue: if rising, how achieved; or if falling, caused by what? What is the rate of increase/decrease?
- ▶ What are the significant changes in sales mix or revenue streams? What is the effect of changes in the sales mix on overall profitability?
- ▶ What is the overall trend in gross profit: rising or falling: in absolute or gross profit % terms? Are the margins the same for different products?
- ▶ What is the pattern of costs against revenue streams: are they rising or falling?
- ▶ What is causing any inconsistency or changes?
- ▶ Which costs appear to be fixed and which are variable: what is the operational gearing for the business?
- ▶ Are there any material anomalies in any single key cost figure?
- ▶ Is the level of operating profit and profit before tax being achieved satisfactory and stable? Are the profits increasing or decreasing and at what rate?
- ▶ Is there consistency between one year and another of the “bridging” items between income statement and statement of financial position? How material are the following items:
  - Closing inventory?
  - Depreciation and profits or losses on disposals?
  - Deferred income?
  - Impairment of accounts receivable: provisions made for bad and doubtful debts?
  - Accruals and prepayments?
- ▶ Is the tax charge reasonable?
- ▶ Does the dividend policy make sense? Is it consistent?

The above list would enable a structured analysis of the components in the income statement in a Case Study examination.

However, the most important aspect of this, and all financial statement analysis, is that, as well as, providing information about the numerical changes both in absolute and in percentage terms, it is the level of skilful commentary which demonstrates appropriate professional expertise.

### **2.8.6 Statement of financial position analysis**

In developing another component of detailed financial statement analysis, the key issues in statement of financial position analysis are to assess a business financial position, consider the quality of its assets and liabilities, and conclude on whether the statement of financial position is strong or weak.

As well as calculating the usual ratios against relevant income statement components (number of days’ sales in accounts receivable, etc), the important aspects of the detailed statement of financial position analysis concern financial position, content, structure and stability.

The main questions to be considered (and answered) are:

- ▶ Do the statement of financial statement “quadrants” of non-current assets and long-term funding appear balanced? Note: “quadrant analysis” can easily identify if non-current assets are being funded by current liabilities (short-term credit).
- ▶ What is the quality of the non-current assets: largely tangibles such as equipment (or buildings with a clear market value) or mostly intangibles such as goodwill (can these be sold in a crisis)? What might be an independent market value of these items?
- ▶ Does the majority of the long-term funding comprise share capital and retained earnings, or is it mainly long-term debt (and therefore, more risky)?
- ▶ Is the statement of financial position debt “soft” – directors’ loans; or “hard” – external funding with a high rate of interest and a short redemption date? When is the debt due for repayment?
- ▶ Does the business have the funds or can it generate the funds necessary for repayment? (This analysis should be followed up in the cash flow analysis).
- ▶ Do the statement of financial statement “quadrants” of current assets and current liabilities appear in balance? If not, would you consider this to be appropriate, given the nature of the business? Note: “quadrant analysis” can easily identify if current assets and current liabilities (short-term credit) are roughly equal or whether the business is overloaded with short term debt.
- ▶ What is the quality of the current assets and how liquid are they? Do they comprise mainly inventory and slow paying accounts receivable, or is a sufficient quantity of cash or “near cash” available?
- ▶ Are the current liabilities “softer” – trade payables and accruals; or “harder” – bank overdrafts and non-negotiable liabilities for items such as taxes (including VAT, payroll and social charges, and companies income tax)?

The above list would enable a structured analysis of the components in the statement of financial position from the pre-seen. The analysis should be expanded to include the notes to the accounts, where more details are given.

### **2.8.7 Statement of cash flow analysis**

In completing the detailed analysis of the financial statements, an analysis of the statement of cash flow provides an opportunity to assess the business cash flows (as opposed to profits or losses) and review all aspects of its financial operations.

It is important to understand that although the statement of cash flows combines information from the income statement and the statement of financial position, it is not simply the “third financial statement”. Instead, it might be considered as the actual starting point in the financial statements analysis of a business.

Overall, what the statement of cash flows tells you is how the business is being managed in financial terms at all levels. Each line on the statement is significant in providing information about financial activities and the quality of financial management of a business at different levels – from credit control (cash generated from accounts receivable) to board-level decisions (purchase of non-current assets; payments of dividends).

The main questions to be considered (and answered) may include:

- ▶ How successful is the business in generating cash from its operations? This starts with analysing the operating profit after adding back the non-cash items.
- ▶ Is the working capital being managed in line with the increase/decrease in business activity? Is cash being soaked up by (unmanaged) increases in accounts receivable or inventories? Are accounts payable being managed effectively and responsibly? Link back to your ratio calculations for receivables/ payables periods, inventory turnover period.
- ▶ Is the business earning an appropriate return on its investments? Is it paying out significant sums on the servicing of finance?
- ▶ What has been the cash flow impact of payments for taxation? Are the payments consistent with the liability?
- ▶ What is the company policy on capital and financial investment? Is there an appropriate non-current asset replacement policy? Is it being properly funded by long term funding (equity or loans)?
- ▶ Is the policy on dividends appropriate? Can the business afford the payments?
- ▶ What is the company's long-term financing strategy and is it appropriate for the business?
- ▶ Is the company making best use of its liquid resources?
- ▶ What is happening to the cash balances in the business? Are the balances fluctuating or undulating? How much is being held?

The above list would enable a structured analysis of the components (each line) of the statement of cash flows as well as the change from the opening to the closing cash balance.

Candidates should understand that it is not possible to predict the Case Study examination and what the actual analysis might be that you are required to undertake, or in what detail, so, you must prepare yourself accordingly.

Candidates must always remember that it is a sign of a good professional to communicate clearly to the 'client'. Numerical analysis alone is not sufficient; you must demonstrate that you understand what financial "story" all the components of the main financial statements are telling and be prepared to examine and explain that story in whatever way might be requested.

## **2.9 Using financial statements analysis in the Case Study examination**

The Case Study examination contains a very large amount of financial statements information which has to be understood and analysed by candidates at speed. This skill of financial statements analysis is critically important for all candidates hoping to become members of ICAN. Candidates should always expect to have to answer detailed financial statements analysis questions to a high standard in this examination. This means demonstrating not just mathematical ability but good analytical, evaluation and communication skills as well.

The examination scripts of candidates who performed poorly in the Case Study examination usually contain pages of mathematically correct ratios (but, little written analysis). This only demonstrates basic numerical skill, It attracts just a few answer points as it does not demonstrate clear financial statements analysis skill.

The assessment of financial statements analysis skills in the Case Study examination is focused much more on a candidate's ability to demonstrate an in-depth understanding of the financial statement(s) under review and how well a candidate makes sense of, and can provide explanations for the figures in them to the report reader.

In order to enhance the chance of success in financial statements analysis in the examination, a candidate should always answer the requirement as presented, but bear in mind the following:

**Focus on what has happened in the key areas:**

- ▶ Financial performance: success or decline– Income statement including SOCIE
- ▶ Financial stability and debt– Statement of financial position
- ▶ Cash balance and change– Statement of cash flows

**Consider the effect of:**

- ▶ Business scenario changes– How do the issues/changes affect the financial statements?
- ▶ Wider context impact – How does the wider context affect the financial statements?
- ▶ Making adjustments– Remove one-off items, including acquisitions/disposals
- ▶ Segmenting the information – “Slice and dice”; break the numbers down into components
- ▶ Using professional scepticism– What judgements have been exercised; appropriately/ethically?

**In particular in all analysis ask:**

- ▶ Why? – The elements in your financial statements analysis require an explanation
- ▶ So what? – What does this mean to the business or the analysis?
- ▶ Like for like? – Consider adjusting for any major non-recurring items or changes in the business
- ▶ What is the purpose of the financial statements analysis?
- ▶ Add knowledge – Tell the recipients of your report something they do not appear to know, but do not simply make wild speculations which are not supported by information/evidence provided in the case.
- ▶ Add understanding – Explain any of the more technical features of the financial statements clearly, simply and logically.
- ▶ Add value – Offer a way forward by clearly evaluating, concluding and recommending, based on your work.
- ▶ Communication – Provide evidence of your analytical skill and financial fluency by writing your report in a language that the recipient will understand.

## 2.10 Examination focus

To be successful in financial statements analysis in the Case Study examination, you will need to:

- ▶ Carry out a **meaningful** initial analysis of the financial statements in order to identify the key factors;
- ▶ Use these key factors to determine the work you will carry out in your detailed analysis in line with the requirements;
- ▶ Ensure that you understand the wider context in which the business operates;
- ▶ Read the Case Study Requirement carefully and only answer the aspects requested – but answer all of them;

- ▶ Prepare clear, relevant appendices of ratios and any other numerical analysis;
- ▶ Bring forward the key information from the appendices and integrate them into the report;
- ▶ Explain – logically and in easily understandable English – the analysis you have performed;
- ▶ Evaluate your own analysis and apply judgement to the results;
- ▶ State your conclusions under a heading; and
- ▶ Present any reasonable, relevant recommendations.

Finally, provide compelling evidence of your financial statements analytical skills and financial fluency by writing your report logically in a language that the recipient of the report will understand. Do not use technical jargons when writing your report or over-complicate your sentences. Write in short succinct sentences with two or three sentences, or related key points, per paragraph.

## Financial data analysis

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- 3.11 Using financial data analysis in your Case Study examination

## 3 FINANCIAL DATA ANALYSIS

### 3.0 Purpose

By the end of this chapter, you should be able to:

- ▶ The meaning and uses of financial data analysis in Case Study examination;
- ▶ Carry out financial data analysis using various tools; and
- ▶ Conclude and make recommendations based on the output of your financial data analysis.

### 3.1 Introduction

ICAN chartered accountants are required to be capable of providing information and decision support to management in operational and strategic contexts with a focus on linking costing, management accounting and quantitative methods to critical success factors and operational strategic objectives, whether financial, operational or with a social purpose. In Case Study examination, candidates are expected to be capable of analysing financial and non-financial data and information to support management decisions.

### 3.2 The meaning of financial data analysis

Financial data analysis can be described as the identification and analysis of any financial data necessary to evaluate a financial issue in order to reach a decision. It contains the process and the analytical tools which may be utilised in performing the analysis. Financial data analysis also involves the ability to understand, evaluate and analyse the information contained in a request concerning financial data and then to present the results of that analysis in a succinct and comprehensible way to the user of the information.

Financial data analysis involves understanding the company and taking cognisance of the intended audience. Writing to the CEO of a client business to point out the trend in forecast sales from information already provided to you is not financial analysis which would be worth receiving. Writing to a non-financial audience and explaining the calculated difference between the potential cash flow and the potential contribution for a project, including an assessment of underlying assumptions, in a succinct and understandable manner would be extremely good financial data analysis. Therefore, communicating the output of analysis in an appropriate form together with the judgements, conclusions and recommendations that follow is critical in good financial data analysis.

The process of financial data analysis involves:

- ▶ Using appropriate analytical tools for the task identified;
- ▶ Performing accurate calculations and analysing the results with appropriate clear explanations based on the information and assumptions supplied;
- ▶ Evaluating all assumptions, flexing the numbers given and performing sensitivity analysis; and
- ▶ Interpretation of results and reconciliations to reach a conclusion which forms the basis of recommendations.

### 3.3 Financial data analysis tools

The tools for financial data analysis in Case Study examination have been covered in other ICAN professional examination subjects. These include, but not limited to the following:

- ▶ Forecasting and budgeting techniques;
- ▶ Financial appraisals and reporting;
- ▶ Breakeven and profit-volume analysis for pricing decisions;
- ▶ Product mix and profitability decisions;
- ▶ Project appraisal;
- ▶ Short-term and long-term decisions;
- ▶ Risks in decision making;
- ▶ Sensitivity analysis and;
- ▶ Business valuation tools.

This chapter will not cover the technical details of how to apply any of the above analytical tools – that knowledge is assumed – but some of the more important issues which should be considered in using each of them are considered below under the appropriate analytical tools' headings.

It is important to realise that in the Case Study examination, you are not always told which analytical tool(s) to use to develop the required output. You will frequently need to use your judgement when making the decision about the analytical tools to employ.

As a result, in preparation for the Case Study examination, you need to know how to use each of the analytical tools provided in other ICAN Study Texts and know which tool is appropriate to a given situation.

There is, however, a unifying element to financial data analysis in the Case Study which is that it tends to focus on a current issue and an imminent decision which will affect future operations. The use of some of the above analytical tools is covered in this chapter: financial forecasting; financial appraisal and reporting; breakeven analysis; project appraisal; investment valuation and appraisal. Sensitivity analysis, which is an overall technique to be applied in almost all financial data analysis instances, is also discussed.

In the Case Study examination, you will be provided with information relating to the matter to be addressed which will require sifting, analysing and evaluating within the context of the business scenario. This means being fully aware of all surrounding business issues from the scenario as well as the wider context which might affect any possible appraisal and decision.

However, it is often necessary to consider incomplete information and if this is the case then you should make your own assumptions in order to complete a calculation. Under no circumstances should you stop your calculation to “advise” the client to provide more complete information – you are expected to demonstrate your professional skill by making (sensible) assumptions and completing your work as fully as possible.

#### 3.3.1 Financial forecasting and budgeting techniques

Financial forecasting is defined as the firm's management 's decision making process that determines the future course of action that will take the firm to its desired destination in respect of the firm's economic, technical, competitive, financial and social environments.

This is the foundation for all the firm's planning processes in respect of its operational, tactical and strategic plans. Financial forecasting and budgeting are tools that companies use to create a plan of where management wants to take an organisation and whether it's moving in the right direction. Though financial forecasting and budgeting are different, but both normally work in tandem with each other. For example, short-term and long-term forecasts could be used to help create and update a budget.

### **Financial forecasting**

Financial forecasting is almost an umbrella term for most financial data analysis work. Given that most financial data exercises concern a decision that is not yet made, it is somewhat inevitable that a forecast (calculation of future results) will have to be prepared.

The important factors to bear in mind are:

- ▶ the subject and context of the forecast – project, activity or organisation
- ▶ the provenance (source) of the information supplied (see below)
- ▶ the degree of accuracy required (see below)
- ▶ the materiality of the subject of the forecast– and the error tolerance level
- ▶ the time frame over which the forecast is made – beyond a certain time, any forecast is flawed.

Financial forecasting has the following characteristics:

- ▶ Companies use financial forecasting to determine how they should allocate their budgets for a future period;
- ▶ Financial forecasts are regularly updated, say monthly or quarterly, when there's a change in business plan, operations, and inventory;
- ▶ Forecasts can be short-term or long-term; and
- ▶ A management team can use financial forecasting to take immediate action based on the forecast data, make adjustments to production and inventory levels.

Candidates should bear in mind that, in the Case Study examination, the important first step in constructing any forecast is always to use the information provided before making any changes or challenges to any critical factors – you will therefore have started your analysis from an agreed position.

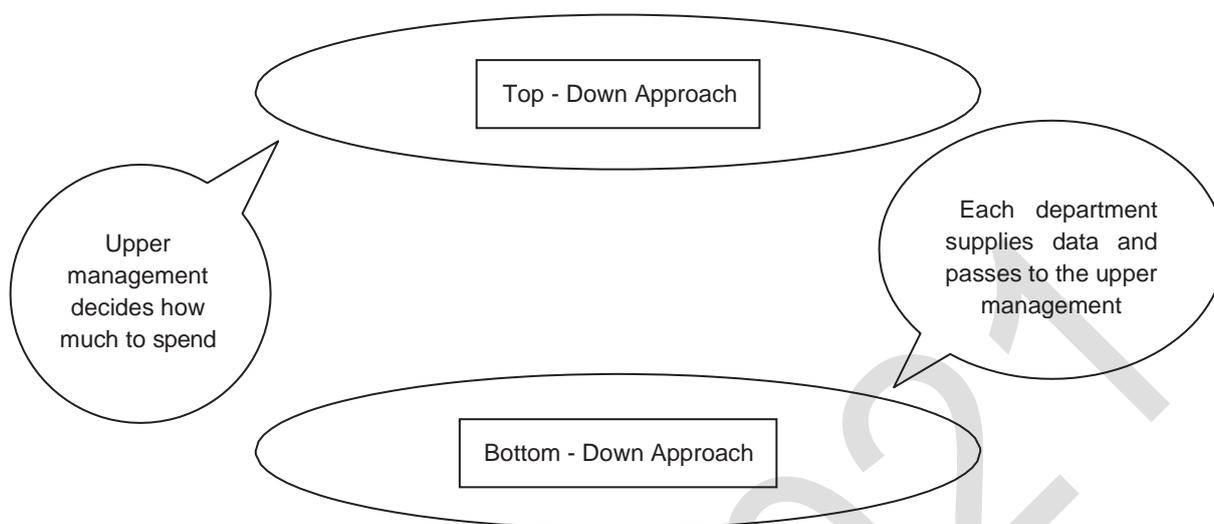
### **Budgeting**

Budgeting is the process of preparing detailed income and expenditure of a firm which is summarised into financial statements, called budget, to show targeted financial results, expected in a future time frame. A budget therefore, is an outline of quantitative and financial expectations of where management desires to take the company or plans to achieve for a particular period, usually one year. Budgeting include analyses of variance between budget and actual performance.

Some of the characteristics of budgeting include, estimates of:

- ▶ Revenues and expenses for the year;
- ▶ Expected cash flows;
- ▶ Expected debt reduction; and
- ▶ A budget is compared to actual results to calculate the variances between the two.

A budget is compared to actual results to calculate the variances between the two. Budgeting process can be top – down or bottom – up as shown in the below diagram:



### 3.3.2 Financial appraisals and reporting

In Case study examination, financial appraisal and reporting can be a situation where a scenario is provided that shows that something has happened (a problem such as a flood or fire) or something has or might change (for example, selling price of an important product). The effect is that a calculation has to be made and presented to the client for use in some further discussion or report. As for all forecasts, you must start with the information provided before changing or challenging it in any way.

Again, the important factors are:

- ▶ the provenance (source) of the information supplied;
- ▶ the degree of accuracy required; and
- ▶ the materiality of the subject of the forecast – and the error tolerance level.

However, financial appraisal can also include financial appraisal for credit facilities. In this situation, financial appraisal tries to assess the correctness or reasonability of the estimates of costs and expenses and also the projected revenues. These may include the estimation of the selling price, cost of machinery, the overall cost of the project and the means of financing it.

Financial appraisal involves extensive financial modelling using excel. This process involves taking the financial statements of a company's previous periods and forecast the future financial position for the period of the loan. From the calculations, the cash flows of each year are compared with the instalment of loan payable because ultimately the cash flows are going to be used in honouring payments to the bank.

Feasibility of the project is evaluated in terms of debt servicing capacity of the company. Debt service coverage ratio is a key ratio, calculated for each future financial period and if that ratio satisfies the norms accepted by the bank, the loan would be approved.

### 3.3.3 Breakeven and profit-volume analysis for pricing decisions

#### 3.3.3.1 Breakeven analysis

Breakeven analysis covers a whole range of financial data analysis and includes the calculations associated with breakeven, pricing and determining the margin of safety.

- ▶ **Breakeven** – this covers the identification of a “contribution” for a product or activity by identifying the “fixed” and “variable” costs and the revenues associated with that proposal in order to determine a breakeven point in terms of sales revenue or the equivalent number of units of production. Candidates should be aware that an approximation of contribution can be gross profit (revenue less direct costs) and that in many circumstances sensible approximations are a critical factor in good financial data analysis. It is also worth remembering that over different time periods the definitions of “fixed” and “variable” costs are somewhat elastic – and that, as in real life, all costs may be variable or change (drastically) over time.
- ▶ **Pricing** – this is the corollary of the breakeven point (and the same general points apply) where, for example, the business wants to identify the “lowest price” at which a new (or even existing) product may be sold but not create a loss on the sales. This may be particularly important in trying to survive a price war with competitors, especially in a recession.
- ▶ **Margin of safety** – The margin of safety indicates by how much sales can decrease before a loss occurs – i.e. it is the excess of budgeted revenues over break-even revenues. An additional development within this analytical heading is the calculation of a margin of safety which provides an indication of the level of risk, not only with the project under consideration, but also importantly indicates the size of the “cushion for errors” in the calculation. As with any issue relating to profitability, the greater the risk of the profit becoming a loss (or the smaller the margin of safety), the more critical each of the estimated figures becomes. To use a parallel example from the world of audit, the smaller the leeway between achieving a profit or suffering a loss the more critical is the determination of level of “materiality” for that audit.

Candidates should note that in this type of analysis, it is important to include all relevant costs. This means thinking carefully about what information has been provided and what has not. If you think that there is relevant financial information missing, perform any calculations, as requested, before inserting what you consider to be the missing figure(s). Be sure to provide a qualifying comment about any missing information in your assumptions and indicate its effect by quantifying the omission.

## Methods of calculating the breakeven point

The breakeven point is when total revenues and total costs are equal, that is, there is neither profit nor loss made. There are three methods for ascertaining the breakeven point:

**The equation method** – A little bit of simple mathematics can be used in solving numerous different cost volume-profit questions.

**The contribution margin method** – This second approach uses a little bit of algebra to rewrite the equation above, concentrating on the use of the 'contribution margin'.

The contribution margin is equal to total revenue less total variable costs. Alternatively, the unit contribution margin (UCM) is the unit selling price (USP) less the unit variable cost (UVC).

**The graphical method** – With the graphical method, the total costs and total revenue lines are plotted on a graph; Amounts in ₦ are shown on the y axis and units are shown on the x axis. The point where the total cost and revenue lines intersect is the break- even point. The amount of profit or loss at different output levels is represented by the distance between the total cost and total revenue lines. Alternatively, a contribution graph could be drawn.

### 3.3.3.2 Cost-volume-profit (CVP) analysis

CVP analysis is concerned primarily with the effects of differing levels of activity on the financial results of a business. Cost-volume-profit analysis is helpful in demonstrating the effect on an organisation that changes in volume (in particular), costs and selling prices, have on profit. One of the most important decisions that needs to be made before any business even starts is 'how much do we need to sell in order to break- even?' By 'break-even' we mean simply covering all our costs without making a profit.

This analysis is known as 'cost-volume-profit analysis' (CVP analysis).

The reason for the particular focus on sales volume is because, in the short-run, selling price, and the cost of materials and labour are usually known with a degree of accuracy. Sales volume, however, is not usually so predictable and therefore, in the short-run, profitability often hinges on it.

The popular question a business man will ask is, 'Will the company make a profit in that year?' Oftentimes, the answer is 'We don't know'. We don't know because we don't know the sales volume that will be achieved in the year. However, we can work out the volume of sales the business needs to achieve in order to make a profit and this is where CVP analysis begins.

Apart from ascertaining the breakeven point, there are other routine calculations that are just as important to understand. For example, a business may want to know how many units it must sell in order to attain a target profit.

### Limitations of CVP Analysis

The use of CPV analysis is limited because it is based on the following assumptions:

Either a single product is being sold or, if there are multiple products, these are sold in a constant mix.

All other variables, apart from volume, remain constant – that is, volume is the only factor that causes revenues and costs to change. In reality, this assumption may not hold true as, for example, economies of scale may be achieved as volumes increase. Similarly, if there is a change in sales mix, revenues will change. Furthermore, it is often found that if sales volumes are to increase, sales price must fall;

The total cost and total revenue functions are linear. This is only likely to hold in the short-run and restricted level of activity;

Costs can be divided into fixed and variable components. In reality, some costs may be semi-fixed, such as telephone charges, whereby there may be a fixed monthly rental charge and a variable charge for calls made; and

Fixed costs remain constant over a 'relevant range' i.e. levels of activity in which the business has experience and can therefore perform a degree of accurate analysis. It will either have operated at those activity levels before or studied them carefully so that it can make accurate predictions of fixed costs in that range.

### **3.3.4 Product mix and profitability decisions**

Product mix can be described as the set of all product lines and items that a particular manufacturer plans to produce. A manufacturer's product mix will have some characteristics, such as:

- ▶ Width - width of product mix refers to how many different products lines the company carries.
- ▶ Length - length of product mix refers to the total number of items the company holds in its product mix.
- ▶ Depth - depth of product mix refers to how many variants are offered of each product in the line. and
- ▶ Consistency - consistency of the product mix refers to how closely the various product lines are related in end use, production requirements, distribution channels, or some other ways.

Product mix and profitability decision refer to the decisions regarding:

- ▶ adding a new or eliminating any existing product from the product mix;
- ▶ adding a new product line;
- ▶ lengthening any existing line; or
- ▶ bringing new variants of a brand to expand the business and to increase the profitability.

In the product mix and profitability decisions, the organisation identifies which products, i.e., goods or services it will produce and deliver to its customers. Guiding principles on the role of cost information in product mix decisions involves the following:

- ▶ Reviewing the mix of existing product lines;
- ▶ Adding new lines to and deleting existing lines from the product mix;
- ▶ Determining the relative emphasis on new versus existing product lines in the mix;
- ▶ Determining the appropriate emphasis on internal development versus external acquisition in the product mix;
- ▶ Gauge the effects of adding or deleting a product line in relationship to other lines in the product mix; and
- ▶ Forecasting the effects of future external change on the company's product mix.

### 3.3.5 Project appraisal

Many Case Study examinations require some form of project appraisal as part, or all, of a financial data analysis requirement. There are numerous well-known techniques for conducting this form of analysis. In Case Study it is essential to use the information presented and the requirement as written. Often there is a straightforward request to analyse a project by using a simple analytical tool such as payback – or if the request does not specify a particular tool, the information provided would only really permit the use of one obvious analytical tool that is most appropriate in that situation.

However, project (or investment) appraisal tends to be one area (there are others) where candidates have an abundance of prior knowledge and, erroneously, rush to introduce their own assumptions and provide calculations based on those assumptions into their reports. So, despite there being no similar equivalent calculations in the pre-seen, and no supporting information from the case to corroborate their work, candidates frequently produce reports containing a fully worked net present value (or other calculations) result, aided by a series of rather inappropriate numerical assumptions, though no such calculation was requested in the requirement.

Questioning assumptions is a critically important skill in financial data analysis. However, creating an entirely new set of assumptions and financial criteria (such as discount rates) to permit a favoured calculation that is not appropriate, nor in the requirement, does not demonstrate that skill. The problem with this flawed examination tactic is that it results in candidates not demonstrating their skills (in using and evaluating the facts given); instead it highlights that they are answering their own questions (rather than the one in the requirement) using a technique which they have pre-prepared.

Investment appraisal techniques are grouped under two major headings, these are:

- ▶ Non-discounted cash flow techniques, which comprise:
  - Payback period;
  - Accounting rate of return (ARR); and
- ▶ Discounted cash flow techniques, which comprise:
  - Net present value (NPV);
  - Internal rate of return (IRR); and
  - Profitability index (PI).

Candidates are expected to have gained the skills necessary to carry out investment appraisal, using these techniques, in the previous subjects of the ICAN professional examination. Therefore, the detail calculations of these are not considered here.

Candidates should note that, although they may be fully conversant with different analytical tools, they should ensure that they use the analytical tool requested or suggested by the information provided. It is not an appropriate examination tactic to introduce entirely new information to enable a completely different calculation to be made. All such work will almost certainly not be rewarded no matter how artificially “accurate” the chosen calculation is.

### 3.3.6 Decision making

According to CIMA, effective decision making “is the process through which alternatives are selected and then managed through implementation to achieve business objectives”. Also, Drucker (1967) says effective decisions “result from a systematic process, with clearly defined elements, that is handled in a distinct sequence of steps”.

For any business to be successful, it is critical to make right decisions, which involves making both short term and long term decisions.

#### 3.3.6.1 Short-term and long-term decisions Short-term decision making

Short-term decisions are usually operational and/or tactical decisions that are made repeatedly in many different areas. While long-term decisions are usually strategic decisions that often involve commitment of large sums of money to a project.

There are two characteristics of short-term decisions that make them simpler than long- term decisions. These are:

- ▶ The time value of money is not considered in short term decisions; and
- ▶ Since fixed costs are going to be incurred, whatever decision that is made, they are usually excluded from short-term decisions, except where a new fixed cost will be incurred as a result of the decision.

In such cases the main approach is usually to consider relevant cash flows, which are:

- ▶ Cash flows. In short-term decisions only actual cash flows are considered. Non- cash items such as depreciation, inter divisional charges and other notional charges are ignored.
- ▶ Future costs and revenues. Past costs and revenues are not considered as they are not relevant in short-term decisions but they can only provide a guide to the future. Costs that have already been spent are known as sunk costs and so, not relevant for decision making.
- ▶ Incremental costs and revenues. Only changes in costs and revenues as a result of a decision are relevant. Where costs and revenues are common to all the alternatives being considered they are ignored as only differential costs and revenues are relevant; and
- ▶ Opportunity costs represent the costs of the opportunity that is lost, foregone or sacrificed by selecting one course of action instead of another. Opportunity costs only apply to the use of scarce resources. Where resources are not scarce there is no sacrifice in using these resources.

Some examples of typical short-term decisions are:

- ▶ Short term output decisions
- ▶ Product mix decisions where there is a capacity constraint
- ▶ Special pricing decision
- ▶ Special orders
- ▶ Make or buy decisions
- ▶ Whether to replace an equipment
- ▶ Discontinuance decisions

In Case Study examination, it is assumed that candidates have gained the necessary skills to deal with the above short term decisions when studying for the other subjects of the ICAN professional examination, so these are not dealt with here.

## **Long-term decision making**

Long-term decisions are those decisions that affect the overall objectives of the firm. Long term decisions are made in response to the competitive situation of the company in its social, economic and political environments. The company develops strategies for adapting and influencing its position to achieve long-term goals. It concerns major capital expenditure such as purchasing equipment and facilities, and implementation of policies and procedures that shape the company's profile to match top management's ideas. Long term decisions are concerned with the determination of long-term objectives which are based on the company's vision, and mission.

### **3.3.6.2 Short-term versus long-term decision making**

Managing short-term and long-term decisions is a balancing act. This is because, sometimes, short term decisions will have some negative consequences in the long term. And sometimes, because of quest for short term profit, a short term decision that can have a positive impact on the long term profitability is not taken. When these situations occur, tradeoffs are usually required. The question is, "how can business leaders make these tradeoffs in the best way possible?"

The key to success is to consider the impact of short-term decisions on the long-term business objectives when making those decisions. This will facilitate conscious decision-making i.e. making short-term decisions with a full understanding of, and consideration for, their long-term impact and ramifications. One of the tools to do this is the balanced scorecard model.

### **3.3.7 Risk and uncertainty in decision making**

#### **3.3.7.1 The nature of risk and uncertainty**

Managers make business decisions without a perfect assurance of what the outcome would be. Many times, the actual outcome will be different from what is expected, it could be worse or better. This is because of the fact that decision-making in business involves some uncertainty or risk.

Uncertainty is a condition where there is insufficient information about the future outcome of a decision. Managers therefore, sometimes make estimates of possible outcomes of the decision. This is because estimates of future values (such as, sales, costs) will be inaccurate.

Risk is a condition where the outcome of a decision could be several possibilities. However, managers could be able to assess with reasonable accuracy the probability of each possible outcome. Because of this possibility of reliable estimates of the probability for each possible outcome, risk can be assessed or analysed statistically.

#### **Reducing uncertainty**

Uncertainty occurs due to lack of reliable information. Therefore, uncertainty could be reduced by obtaining more information on which some reliance can be placed. This information can only increase the reliability of the estimates as uncertainty cannot be eliminated completely from decision making.

For example, there will always be some level of uncertainty about estimated demand for a product and thus the estimated sales volume of such product cannot be completely accurate. However, uncertainty about future demand of the product could be reduced by market research.

Market research is research into a particular market, such as the market for a product, for the purpose of obtaining information about the market – such as attitudes and buying intentions of customers in the market. By analysing data obtained from market research surveys the manager might expect to obtain more reliable estimates of the likely sales demand for a product.

In the same way, risk cannot be removed from a decision, because risk exists in the situation itself. A manager can try to analyse the risk, and make a decision on the basis of whether the risk is justified or acceptable.

### **Dealing with risk and uncertainty in decision making**

In dealing with uncertainty or risk in a business decision, managers usually consider both:

- ▶ the expected incremental costs, revenues and profits; and
- ▶ the risk or uncertainty.

There are several different ways of allowing for risk and uncertainty in decision-making. The approach taken by the manager will depend to a large extent on his attitude to risk. In other words, to what extent will a management decision be affected by the risk or uncertainty in the situation? There are several types of managers, categorised on their attitude to risk or risk preference.

### **Risk preference**

Risk preference describes the attitude of a manager towards risk. Managers might be described as risk averse, risk-seeking or risk neutral.

- ▶ A risk averse manager considers risk in making a decision, and will not select a course of action that is more risky unless the expected return is higher and so justifies the extra risk. A risk-averse manager does not try to avoid risk as much as possible; however, he might want a substantially higher expected return to make any extra risk worth taking.
- ▶ A risk neutral manager ignores risk entirely in making a decision. The decision of a risk neutral manager is to select the course of action with the highest expected return, regardless of risk.
- ▶ A risk-seeking manager also considers risk in making a decision. A risk seeker, unlike a risk-averse manager, will take extra risks in the hope of earning a higher return.

It is often assumed that managers are risk averse, and so will not select a course of action that has higher risk unless it offers a higher expected return sufficient to justify the risk that is taken.

#### **3.3.7.2 Expected values and decision trees Expected values**

One technique for comparing risk and return of different decision options is the use of expected values.

Expected values can be used to analyse information where risk can be assessed in terms of probabilities of different outcomes. Where probabilities are assigned

to different outcomes, a manager can evaluate the worth of a decision by calculating the expected value or weighted average of the possible outcomes. This is done by applying the probability of each possible outcome to the value of the outcome. Decisions will usually be based on selecting the course of action that offers the highest expected value of profit, or the lowest expected value of cost. In other words, the 'decision rule' is to select the course of action with the highest expected value of profit or the lowest expected value of cost.

The main advantage of using expected value to make decision is that it takes into consideration the probability or likelihood of occurrence of each different possible outcome, as well as its value (profit or cost).

Candidates are expected to have gained the technical skill of calculating the expected value in other subjects of the ICAN professional examination, so the detailed calculation will not be done here.

### **Decision trees**

Another technique of dealing with risk and uncertainty in decision making is the use of a decision tree. Where a decision involves two or more levels, with the second-level decision depending on what is the outcome of the first-level decision, a decision tree is used.

A decision tree is a methodical approach to calculating the expected values at the different levels of the decision. A decision tree is built to show all possible outcomes and associated probabilities. A decision tree is drawn from its "root" up to its "branches" and then, once drawn, analysed from its "branches" back to its "root".

There are two different types of branches on the tree:

- ▶ Decision points – as the name suggests, this is a point where a decision is made; and
- ▶ Outcome points – an expected value is calculated here.

As stated above, candidates must have mastered the skill of drawing the decision tree from other subjects of the ICAN professional examination, so this is not considered here. What candidates need to know in Case Study examination is that they may be required to use this technique in dealing with management decisions in Case Study.

#### **3.3.7.3 Value of perfect information**

Managers may want to find out the amount that can be offered for an information that will enable the manager absolutely sure of the outcome of a decision. This is referred to as the value of perfect information. The value of perfect information is what the manager can pay for obtaining a perfect information is calculated as follows:

Value of perfect information

	<del>N</del>
Expected value with perfect information	X
Less: Expected value without perfect information	<u>(X)</u>
Value of perfect information	<u>X</u>

However, candidates must be able to emphasise that it may only be possible to reduce uncertainty but it cannot be removed entirely. An expert might be able to make a forecast about the future but that expert might be wrong as well.

### **3.3.8 Sensitivity analysis**

#### **Introduction to sensitivity analysis**

In management decision making, there are usually decision variables that affect the outcome of each decision. Each of these decision variables is subject to some level of uncertainty. Sensitivity analysis is a method of uncertainty analysis which tests the effect on the expected outcome of changes in the values of key 'decision variables' or what is known as key factors. For example, in budget planning, the effect on budgeted profit might be tested for changes in the budgeted sales volume, or the budgeted rate of inflation, or budgeted materials costs, changes in minimum wages, and so on.

Sensitivity analysis can be used in several ways. These include:

- ▶ Estimation of the extent to which an item of cost or revenue would need to differ from their estimated values before the decision would change;
- ▶ To see whether a decision would change if estimated sales were a given percentage lower or higher than estimated or estimated costs were a given for example: 'What if sales volume is 5% below the expected amount)?

When estimates are uncertain, sensitivity analysis is useful for assessing what would happen if the estimates prove to be wrong. For example, if a manager considers that the estimates of sales volume might be inaccurate by up to 20%, sensitivity analysis could be used to assess what the profit (or loss) would be if sales volume is 20% less than estimated.

Sensitivity analysis is therefore a common-sense approach to assessing uncertainty in a situation.

#### **Steps in sensitivity analysis**

The following steps are followed in sensitivity analysis:

- ▶ Determine the original plan or estimate. For example, this might be a plan which estimates the expected profit in a budget, or the expected profit from a particular project or transaction.
- ▶ Identify key decision variables such as, sales price, sales volume, material cost, labour cost, completion time, and so on. The value of the selected key variable is then altered by a percentage amount, typically a reasonable estimate of possible variations in the value of this variable and the expected profit is re-calculated.
- ▶ Measure the sensitivity of a decision or plan to changes in the value of key items or key factors.

#### **Uses of sensitivity analysis**

Sensitivity analysis can be used to calculate by how much the value of a decision variable must change before the expected profit or outcome becomes unacceptable. For example, sensitivity analysis can be used to estimate by how much expected sales volume would have to fall short of the estimate before a product became unprofitable, or how much the cost of production can increase to make the product become unprofitable.

By applying sensitivity analysis to each variable, it should be possible to identify those that are the most critical, where an error in the estimate could have a large impact on the actual outcome.

Management can use sensitivity analysis to decide whether they have sufficient confidence in the estimates so that they can go ahead with their planned decision (for example, a decision to launch a new product), or whether the uncertainty is so great that it would be too risky to go ahead.

### 3.3.9 Business and investment valuation

Case Study examination requirements may include a valuation of a business (or part of a business) or an appraisal of a proposed investment. This could utilise price earnings (P/E) valuation, possibly a net present value (NPV) calculation, or some other similar calculations.

However, performing the required calculations meets only part of the requirement. Candidates should remember that, all of the marks are for demonstrating your professional skills. Therefore, candidates will also need to:

- ▶ Provide a context for the appraisal they have conducted – what is the reason for applying the technique and choosing the bases they have used?
- ▶ Exercise their judgement – are there any reservations, which they should disclose by clear explanation, about the results of their valuation?
- ▶ Develop their conclusions and/or recommendations – what do their results mean or what should the client do now?

#### 3.3.9.1 Purpose of business valuation

This section describes various techniques for calculating a value for the shares of a company, or the value of an entire company (equity plus debt). There are several reasons why a valuation might be required. Also, methods of valuation depend on the purpose for which the valuation is being made and whether it is a quoted company or unquoted.

**Quoted companies:** For quoted companies, valuation is normally based on the current market price of the share. The main reason for making a business valuation for a quoted company is when there is a takeover bid. In a takeover bid, the bidder always offers more for the shares in the target company than their current market price. The purpose is to establish a fair price or a maximum price that bidder will bid for the shares in the target company.

**Unquoted companies:** The following are the reasons why valuation of unquoted companies may be needed:

- ▶ When the company wants to be converted into a public limited liability company with the intention of being quoted on the stock market. This is because when a company comes to the stock market for the first time, the issue price for the shares has to be decided;
- ▶ When an unquoted company is to be sold privately, the buyer and seller have to agree a price. The buyer will need to decide the maximum price he is willing to pay and the seller will also need to decide the minimum price he is willing to accept;
- ▶ When there is a merger arrangement between two unquoted companies, a valuation is needed as a basis for deciding on the terms of the merger; and
- ▶ To establish the tax liability on the estate of a dead shareholder of an unquoted company, a valuation of the share will be needed.

### 3.3.9.2 Valuation models

Generally, all valuation methods are based on estimates and assumptions. However, each method produces a different result i.e. price, but each of these results provides useful information and helps in deciding what price to offer. The assumption in Case Study examinations is that candidates have already gained the requisite analytical skill in business valuation and so should be prepared to calculate and use each of the different valuation methods, and then discuss the assumptions and estimates on which the valuation is based. Candidates may also be required to compare different valuations produced by each method, and then recommend (with reasons) a valuation that they consider appropriate as a basis for making an offer to the target company's shareholders.

There are three broad approaches for valuation of shares in a company. These are:

- ▶ Asset based valuation method: This is based on the value of the assets of the target company.
- ▶ Market-based valuations: This uses estimates of future earnings or dividends
- ▶ Cash-flow based valuations: This uses discounted cash flows of expected future returns from the acquisition. Expected value added (EVA) model is another form of cash flow-based model.

There are many different techniques within these three broad approaches and they lead to different valuations of the business.

Valuation methods are normally used to determine offer prices in mergers and acquisitions, however, the final price is always agreed through negotiation.

#### Asset-based valuation methods

There are three variants of this method. These are:

- ▶ Net assets value;
- ▶ Net assets realisable value; and
- ▶ Net assets replacement value.

**Net asset value:** This is based on the value of net assets as stated in the statement of financial position. It is a business' net tangible assets and it uses the book values of assets and liabilities to determine the value of net assets.

Non-current assets are usually stated at their historical cost less accumulated depreciation, which may also be a reflection of a company's current value. However, important intangible assets, such as, internal goodwill and human capital are not considered because they do not form part of the statement of financial position.

Therefore, it can be said that, at best, this method only gives a minimum value of the business that is being valued. However, where non-current assets are being constantly revalued, the valuation needs no adjustment to reflect the current value of the business. Candidates should bear this in mind when they are carrying out valuation of business and recommending price the acquirer can offer for the target company in examinations.

### Illustration

The following information is available about a private company, Datom Nigeria Limited.

	N000
Tangible non-current assets	250
Intangible non-current assets	75
Current assets	<u>60</u>
	<u>385</u>
Ordinary shares of N1	50
Revaluation reserve	80
Retained profits	<u>145</u>
	<u>275</u>
Bank loans	90
Current liabilities	<u>20</u>
	<u>385</u>

### Required:

Provide an asset-based valuation of the shares in Datom Nigeria Limited.

### Solution

The book value of the net assets is N275,000 or N5.50 per share. However, this valuation is based on the assumption that the tangible non-current assets are suitably valued, and that N75,000 represents a realistic value for the intangible non-current assets.

It is therefore unlikely that the target company's shareholders will accept an offer below N5.50 per share, and the offer will almost certainly need to be higher than N5.50 if the take over is to succeed.

Valuations based on other valuation methods should be compared with the asset-based valuation. There should be some concern (for the bidding company) if a valuation based on expected earnings, dividends or cash flows is lower than the asset-based valuation.

**Net assets realisable value:** This is sometimes called the break-up value of the assets. This is the amount that could be realised in the event of liquidation and the assets of the business have to be sold. The value of the company will then be the realisable value of the assets less the liabilities. However, this value is often irrelevant when an acquirer is considering buying a business as a going concern, for such target companies are usually acquired with the intention of continuing in operation. Usually, the value of the assets in a going concern is always higher than their break-up value.

A company can never be worth less than its break-up value.

### Illustration

Datcom Nigeria Limited has assets that have been valued at N25 million. This valuation is based on the current disposal value of the assets. The company has N7 million liabilities. It has share capital of 2,000,000 shares of 50 kobo each.

A valuation of the shares based on the net asset value of the company would be:

$$\frac{\text{N}(25 \text{ million} - 7 \text{ million})}{2,000,000 \text{ shares}} = \text{N}9 \text{ per share}$$

Net asset replacement value: This is the value of the net assets based on the cost of acquisition in the open market less depreciation and it is often a more accurate cost than the book value. However, it also results in under valuation of the business because intangible assets of the business are also excluded.

The above three asset-based valuations have been criticised based on the fact that businesses are acquired not with intention of disposing off the assets but using the assets to generate returns. Therefore, the more accurate value of a business is the sum total of expected returns it will generate and not the reported book value of its assets.

### Illustration

The following information is available about a private company, Bimbus Nigeria Limited:

	N
Tangible non-current assets	500
Intangible non-current assets	150
Current assets	<u>120</u>
	<u>770</u>
Ordinary shares of N1	100
Revaluation reserve	160
Retained profits	<u>290</u>
	550
Bank loans	180
Current liabilities	<u>40</u>
	<u>770</u>

### Notes

1. The current disposal value of the company's non-current assets is N600m.
2. The current value of the company's assets in the open market, less depreciation is N750m.

### Required:

Determine the value of the company's share using:

- Net assets value;
- Net assets realisable value; and
- Net assets replacement value.

### Solution

Net Assets value basis:

Net assets	=	N550m
No of shares	=	100m
Net assets per share	=	<u>N550m</u>
		100m
	=	N5.50

Net assets realisable value:		
Disposal value	=	<del>₦</del> 600m
Less liabilities		<del>₦</del> 120m
Net disposal value		<del>₦</del> 480m
Net realisable value per share	=	<del>₦</del> 480m
		100m
	=	<del>₦</del> 4.80

Net assets replacement value:		
Current replacement value =		₦750m
Less liabilities		<del>₦</del> 120m
Net replacement value		₦630m

Net replacement value per share	=	<del>₦</del> 630m
		100m
	=	₦6.30

## Income based valuation methods

### P/E ratio method

One of the principal ratios that determine the price of shares at the stock market is the price earnings (P/E) ratio. The P/E ratio is the ratio of the market value of a share to the annual earnings per share. The P/E ratio of a quoted company can be determined by dividing the share's current market price by the annual earnings per share. However, for unquoted or private companies (companies whose shares are not traded on a stock market) the P/E ratio of a similar quoted company can be used to derive a valuation for the shares.

The value of the share will then be determined as follows:

Value = EPS × Estimated P/E ratio.

The EPS might be the EPS in the previous year, an average EPS for a number of recent years or a forecast of EPS in a future year

The P/E ratio is selected as a ratio that seems appropriate or suitable. The selected ratio might be based on the average P/E ratio of a number of similar companies whose shares are traded on a stock market, for which a current P/E ratio is therefore available.

### Illustration

The EPS of Babs Nigeria Limited was ~~₦~~5 last year and is expected to rise to ~~₦~~8 next year. Similar companies whose shares are quoted on the stock market have P/E ratios ranging from 12 to 16. The average P/E ratio of these companies is 14.

The value of Babs Nigeria Limited's share can therefore be determined by multiplying the prospective earnings per share of the company by the average P/E ratio of similar quoted companies, thus:

Valuation = ~~₦~~8 × 14 = ~~₦~~112 per share.

Alternatively, the share value can be determined by multiplying the company's last year earnings per share by the lowest P/E ratio of similar quoted company and reducing it by 10% because Babs Nigeria Limited is a private company and is not quoted on the stock market, as follows:

$$\text{Valuation} = \text{₦}5 \times (90\% \times 12) = \text{₦}54.$$

Here, a P/E ratio of 10.8 (= 90% × 12) has been used in the valuation.

Another valuation might be to use the EPS for the coming year and a P/E ratio of 10.8. This would give a share value of ₦8 × 10.8 = ₦86.40.

The above calculations show the weaknesses of this method of valuation, these are:

- ▶ It is based on subjective opinions about what earnings per share and P/E ratio figures to use;
- ▶ It is not an objective or scientific valuation method; and
- ▶ It is based on accounting measures (EPS) and not cash flows. Whereas, the value of an investment such as an investment in shares ought to be derived from the cash that the investment is expected to provide to the investor (shareholder).

However, the P/E ratio valuation method is commonly used as one approach to valuation for:

- ▶ The valuation of a private company seeking a stock market listing for the first time; and
- ▶ The valuation of a company for the purpose of making a takeover bid.

The main advantage of a P/E ratio valuation is its simplicity. By taking the annual earnings of the company (profits after tax) and multiplying this by a P/E ratio that seems 'appropriate', an estimated valuation for the company's shares is obtained. This provides a useful benchmark valuation for negotiations in a takeover, or for discussing the flotation price for shares with the company's investment bank advisers.

### **Earnings yield method**

The earnings yield method of valuation is a variant of the P/E ratio method and so, it is subject to the same weaknesses. With the earnings yield method, the value of a private company's share is determined by using its annual earnings and earnings yield of similar quoted company as follows:

$$\text{Earnings yield} = \frac{\text{Earnings per share}}{\text{Current market price per share}} \times 100$$

Using the earnings yield method of valuation, this formula is adapted as follows:

$$\text{Current market price per share} = \frac{\text{Earnings per share}}{\text{Earnings yield}}$$

However, it might be more appropriate to select an earnings yield that is higher than the earnings yield for similar quoted companies, to allow for the higher risk of investing in private companies.

### Illustration

The earnings of Debaco Nigeria Limited, a private company, were ₦900,000 last year.

Similar quoted companies in the same industry provide an earnings yield of about 9% to their shareholders.

Using the earnings yield method of valuation, suggest a suitable valuation for the equity shares in Debaco Nigeria Limited.

### Solution

If an appropriate earnings yield for Debaco Nigeria Limited is 9%, the valuation of its equity would be:

$$\frac{\text{₦}900,000}{9\%} = \text{₦}10,000,000.$$

However, since Debaco Nigeria Limited is a private company, a higher earnings yield, say 12% would likely be used for the valuation. The valuation of its equity would then be:

$$\frac{\text{₦}900,000}{12\%} = \text{₦}7,500,000.$$

The computation above shows that the valuation depends on arbitrary assumptions about a suitable earnings yield to apply, as well as assumptions about expected annual earnings.

### Dividend yield method

Dividend yield method of valuation of company's share uses the current dividend yield to determine the share's value. When it is used to value the share of a private limited liability company, a dividend yield of an appropriate similar quoted company would be used. However, a dividend yield that is higher than that of a similar quoted company would be used to allow for the higher risk of investing in private companies. Dividend yield is calculated as follows:

$$\text{Dividend yield} = \frac{\text{Dividend per share}}{\text{Current market price per share}} \times 100$$

Using the dividend yield method of valuation, this formula is adapted as follows:

$$\text{Current market price per share} = \frac{\text{Dividend per share}}{\text{Dividend yield}}$$

Dividend yield is used to value small shareholdings where the shareholder may have little say in the running of the business and is interested only in the income stream that it provides.

## Dividend valuation models

### Dividend valuation model: constant annual dividends

The basic assumption for using the dividend valuation models is that, to shareholders, the value of shares is the value of all future streams of income, i.e. dividends, they expect to receive from those shares in the future. As such, the dividend valuation model is seen to be a more objective and cash-based valuation of shares. Since it is assumed that the fair value of a share represents the value of all expected future dividends, this value can be estimated by discounting expected future dividends to a present value at the shareholders' cost of capital. All expected future dividends 'in perpetuity' are therefore discounted to a present value at the cost of equity capital.

On this assumption that the company will pay a constant annual dividend every year into the foreseeable future, the present value of those dividends, and so the value of the shares can be calculated as follows:

$$MV = \frac{d_1}{r_e}$$

This is the present value of a perpetuity

Where:

$r_e$  = the shareholders' required rate of return (cost of equity)

$d$  = the expected future annual dividend (starting at time 1)

However, where there is expectation for a constant annual growth in dividends, the value of share is determined as follows:

$$MV = \frac{d(1+g)}{(r_e-g)}$$

Where:

$r_e$  = the cost of equity

$d$  = the annual dividend for the year that has just ended

$g$  = the expected annual growth rate expressed as a proportion (4% = 0.04, 2.5% = 0.025, etc.)

Therefore,  $d(1 + g)$  = expected annual dividend next year or  $d_1$

Where the share is to be sold ex-dividend, the value of the share, without growth is determined as follows:

$$MV = \frac{d_1}{r_e}$$

This is the present value in perpetuity

Where:

$r_e$  = the shareholders' required rate of return (cost of equity)

$d_1$  = the expected future annual dividend (starting at time 1)

Where the share is to be sold ex-dividend, the value of the share, with constant annual growth, is determined as follows:

$$MV = \frac{d(1+g)}{(re-g)}$$

Note: this formula gives the present value of any cash flow which starts in one year's time and grows at a constant rate in perpetuity, where:

re = the cost of equity

d = the annual dividend for the year that has just ended

g = the expected annual growth rate expressed as a proportion (4% = 0.04, 2.5% = 0.025 etc.)

Therefore,  $d(1 + g)$  = expected annual dividend next year or  $d_1$

MV = the share price ex-dividend.

This is the valuation of the share ex-dividend. This valuation formula is based on the assumptions that:

- The dividend is paid annually; and
- The dividend for the current year has just been paid.

### Illustration

Adeb Nigeria Limited has just paid an annual dividend of ₦5. Dividends are expected to grow by 5% each year into the foreseeable future. The shareholders' cost of capital is 15%.

Using the dividend valuation model, the expected value of the share (ex-dividend) is:

$$\begin{aligned} MV \text{ (ex-div.)} &= \frac{5(1.05)}{0.15 - 0.05} \\ &= \text{₦}52.50 \end{aligned}$$

If no growth is expected in annual dividends, i.e. the company is expected to pay a constant annual dividend in the future, the share valuation would have been ₦33.33. Because the annual dividend is expected to increase every year, the valuation is much higher.

Using the dividend growth model, the valuation of shares changes with:

- ▶ changes in expected future dividends (for example, changes in the expected annual growth rate in dividends); or
- ▶ changes in the shareholders' required rate of return (the equity cost of capital).

### Retained earnings: the earnings retention valuation model

Usually, firm grows by retaining part of its earnings in the business and this always results in higher dividends payment in the future. When a company retains a proportion of its earnings each year, the expected annual future growth rate in dividends can be

estimated using Gordon's growth model. This is shown as:

$$g = br$$

Where:

$g$  = annual growth rate in dividends in perpetuity

$b$  = proportion of earnings retained (for reinvestment in the business)

$r$  = rate of return that the company will make on its investments

### Illustration

Adec Nigeria Limited has just achieved annual earnings per share of ₦5, of which 40% has been paid in dividends and 60% has been reinvested as retained earnings.

The company is expected to retain 60% of its earnings every year and pay out the rest as dividends.

The expected return on investments is 10%

The cost of equity capital is 8%.

The current annual dividend is 40% x ₦5 = ₦2.

The anticipated annual growth in dividends =  $br = 60\% \times 10\% = 6\%$  or 0.06.

Using the dividend growth model, the expected value per share is: = ₦106, as follows:

$$\begin{aligned} \text{MV (ex-div.)} &= \frac{2(1.06)}{0.08 - 0.06} \\ &= \text{₦106} \end{aligned}$$

### 3.4 Performing accurate calculations in financial data analysis

Although this may seem an obvious point to make to anyone on the verge of qualifying as an ICAN Chartered Accountant, performing accurate calculations is a crucial starting point in financial data analysis. The reward for those calculations is given in the assessment box relating to the relevant appendix. Candidates should remember to:

- ▶ Start all calculations with the information provided in relation to the analysis to be undertaken – subsequently, they may need to flex the numbers;
- ▶ Work carefully in consistent denominations – do not start in ₦'000s with decimal points and then carelessly drop into single figures or vice-versa; and
- ▶ Label all figures – what may seem apparent to you is not necessarily apparent to a reader and in a report, this is a serious error or omission.

Candidates are advised, as financial analysts, that it is very important to “step back” and perform a “sense-check” or ‘logic check’ on their calculations and numerical output – to avoid basing a report on a basic numerical error which a quick “overview” could have detected.

### 3.5 Evaluation of all assumptions

Where the financial data analysis is based on assumptions provided by the client or a third party, there is always an implication, if not an actual requirement, that you should evaluate those assumptions. In order to do this, you must first identify the “assumptions” to be evaluated – they may be listed as they are frequently woven into the information provided on the issue.

In Case Study, as in real life, assumptions are often provided as a starting point for the calculation and consideration of a financial issue – but these assumptions should not be viewed as “set in stone”: they can and must be questioned. The skilful questioning of information provided is part of “professional scepticism”.

If any additional assumptions have to be made – or the assumptions already provided need to be queried and financial adjustments made (see “flexing” below) – this means you are applying judgement. All questioning should be clearly identified and the reasons justified in your report.

### 3.6 Professional scepticism

As part of financial data analysis, it is important to be aware that the development of financial diagnosis must be made with regard to the context, the nature of the information provided and its source, both in a case and in real life. This is a critical part of the analysis of any financial problem. The appropriate questioning of the information that is provided is referred to as ‘professional scepticism’. It refers to the professional intelligence, awareness and initiative brought to bear on the information.

The fundamental questions to be asked of any information provided include:

- ▶ Who prepared the information? Was it an internal author with a vested interest or an external author and with what degree of skill or level of awareness and knowledge?
- ▶ What was the reason for its preparation? Why has this information been provided? Is it a set of standard financial statements or prepared specifically to address the issue under consideration, such as to obtain a bank loan or to support a bonus payment or an insurance claim? Is there likely to be any bias, given its purpose and authorship?
- ▶ What level of precision can be identified? What is the likely degree of accuracy of the information being considered? Is it from past audited information or from drafts or management accounts? Does it form part of a body of projected information? Is it an extrapolation, is it part of the main information, or is it from a new source?
- ▶ What predictions are included? Are the time frames realistic? Are plausible/realistic assumptions made about future levels of activity? Are the issues linked to the past/current situation or are they new speculations about future events?
- ▶ What problems or issues are involved? Are the big issues and the corresponding concerns easily identified or do they require you to identify them? Are the problems purely financial or are there non-financial implications? Are they short-term financial ‘incidents’ or long-term fundamental financial issues?
- ▶ What is the level of priority? What is the degree of urgency and the indicative timeframe for each issue being considered? For example, is it high-priority with an immediate impact, or low priority affecting a protracted outcome over the next two accounting periods?

- ▶ Whose perspective must be considered? From whose perspective is the problem to be considered: the preparer, yours, the client's? Is it clear who the client is, and does the client understand the 'contractual' position with you – are you seen as an objective advisor? Who is your audience?

From the answers to these questions, you will be able to assess the 'provenance' and the quality of the information presented in the case context. This assessment is another important element in applying judgement to the information provided.

This assessment does not mean that you are not accepting the numbers but that you are assessing their quality and appropriateness for use in answering any questions and the level of confidence you can attach to each piece of information presented.

By evaluating the information provided in this way, you will be demonstrating appropriate professional scepticism and applying your judgement – a crucial element in all financial data analysis.

### **3.7 Flexing the numbers and sensitivity analysis**

Following on from an assessment of the assumptions initially provided, a critical element of financial data analysis is the ability to flex the numbers given or calculated, and then to comment on the adjusted impact. In Case Study examination, this may be:

- ▶ correcting a series of erroneous transactions, or dealing with proposed adjustments to information
- ▶ flexing a forecast to reflect changes in the underlying assumptions or organisation's circumstances, or
- ▶ assessing the assumptions and making the changes that are needed to be reflected in the amended calculations (such as breakeven or pricing in a tender).

Sometimes, the issue is obvious because errors have occurred in the information previously provided and these need to be corrected. Often it is left to your discretion whether "flexing" the numbers might be appropriate.

One of the analytical tools available is sensitivity analysis. This involves identifying the critical factors in any numerical calculation and considering the effect on the results of changing the values of one or more of them. In Case Study examination, you are not expected to perform endless similar speculative calculations. Accordingly, it is important to identify your "critical factors" with care.

A crucial element of this process is that if you do identify instances where a number (or numbers) should be flexed, even if you do not carry out all the calculations (because of time constraints) you must comment on the likely impact and direction of change in the respective figures.

Candidates should know that whatever the time pressure, they will receive no reward at all for recommending that "sensitivity analysis should be performed" or that "all numbers should be reviewed for accuracy and all estimates flexed". Candidates are expected to have done this and by writing it as though it were a recommendation, they are simply emphasising their shortcomings and therefore a real weakness in their work.

### **3.8 Plausibility and numerical output**

Whatever the circumstances, it is important to pause before plunging into the work.

Candidates should initially perform a quick plausibility review of the details involved and the expected output from the work. Choices need to be made about all calculations and any subsequent flexing.

- ▶ Accuracy versus speed: Is it better to be approximately right and cover more ground, or absolutely right on some details but risk failing to finish this work? What is necessary here is not sloppy guesswork but, especially in the case of forecasts, the need to arrive at a reasonably accurate answer quickly.
- ▶ Materiality against summary: Can any of the calculations or adjustments be grouped to save time – will it matter? This does not mean aggregating everything into one meaningless figure to be explained later in a rambling incomprehensible paragraph of 'notes', but instead it requires the judicious use of effective and understandable summarised workings for your key figures.
- ▶ Original or substitute: Will your output be an appropriate substitute for, or build on, information given – is there a template to follow? Is that template still the most appropriate format for your new workings? Can it be amended easily or should a new template be substituted?
- ▶ Explanation and impact: What is the client's potential understanding of the issue in hand and might the effect of any potential 'adjustments' be fundamental to the whole enterprise? In the report to the client, what level of detailed explanation of assumptions and techniques, and the resulting impact of your work, will you have to provide?
- ▶ Appendix or body: Will the reporting format for your workings be presented as a clearly labelled and cross-referenced appendix, or is it concise enough to feature in the body of the report?

In Case Study examination, candidates will be assessed on their ability to make these decisions and how they present them. Candidates are not expected to perform endless similar speculative calculations but are expected to be alert to the impact of 'sensitive' key factor changes.

It is safe to assume that, if the problem can be addressed by adjusting some financial facts, whether by amending, including or excluding figures – which will have a numerical impact on the information under review, then candidates should make those numerical adjustments and present the amended outcome accordingly.

Candidates should understand that, it is an important examination technique not to waste time rewriting a whole financial schedule or statement, such as a forecast income statement. Similarly, they should not waste time performing an inordinately time-consuming calculation of dubious accuracy and materiality, using an estimate (for example, making an adjustment of a single estimated expense such as one month's depreciation) when the major impact, for example, is the corresponding figure for acquisitions of non-current assets which has an overwhelming impact on the forecast statement of cash flows and future cash balance.

### **3.9 Interpretation of results and reconciliations**

It is important to emphasise that working with the numbers does not stop with the calculations themselves. The output, whether from an analytical technique or sensitivity analysis, needs to be explained to the reader of the report.

When interpreting results, all too often, a candidate tries to describe what could be

done rather than actually doing the work and then discussing the outcome(s). Attempting to describe a financial outcome without providing the adjusted numerical picture is a weak piece of financial data analysis. The presentation of the financial picture needs clarity to make a direct impact on the reader. It will also provide evidence of candidates' real financial data analysis ability.

Candidates will also need to provide answers to the questions 'why' and 'so what' when formulating their advice to the reader.

### **3.10 Making financial decisions: conclusions and recommendations**

All financial decisions as presented in the conclusions and recommendations must flow logically from the financial data analysis. Based on the professional judgement applied to the analysis, it may be necessary to highlight some reservations, provisos or parameters around the final decision, but any decision made would be expected to be an unambiguous conclusion indicating confidence in candidate's work and developed into clear advice by way of recommendations.

### **3.11 Using financial data analysis in your Case Study examination**

It is extremely difficult to succeed in the Case Study examination without good financial data analytical skills. At the other ICAN professional level examinations, the questions are often more "closed", meaning that there is a defined answer. In the Case Study examination, the requirements are more "open", meaning that the examiners are assessing the approach candidates adopt in their answers, their ability to use the data in a meaningful and constructive way, and there will generally not be an absolutely "right" or "wrong" answer, within reason.

To demonstrate their skills appropriately in the context of the Case Study examination, candidates will have to:

- ▶ Choose the appropriate tool(s) to analyse any financial data they may be given in the examination;
- ▶ Provide a context for the data analysis that they carry out and the rationale for the analytical tools they use.
- ▶ Exercise their judgement, particularly in terms of materiality, in selecting the relevant level of detail in which to conduct the analysis.
- ▶ Construct clear appendices based initially on the information supplied
- ▶ Identify and evaluate all the assumptions underlying the information provided.
- ▶ Apply professional scepticism to the provenance of the information supplied.
- ▶ Consider sensitivity analysis, and where appropriate, flex the numbers.
- ▶ Consider the business scenario and the wider business context in order to provide depth and breadth to their analysis
- ▶ Construct a logical report using information from their financial appendix together with clear explanations and logical analysis to demonstrate their financial fluency.

Usually, candidates will be under pressure in the examination and have only limited time in which to do their analysis. Therefore, candidates will have to develop their skills so that they can perform any financial data analysis calculations speedily and with confidence, to give them sufficient time to use the output in a constructive way.

In many Case Study examinations, the requirements ask for a calculation based on information provided: a P/E valuation, NPV calculation, breakeven analysis, accounting adjustment, or similar calculations. Candidates must make sure that they use the most appropriate technique to the given situation and use it with confidence.

The examination requirements frequently ask candidates to perform an evaluation (apply judgement – a crucial skill in this subject) using figures that they have prepared or amended. Many weak candidates often appear reluctant to make a decision or recommendation based on their own calculations or assumptions. However, to succeed in this subject you must arrive at a clear decision. Provided that your decision is consistent with your analysis and evaluation, you will be given credit in the examination.

In the Case Study examination, performing the required calculations meets only part of the requirement. Candidates will need to:

- ▶ Provide a context for the analysis they have conducted – what is the reason for applying the technique used?
- ▶ Exercise judgement – consider any assumptions; are there any reservations? are the results appropriate for their specified use? has the wider context been taken into account?
- ▶ Develop their conclusions and/or recommendations – what do their results mean or what should the client do now?

These factors are critical to success if they build on the underlying calculations, but they cannot be rewarded without the appropriate accurate calculations. Therefore, a prerequisite for getting the best grades in this subject is a good working knowledge of all the analytical techniques, which candidates will be able to demonstrate in answering the requirement.

Demonstrating good financial competence is having the skill of conducting comprehensive financial data analysis and communicating that analysis in an appropriate form, together with the judgements, conclusions and recommendations that follow. Demonstrating and presenting that competence is crucial in the Case Study examination.

## Business re-organisations and capital reconstruction

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- 4.0 Purpose
- 4.1 Corporate restructuring
- 4.2 Need for financial restructuring
- 4.3 Types of financial restructuring

## 4 BUSINESS REORGANISATIONS AND CAPITAL RECONSTRUCTION

### 4.0 Purpose

By the end of this chapter you should be able to:

- ▶ Explain corporate restructuring;
- ▶ Explain types of financial restructuring; and
- ▶ Formulate and evaluate a “scheme of arrangement”.

### 4.1 Corporate restructuring

The Oxford Dictionary defines restructuring as, “to give a new structure to, rebuild or rearrange”. While Collins English dictionary defines corporate restructuring as a change in the business strategy of an organisation resulting in diversification, closing parts of the business, etc., to increase its long-term profitability. The Chartered Institute of Secretaries of India defined corporate restructuring as “the process of significantly changing a company's business model, management team or financial structure to address challenges and increase shareholders’ value”. Corporate restructuring, therefore, is the process of changing the organisation of a business, sometimes in a dramatic way which may involve cutting out or merging departments in the organisation. It is a process of rearranging the business for increased efficiency and profitability. It can also be seen as a comprehensive process, by which a company consolidates its business operations and strengthens its position for achieving corporate objectives, synergies and continuing as a competitive and successful entity. Restructuring sometimes involves the company's sale or merger with another company. Companies use restructuring as a business strategy to ensure their long-term survival and viability.

Shareholders or creditors might call for a restructuring if they observe that the company's current business may result into a diminution in the value of their investments. The common catalysts for corporate restructuring are a loss of market share, the reduction in profit margins or decline in the power of corporate brand, inability to retain talented professionals and major changes in the marketplace that directly impact the company's business model.

Corporate restructuring is the process of redesigning one or more aspects of a corporate entity. It refers to any fundamental change in a company's business or financial structure. The purpose of corporate restructuring is to increase the shareholders’ value or to persuade creditors not to call for a liquidation of the company. Restructuring can also be seen as a significant modification made to the debt, operations or structure of a company. It is usually made when there are significant problems in a company, or when there is a threat of liquidation. The need for reorganising a company may be due to a number of different factors, such as positioning the company to be more competitive, survive a current adverse economic climate or turn the company in an entirely new direction.

Restructuring in the context of corporate management could also be seen as the act of reorganising the legal, ownership, operational or other structures of a company. It is usually done for the purpose of making such companies more profitable or be better organised to meet their present realities and challenges. Therefore, restructuring is a process of fundamental rejuvenation of a company and its assets so as to put the company on the path of future stability and profitability. Restructuring may include a change of ownership or ownership structure, demerger or a response to a crisis or major change in the business such as bankruptcy,

repositioning or buyout. Restructuring may also be described as corporate restructuring, debt restructuring and financial restructuring. It generally involves financing debt, selling portions of the company to investors and reorganising or reducing operations. According to Smith (2017), successful business restructuring requires a critical understanding of four things, these are:

- ▶ The forces that made the change mandatory, what he refers to as the WHY do we need the change;
- ▶ The necessary shift required, that is, the WHAT is required to make the business successful;
- ▶ The process to adopt, which he referred to as the HOW are we going to achieve the change required; and
- ▶ WHAT IS NEXT? Building the plan for the future.

Corporate restructuring is often divided into two parts:

- ▶ Operational restructuring; and
- ▶ Financial restructuring

#### **4.1.1 Operational restructuring**

This is the process of increasing the economic viability of the underlying business model of a corporate entity. Examples of operational restructuring include mergers, the sale of divisions or abandonment of product lines or cost-cutting measures such as closing down unprofitable facilities.

#### **4.1.2 Financial restructuring**

This relates to improvements in the capital structure of the firm. If the firm is in bankruptcy, this financial restructuring is laid out in a plan of reorganisation, or what is normally referred to as “scheme of arrangement”. Financial restructuring involves restructuring the assets and liabilities of a company, including its debt-to-equity structures, in line with its cash-flow needs to promote efficiency, support growth and maximise the value to shareholders, creditors and other stakeholders. Financial restructuring may take place in response to a drop in sales or due to a slow economy. Financial restructuring may mean refinancing at every level of the capital structure.

In most turnarounds and bankruptcy situations, both financial and operational restructuring would occur simultaneously to save the business. The rest of this chapter will focus on financial restructuring.

The statement of financial position structure of a company comprises the following:

- ▶ Paid up equity
- ▶ Paid up preference share capital;
- ▶ Various reserves; and
- ▶ All borrowings in the form of:
  - long-term loans from financial institutions;
  - debentures;
  - bonds;
  - bank overdrafts, including loans through commercial papers;
  - trade payables; and
  - accrued expenses

A company may require any one or more of the above depending on its financial requirements at a particular point in time. However, a company should constantly review its financial structure from time to time and effect financial restructuring and reorganisation when the need arises. Financial restructuring of a company involves rearrangement of its financial structure so as to make the company's finances more balanced.

#### **4.2 Need for financial restructuring**

A company is required to strike a balance between debt and equity in its capital structure and the funding of the resulting deficit, when necessary. A company will be compelled to think and decide on financial restructuring when:

- ▶ It is necessary to inject more working capital to meet the market demand for the company's products or services;
- ▶ The company is unable to meet its current financial commitments;
- ▶ The company is unable to obtain further credit from its suppliers; and
- ▶ The company is unable to utilise its full production capacity due to lack of working capital.

#### **4.3 Types of financial restructuring**

In accordance with Section 537 of the Companies and Allied Matters Act (CAMA) cap c. 20, LFN 2004, the expression "arrangement" includes any change in the rights or liabilities of members, debenture holders or creditors of a company or any class of them or in the regulation of a company.

There are three types of financial restructuring, these are:

- ▶ Capital reorganisation;
- ▶ Capital reduction; and
- ▶ Capital reconstruction.

All these are normally ways out of financial distress by a company. They may be used individually or in combination of two or all the three to resolve financial distress facing a company. However, usually, capital reduction and capital reconstruction are jointly used in a scheme to solve financial distress. An example in Nigeria is the Union Bank Plc. scheme of arrangement of 2011.

##### **4.3.1 Capital reorganisation**

Capital reorganisation is a situation where a class or classes of shares is or are cancelled or substituted with another class or classes of shares. A capital reorganisation may therefore, be used to effect a change in the relative rights of different classes of shareholders, perhaps when a company is involved in a business combination.

##### **4.3.2 Capital reduction**

A company may wish to reduce its share capital in line with a smaller level of operations. Capital reduction is the reduction of par value of shares to write off accumulated losses. This implies a reduction in the nominal value of the paid up capital of the company. Capital reduction is usually necessitated by accumulation of losses that has eroded the value of the company. Capital reduction may also be as a result of extensive fall in the value of the assets of a company which forces the company to revalue its assets.

##### **Conditions to be fulfilled by a company to carry out a capital reduction**

According to the Companies and Allied Matters Act (CAMA) cap C. 20, LFN 2004, sections 106 to 110 (as amended), a company is not permitted to reduce its share capital. The share capital under this context is interpreted to include share premium,

capital reserve, revaluation reserve, Capital Redemption Reserve Fund (CRRF) and the like. However, a company may be permitted to reduce its capital on the fulfilment of the following conditions:

- ▶ It must be permitted by its articles of association;
- ▶ It must be by a special resolution passed by members at a general meeting; and
- ▶ The reduction must be approved by the court.

Capital reduction scheme can be carried out by a company using one or a combination of the following ways:

- ▶ Reduce or extinguish liability in respect of shares capital not paid up;
- ▶ With or without reducing or extinguishing liability, repay any of its capital that is in excess of its present requirements; and
- ▶ With or without reducing or extinguishing liability, cancel any of its capital that is lost or unrepresented by available assets.

The first and second options result in a reduction in the potential net assets or actual net assets available to creditors. In the first case, there is a reduction in the liability of members and hence, in the potential pool of net assets available to creditors on liquidation. In the second case, resources actually leave the company, directly reducing the pool of net assets to which the creditors have recourse. For these reasons the court will give any creditor an opportunity to object to the capital reduction and will usually only confirm the scheme if the debt of such a dissenting creditor is paid or secured.

Thus, where a company has made losses in excess of previous profits, its net assets will be lower than its permanent capital. Given such a position, it will often be sensible to recognise the fact by reducing the capital and writing off the losses so that a more realistic position is shown in the statement of financial position to allow the company to re-start on a clean slate. After such a scheme the company will be able to distribute realised profits without the need to first make good the accumulated losses from previous years.

The simplest way of carrying out such a capital reduction scheme is to reduce proportionately the nominal value of the ordinary shares outstanding. This has no effect whatsoever on the real value of the ordinary shareholders' interest since the same number of shares in the same company are held in the same proportions by the same people. Each shareholder has the same proportional interest in the net assets of the company after the scheme just as before the scheme.

### **Formulation of a capital reduction scheme**

In formulating a capital reduction scheme, the following principles should be adopted:

- ▶ "Hit" the ordinary shareholders very hard. They are to suffer a greater part of the loss because they are the main risk-bearers of the business and they are the ones who will enjoy the greater benefit when the company is doing well;
- ▶ The scheme should be such that fixed interest security holders (e.g., debenture holder(s)) should not be worse off than they would ordinarily have been in case of out-right liquidation;
- ▶ Consider the possibility of replacing preference shares with loan stock for possible tax gain, but consider effect on leverage;
- ▶ Consider the possibility of raising additional capital through right issue;
- ▶ Make the following preliminary computations:

- The determination of the total losses and the realizable value of the assets assuming an out - right liquidation position;
- Using the total realisable value determined above, discharge the claims against (i.e., liabilities of) the business, based on the order of priority in liquidation or bankruptcy situation as follows:
  - ◇ Creditors with fixed charge (priority list);
  - ◇ Cost and charge of liquidation (priority cost);
  - ◇ Preferential creditors;
  - ◇ Debt holders secured by a floating charge (on the assets);
  - ◇ Unsecured creditors; and
  - ◇ Contributories (i.e., Shareholders, including preference shareholders), where there is a cash balance after settling the unsecured creditors in full, the cash balance will be shared by the contributories and the final losses will only be borne by the ordinary shareholders if the preference shareholders have priority of capital repayment or share between them if otherwise. However, in the new Companies and Allied Matters Act, 2018 already passed but being harmonised by both houses of the National Assembly, there is no longer provision for irredeemable preference shares, the effect of this is that preference shareholders have to be settled before consideration will be given to ordinary shareholders henceforth, in case of liquidation.
- ▶ Formulate the scheme based on the total losses to be recovered, recouped or absorbed by the contributories;
- ▶ Summarise the formulated scheme; and
- ▶ Prepare a revised statement of financial position assuming the formulated scheme is implemented.

### Illustration

Adec Nigeria Plc. has the following summarised statement of financial position:

	₦'000
Net assets	<u>24,000</u>
Share capital	
40,000,000 ordinary shares of 50kobo each, fully paid	20,000
20,000,000 10% preference shares of 50kobo, fully paid	<u>10,000</u>
	30,000
Share premium	<u>4,000</u>
	34,000
Less: accumulated loss	<u>10,000</u>
	<u>24,000</u>

### Note

The preference shares rank for dividend and repayment of capital in priority to ordinary shares.

The company wants to reduce its capital by an amount sufficient to remove the accumulated losses and to write down the net assets to a more realistic value of ₦18,000,000.

Required: Propose a capital reduction scheme for the company.

### Solution

The first thing is to calculate the total amount of capital reduction required.

This is calculated as follows:

	₦
Reduction in the value of net assets (24,000,000-18,000,000)	6,000,000
Accumulated losses	<u>10,000,000</u>
	16,000,000
Less share premium	<u>4,000,000</u>
Capital reduction required	<u><u>12,000,000</u></u>

Therefore, the ordinary share capital will be reduced by ₦12,000,000, that is, from 50 kobo to 20 kobo per share.

The statement of financial position after capital reduction would be as follows:

	₦
Net assets	18,000,000
Share capital:	
40,000,000 ordinary shares of 20 kobo each, fully paid	8,000,000
20,000,000 10% preference shares of 50 kOb0 each, fully paid	<u>10,000,000</u>
	<u><u>18,000,000</u></u>

### Note

The share premium is treated as part of paid up share capital for the purpose of share reduction and was the first to be written off in every share reduction scheme.

The interest of the preference shareholders and the ordinary shareholders have not been altered after the capital reduction scheme. Preference shareholders will get, if the company is liquidated, the first ₦10,000,000 while the ordinary shareholders will receive the balance. If the companies continue profitably, both sets of shareholders will gain, as the company will be able to pay dividends without any need to make good past losses.

The preference shareholders have not been made to suffer any reduction in the par value of their shares because this will put them at disadvantage, since their dividend is based on the par value, unlike the ordinary shareholders.

### 4.3.3 Capital reconstruction

The term capital reconstruction is usually applied to situations where a company is in severe financial difficulties and has to reconstruct its statement of financial position. Such a capital reconstruction scheme will frequently involve a capital reduction. Capital reconstruction scheme is usually carried out as a possible alternative to liquidation

of the company. In such a case, the value of the company's assets may be less than the value of its liabilities and the probable result is that the company will be unable to meet its debts as they fall due. The company must then reach some agreement with its debenture holders and other creditors on how their liabilities are to be treated. To achieve economic viability and return the company to profitability, it will often be necessary to raise new capital from existing shareholders and if, as is likely, the company has accumulated losses, the new shares would probably be unattractive to investors. The writing-down, or reduction, of share capital removes such losses from the statement of financial position to ensure a greater likelihood of

earlier future dividends, thus making the shares more attractive.

Capital reconstruction can be:

- ▶ Internal reconstruction, or
- ▶ External reconstruction.

The difference between them is that, while internal reconstruction does not involve liquidation; external construction does. Where external reconstruction is embarked upon, an entirely new company will be formed to take over the assets and liabilities of the old company which then winds up.

#### **4.3.3.1 Capital reconstruction scheme**

As stated earlier, when a company is in severe financial difficulties, the only alternative to liquidation is capital reconstruction scheme, otherwise, the liquidation of the company would be inevitable. This assumption will influence both the design of the scheme and the way in which it will be evaluated by interested parties.

As the alternative source of benefits to interested parties is the amount receivable on liquidation, it is essential for us to recall the order in which the proceeds from the sale of assets must be distributed by a liquidator.

#### **4.3.3.2 Distribution on liquidation**

It is the duty of a liquidator to sell the assets of a company as advantageously as possible and to pay costs, creditors and shareholders in the following order:

- ▶ Debts secured by a fixed charge. These must be paid out of the proceeds of sale of the particular assets. In practice a receiver will usually be appointed to sell the assets which are the subject of the charge, and to pay the secured creditors the amounts due to them. It will rarely be the case that the proceeds of sale are exactly equal to the costs of the receiver and the amount of the debt. Any excess will be paid over to the liquidator of the company, while, to the extent of any deficiency, the creditors are treated in the same way as other unsecured creditors;
- ▶ Costs of the liquidation, in the order specified by law;
- ▶ Preferential creditors. These are listed in Schedule 6 to the Insolvency Act, 1986 and include income tax deducted from employees' emoluments under PAYE, value added tax, contributions to pension schemes and remuneration of employees. There are limits to each of these categories so, for example, PAYE is preferential to the extent of one year's deductions, value added tax to six months, social security contributions up to one year and remuneration of employees up to four months. To the extent that only a part of a debt is preferential, the remainder will be treated as an unsecured creditor;
- ▶ Creditors secured by a floating charge;
- ▶ Unsecured creditors, including the amounts mentioned in bullets 1 and 3 above; and
- ▶ Shareholders of the company in accordance with their rights as laid down in the company's articles of association. Preference shares will normally be paid before any amounts are paid to ordinary shareholders. Where the amounts available are insufficient to pay any of the above groups in full, each member of the particular group receives the same proportion of the amount of his debt. This proportion is determined by dividing the amount

available for a particular group by the total amounts due to that group.

#### **4.3.3.3 Designing a capital reconstruction scheme**

Where a company is in financial difficulties, the objective in the design of a capital reconstruction scheme will be to produce an entity which is a profitable going concern. In some cases, the financial difficulties may be so severe that this is impossible that is, no matter how skilfully a capital reconstruction scheme is designed, it is not possible to return the company to profitability.

Where the financial difficulties are less severe and the company is capable of operating profitably, a capital reconstruction scheme may have a high probability of success. In order to achieve that success, it will usually be necessary to relieve the company of its burden of immediate debts and will often be necessary to raise new finance, probably by a new issue of shares.

Any capital reconstruction scheme which affects the rights of creditors and shareholders will require the necessary majorities of votes in favour of the scheme as required by s. 539 of the Companies and Allied Matters Act, cap 20 LFN 2004, together with the sanction of the court. Hence, to stand any chance of success, the scheme must give each interested party the same amount as or more than they would receive on liquidation of the company. In addition, the scheme must be accepted as fair and equitable by the various interested parties. It must ensure that no one class of creditors or shareholders is favoured at the expense of any other, so that all creditors and shareholders are treated – and feel that they are treated fairly.

In practice, both capital reduction and capital reconstruction are combined in any scheme of arrangement that is required to write off accumulated losses and or to write down the company's assets to its realisable value.

#### **4.3.3.4 Evaluation of a capital reconstruction scheme**

In evaluating a capital reconstruction scheme, as in designing it, the aim must be to establish the relative fairness and equity of the changes in rights as a result of the scheme. In most cases, professional advisers are called upon by each class of members and creditors to evaluate the scheme from their point of view and, in order to do this, it is necessary to evaluate the scheme as a whole since the changes of relative rights will be extremely important.

The rights of participants fall into two classes: the capital repayment rights and the income participation rights. In order to make an appropriate comparison of these, it is helpful to set out the interest of the various parties in the company both before and after the proposed reconstruction.

#### **Illustration**

A summarised statement of financial position of Tadex Plc on 31 December 2017 is as follows:

#### **Tadex Plc**

#### **Statement of financial position on 31 December 2017**

	₦000	₦000
PPE at cost less depreciation:		
Land and buildings	5,000	
Plant and machinery	<u>2,000</u>	
		7,000
Current assets		

Inventories	2,000	
Receivables	<u>3,000</u>	<u>5,000</u>
		12,000
less Current liabilities		
Bank overdraft	6,000	
Payables	2,000	
Arrears of debenture interest	<u>500</u>	<u>8,500</u>
		3,500
Financed by		
10% secured debentures (note (a))		2,500
4 million authorised and issued 50 kobo		
5% cumulative preference shares		2,000
8 million authorised and issued 50 kobo		
ordinary shares	<u>4,000</u>	
	6,000	
less Accumulated losses	<u>5,000</u>	<u>1,000</u>
		<u>3,500</u>

The following information is available:

- ▶ The debentures are secured on the office premises, the net realisable value of which is estimated to be ₦1,800 000;
- ▶ The other land and buildings are estimated to have a net realisable value of ₦3,800,000;
- ▶ The net realisable value of the plant and machinery is estimated to be ₦1,000 000, of the inventories ₦1,500,000, and the recoverable debts are now estimated to be ₦2,850,000;
- ▶ The preference dividend has not been paid for four years;
- ▶ The debenture interest is two years in arrears; and
- ▶ The articles provide that, on liquidation, the preference shareholders rank for repayment at par prior to any distribution to the ordinary shareholders.

The directors of Tadex Plc. have secured the agreement of the various interested parties as follows:

- ▶ The debenture holders are prepared to agree to a reconstruction scheme, provided the rate of interest is increased from 10 to 15 per cent per annum, and they are given a fixed security on the total land and buildings, rather than just the office premises, of the company. They are also willing to accept ordinary shares in lieu of ₦250,000, that is one of the two years' interest in arrears;
- ▶ The bank is prepared to agree to a reconstruction scheme provided its debt is secured by a floating charge over the assets of the company, thus improving its position vis-à-vis any other creditors of the reconstructed company. They would be willing to provide the same amount of finance for the medium term;
- ▶ The trade creditors are unlikely to agree to any reduction in their claims but are thought to be willing to supply the reconstructed company and to continue to grant credit on normal terms;
- ▶ The preference shareholders would be willing to forgo their arrears of dividend and to accept ordinary shares instead of preference shares;
- ▶ The directors consider that, if the company is able to raise an additional ₦2million in cash by a rights issue, it will be able to commence trading

successfully. Expected annual earnings before debenture interest and dividends will then be at least ₦600 000 and, due to accumulated tax losses, no corporation tax will be payable in the foreseeable future;

- ▶ Debenture holders, preference shareholders and ordinary shareholders are willing to subscribe for new ordinary share capital in the company;
- ▶ Costs of the reconstruction scheme are expected to be ₦120,000; and
- ▶ In the absence of a satisfactory scheme, the company will have to be liquidated involving costs of ₦590,000.

### Solution

The first step is to determine the total amount of capital reduction required as follows:

	₦'000
To correct the value of plant and machinery	1,000
To correct the value of inventories	500
To correct the value of receivables	150
To eliminate the adverse balance on the profit or loss account	5,000
To provide for the costs of the scheme	<u>120</u>
	6.770
Less surplus on revaluation of land and buildings	<u>600</u>
	<u>6.170</u>

The next thing is to determine what each class of creditors and shareholders would receive if the company were to be liquidated.

The realisable value of the assets and the way in which they would be distributed are as follows:

	₦'000	₦'000
Office premises	1,800	
less Payable to debenture holder secured on office premises	<u>1,800</u>	–
Other premises		3,800
Plant and machinery		1,000
Inventories		1,500
Receivables		<u>2,850</u>
		9,150
less Costs of liquidation		<u>590</u>
Available for unsecured creditors		<u>8,560</u>
Unsecured creditors:		
Bank overdraft		6,000
Debenture holders		
Capital	2,500	
Interest	<u>500</u>	
	3,000	
Less: Paid out of security as above	<u>1,800</u>	1,200
Payables		<u>2,000</u>
		<u>9,200</u>

Nothing is mentioned concerning preferential creditors, so they are not considered here, otherwise, the total preferential creditors will be deducted from the amount available before distributing the rest to the unsecured creditors.

There would be ~~₦8,560,000~~ available to meet unsecured creditors of ~~₦9,200,000~~ with the result that each of these creditors, including the debenture holders to the extent that they are unsecured, would receive 93 kobo in the N1.

The various parties would therefore receive the following amounts on liquidation of the company:

	₦000
Bank (0.93 × <del>₦6,000,000</del> )	5,580
Debenture holders (1,800 000 + 0.93 × 1,200,000)	2,920
Payables (0.93 × 2,000,000)	1,860
Preference shareholders	0
Ordinary shareholders	<u>0</u>
	<u>10,360</u>

Thus, all parties would lose on liquidation, so there is an incentive for them to agree to a suitable reconstruction scheme. It is clear that any loss under the scheme must fall most heavily on the shareholders.

Design a scheme of reconstruction as follows:

	Reduction ₦'000
▶ 8 million 50 kobo ordinary shares each to be reduced to ½ kobo ordinary shares	3,960
▶ 4 million 50 kobo preference shares to be cancelled in exchange for 4 million ½ kobo ordinary shares	1,980
▶ The granting of an increased rate of interest of 15 per cent p.a. and a fixed charge on all premises to the debenture holders and the waiving of <del>₦250 000</del> of interest in arrears in exchange for 4 million ½ kobo ordinary shares ( <del>₦20 000</del> )	230
▶ The granting of a floating charge on the debt due to the bank	–
▶ Consolidation of the 16 million ½ kobo ordinary shares into 160, 000 50 kobo ordinary shares	–
▶ The making of a rights issue of 25 ordinary shares for each 50 kobo ordinary share held, thus raising cash of <del>₦2,000 000</del> . Thus, finance would come from old ordinary shareholders ( <del>₦1,000 000</del> ), old preference shareholders ( <del>₦500,000</del> ) and old debenture holders ( <del>₦500,000</del> )	=
<b>Total reduction achieved as required</b>	<u><b>6,170</b></u>

A new statement of financial position will be prepared as follows:

**Tadex plc**

**Statement of financial position after scheme**

	N000	N000
PPE – at valuation		
Land and buildings	5,600	
Plant and machinery	<u>1,000</u>	
		6,600
Current assets		
Inventories	1,500	
Receivables	2,850	
Cash	<u>2,000</u>	
	6,350	
less Current liabilities:		
Bank overdraft (secured)		6,000
Debenture interest (1 year)	250	
Payables	2,000	
Cost of reconstruction	<u>120</u>	
	<u>8,370</u>	<u>(2,020)</u>
		4,580
less 15% Debentures (secured on land and buildings)		<u>2,500</u>
		<u>2,080</u>
Share capital		
4,160,000 50 kobo ordinary shares, fully paid		<u>2,080</u>

Note: The apparently poor current ratio is due to the fact that the bank overdraft is included in current liabilities, in accordance with normal practice, whereas it is in fact medium-term capital.

**Evaluating the scheme**

Summary of the interests of the relevant parties before and after the scheme.

**Evaluation of proposed scheme – comparison of interests**

<b>Class</b>	<b>Original Interest prior to scheme</b>	<b>Interest after scheme</b>
Bank	N6,000,000 unsecured Overdraft.	N6,000,000 secured Overdraft.
Debenture holders	N2,500,000 partly secured 10% debentures plus N500,000 arrears of interest.	N2,500,000 fully secured 15% debentures plus N250,000 arrears of interest plus one-quarter of the ordinary shares.

Payables	₦2,000,000 unsecured debt.	₦2,000,000 unsecured debt
Preference shareholders	₦2,000, 000 50kobo 5% preference shares.	One-quarter of the ordinary shares.
Ordinary shareholders	All ordinary shares.	One-half of the ordinary shares.

We have already considered the amounts each class would receive should the scheme be rejected and the company forced into an immediate liquidation. We need to compare this with the position following the reconstruction. This will be done by evaluating three alternative possible outcomes, assuming that:

- ▶ Despite the scheme, the company goes into liquidation immediately after the end of the capital reconstruction;
- ▶ Earnings are as expected, about ₦600 000 per annum; and
- ▶ Earnings are more than anticipated, say, ₦1,000,000 per annum.

### Scenario 1

Assuming the costs of the reconstruction scheme are paid, and the company eventually went into liquidation immediately thereafter, the position would be as follows:

#### Position on liquidation after scheme

	₦'000	₦'000
Amount receivable from sale of premises	5,600	
less Debentures		
Capital	2,500	
Interest	<u>250</u>	
	2,750	
		2,850
Amount realised from other assets:		
Plant and machinery	1,000	
Inventories	1,500	
Receivables	<u>2,850</u>	
		5,350
Cash (2,000,000 – 120,000)		<u>1,880</u>
		10,080
Less: Costs of liquidation		<u>590</u>
		9,490
Less: Bank secured by floating charge		<u>6,000</u>
		3,490
Less: Payables		<u>2,000</u>
Available for ordinary shareholders		<u>1,490</u>

Divisible:		
Old debenture holders( $\frac{1}{4}$ )	372	
Old preference shareholders ( $\frac{1}{4}$ )	372	
Old ordinary shareholders ( $\frac{1}{2}$ )	<u>746</u>	
		<u>1,490</u>

So, on liquidation immediately after the scheme the original parties would receive the following amounts:

	₦'000
Bank	6,000
Debenture holders (2,750,000 + 372 000)	3,122
Payables	2,000
Preference shareholders	372
Ordinary shareholders	<u>746</u>
	<u>6120</u>

Debenture holders and preference shareholders have, of course, subscribed ₦500,000 each for new ordinary share capital while ordinary shareholders have subscribed ₦1,000,000.

### Scenario 2

Assuming earnings are as expected, ₦600,000 per annum, and income tax would not to be paid, the position would be as follows:

	₦	₦
Old debenture holders		
Interest 15% of ₦2,500,000	375,000	
Share of balance $\frac{1}{4}$ (600 000 – 375,000)	56,250	431,250
Old preference shareholders		
$\frac{1}{4}$ (600 000 – 375,000)		56,250
Old ordinary shareholders		
$\frac{1}{2}$ (600 000 – 375,000)		<u>112,500</u>
		<u>600,000</u>

### Scenario 3

Assuming earnings turn out higher than expected, say N1,000,000, the position would be as follows:

	₦	₦
Old debenture holders		
Interest – as above	375,000	
Share of balance $\frac{1}{4}$ (1,000 000 – 375,000)	<u>156,250</u>	531,250
Old preference shareholders		
$\frac{1}{4}$ (1,000,000 – 375,000)		156,250
Old ordinary shareholders		
$\frac{1}{2}$ (1,000,000 – 375,000)		<u>312,500</u>
		<u>1,000,000</u>

The next thing is to prepare a table to compare the various positions, before the scheme and after the scheme, to help us evaluate the acceptability of the scheme, as follows:

### Positions of parties before and after proposed scheme

Original class	Amount receivable on liquidation before scheme ₦'000	New capital introduced ₦'000	Position after scheme		
			Amount receivable on liquidation after scheme ₦'000	Share of earnings ₦600,000 ₦'000	Share of earnings ₦1,000,000 ₦'000
Bank	5,580	–	6,000	n/a	n/a
Debenture holders	2,920	500	3,122	431.25	531.25
Trade creditors	1,860	–	2,000	n/a	n/a
Pref. shareholders	–	500	372	56.25	156.25
Ord. shareholders	–	1,000	746	112.50	312.5

### Conclusion:

From the above calculations, all parties will benefit from the scheme as follows:

- ▶ The conversion of the bank's unsecured debt to secured debt will put the bank in a position to receive more on liquidation than before the scheme;
- ▶ On an immediate liquidation, the debenture holders would receive ₦3,200,000, whereas if they invest a further ₦500,000 they will obtain a higher rate of interest on their debentures, a higher level of security and one-quarter of the ordinary shares in the reconstructed company. Although they would only receive ₦3,122,000 on a liquidation after the scheme, their share in future earnings is attractive. If the level of future earnings is ₦600,000, their rate of return is approximately 12.6 per cent, that is ₦431,250 divided by the amount of ₦3,420,000 (2,920,000 + 500,000) effectively invested. If future earnings are ₦1,000,000, the rate of return rises to approximately 18.2 per cent;
- ▶ Trade creditors (payables) would receive more in a liquidation after the scheme than before it; and
- ▶ Both preference shareholders and ordinary shareholders would appear to benefit considerably from the scheme. Although they would not receive back their new investment if a liquidation occurred immediately after the scheme, their potential earnings yield is high. If future earnings are ₦600,000, the yield is 11.25 per cent (56.25/500) while, if earnings are ₦1,000,000, the yield rises to 31.25 per cent (156.25/500).

If all the parties are happy with the scheme, they will vote in favour of it at their respective meetings. Provided it is confirmed by the court, the scheme will become operative as soon as a copy of the court order is lodged with the Corporate Affairs Commission. If any of the parties are unhappy with the scheme, it will be necessary to amend it. If, at the end of the day, agreement on a satisfactory scheme cannot be reached, the company will be liquidated.

Professional level  
Case study

CHAPTER

5

## Business analysis

### Contents

- 5.0 Purpose
- 5.1 Introduction
- 5.2 Operational and strategic analysis, business trusts and ethical awareness
- 5.3 Operational and strategic analysis in Case Study
- 5.4 Techniques for answering examination questions

## 5 BUSINESS ANALYSIS

### 5.0 Purpose

By the end of this chapter you should be able to:

- ▶ Understand what business strategic and operational analyses involves;
- ▶ Carry out operational and strategic analyses in Case Study; and
- ▶ Understand techniques for answering examination questions.

### 5.1 Introduction

The Case Study examination requires the analysis of a business from a number of different perspectives:

- ▶ Financial statement analysis (see Chapter 2);
- ▶ Financial data analysis (see Chapter 3); and
- ▶ Operational and strategic analysis (Chapters 5 and 6).

These three perspectives form the basis for the two main requirements in the Case Study examination, each of which has an equal weighting. Although this Study text covers all these three aspects of business analysis, each topic is presented so that it can be studied individually. However, none of these topics should be viewed independently. They are intertwined because the financial statement analysis – the analysis of how the business has been performing in its immediate past, informs the financial data analysis – which usually considers a current issue facing the business. The analysis of the business from these two perspectives (past and present) informs, and is informed by, the operational and strategic analysis, which considers the business from the present to the future.

### 5.2 Operational and strategic analysis, business trusts and ethical awareness

In general, the analysis of the business from these perspectives involves a comprehensive review of all aspects of business activity, current and future, with an emphasis on arriving at / deciding on the most appropriate course of action for the organisation.

#### **Operational and strategic analysis involves:**

- ▶ The identification, analysis and consideration of the factors, statements and explanations offered in relation to the activities currently being conducted by a business and the route that business is currently following in delivering its operations.
- ▶ The consideration of the proposed route and activities that a business might pursue going forward, taking into account all internal and external factors, and potential changes in these factors.
- ▶ The analysis of a full spectrum of activities from the consideration of the overall business, down to a detailed analysis of a business unit, revenue stream, or single operation.

There are a number of well-tested analytical techniques to assist with the analysis (these are discussed in chapter 6).

### **Business trust and ethical awareness**

- ▶ This area of analysis, which for the sake of brevity can be encapsulated by the phrase “business ethics”, requires the application of professional ethical standards and careful consideration of business behaviour, topics, scenarios and issues that are presented regarding the organisation.
- ▶ Professional accountancy bodies have issued guidance on professional ethical standards that their members must comply with (this is covered in chapter 7). However, it is the application of those professional standards when dealing with a client business or related organisation which, for a professional ICAN chartered accountant, can be the most challenging.
- ▶ The application of those professional standards in a dynamic business situation is a subjective process that requires a high level of ethical awareness in order to identify potential areas of concern. Having identified an ethical issue, the subsequent analysis and evaluation of that issue within the context of the organisation and the application of professional judgement leading to conclusions and recommendations to resolve the issue requires an even higher level of professional skill and confidence.

Candidates should note that:

- ▶ Identifying matters of ethical concern can be difficult because an issue will not be explicitly presented with the title “business trust or ethical factor”; and
- ▶ Operational and strategic analysis and the consideration of business ethics require a thorough understanding of the business operations as presented in the Case Study. This is achieved through logical and structured analysis, the identification of issues and options, followed by critical evaluation and the exercise of professional judgement. Included in this process is the application of professional scepticism and the ability to identify any potential business trust issues. It is a topic where there is a need for unambiguous conclusions and clear recommendations as an outcome.

## **5.3 Operational and strategic analysis in the Case Study**

### **5.3.1 Analysing the Case Study information**

The Case Study examination paper provides the business scenario covering all the relevant aspects of the business. It contains the information for the structured analysis of the operations and strategy, and the identification of any potential business trust or ethical issues for the organisation under review. To a large extent this analysis considers the non-financial information as presented but this is clearly linked to the financial information concerning the organisation.

In order to structure this analysis, there are a number of analytical tools or techniques which have been developed and with which all candidates should be fully aware. These are fully discussed in chapter 6. Some of these are:

- ▶ PESTLE: Political; Economic; Social; Technological; Legal; Environmental;
- ▶ SWOT: Strengths; Weaknesses; Opportunities; Threats; and
- ▶ Porter’s Five Forces: Threat of new entrants; rivalry; threat of substitution; supplier power; buyer power.

These are presented in the order in which they should be considered because a PESTLE analysis will be included and form part of a SWOT analysis and a further development of the SWOT analysis will usually occur by conducting a Porter's five forces analysis. These three tools are most of the time used together when analysing a business environment, which comprises the macroeconomic environment, the industry/ task environment and the internal environment in strategic analysis of the business.

It is extremely unlikely that you will be asked to reproduce a full PESTLE, SWOT and Porter' five forces analysing a Case Study examination. However, you will be expected to include relevant aspects or items from this type of analysis in a focussed discussion on an operational or strategic issue facing the organisation.

Therefore, you must be prepared (and able) to use these analytical techniques accurately and speedily in the examination to enable you to structure your non-financial analysis.

Candidates must understand that, as with other techniques described in the financial analysis sections, the same situation holds true for non-financial analysis: although, it is assumed in Case Study examination that, candidates would have studied these techniques previously, it is extremely unlikely that they will have had the opportunity to apply these techniques to the volume of information that is presented in the Case Study scenario. It is therefore important that candidates practise this analysis themselves

and by such practice become fully competent at using these techniques with speed. Overall, operational and strategic analysis techniques are all about identifying the positive and negative aspects relating to an organisation's operations, both internally and externally, in order to conduct a structured evaluation of the business. Candidates must be prepared to integrate this broader analysis into a focussed answer on whatever aspects that are being tested in the examination paper.

### **5.3.2 Using an industry awareness**

Although candidates are not expected to have detailed specific knowledge of the industry depicted in the Case Study scenario, the information provided may indicate that the business operates in a well-known environment/sector. Consequently, some questions that you might need to keep in mind are:

- ▶ What are the current issues in this industry (e.g. recession in the retail sector affects all retail operations to an extent)?
- ▶ What is the impact of the wider economy on the industry (e.g. fall in the value of the national currency helps exporting businesses but increases costs of importing)?
- ▶ What are the top companies in this sector doing at the moment (e.g. companies are looking at the impact of e-commerce on their operations and making investments to improve their e-commerce)?

ICAN candidates should make it part of their normal routine reading to keep up to date with the financial, business newspapers/magazines and other quality press and to be as informed as possible about matters that are likely to affect clients and business activity, whether it is something general like a change in government policy, a change in exchange rates, inflation figures, or details about something more specific such as a major issue affecting an industry or a landmark legal ruling affecting a company. This includes awareness about any publicity (good or bad)

about commercial organisations in general – because issues affecting other organisations (and public opinion about those issues) may form part of a similar topical scenario in the Case Study.

Candidates do not need to write a great deal about the wider context in which a business operates; only a few sentences will suffice. It is always worth bearing in mind that Case Study examination papers are written some time before the examination date. This means that, if a significant event occurs in the real world which affects the business scenario under review, candidates should not dismiss any aspect of the requirement but include any appropriate new commercial factors as part of the wider context to their report.

### 5.3.3 Operational and strategic analysis in the examination

- ▶ **Operational analysis:** This area of analysis can manifest itself in the requirements as a request to consider an operational issue, such as a new business opportunity or a limiting factor or series of factors, which might affect the current and future operations of an aspect of the business. It might also cover the types of issues which affect the way a business interacts with its customers or suppliers in the course of its trading activities – such as a series of factors which have implications for continuing to deliver high quality business.
- ▶ **Strategic analysis:** This area of analysis usually deals with the longer term aspects of business planning and is often considered in conjunction with (or as part of) the wider context. As with all analysis, it involves identifying and using the relevant data from the Case Study scenario to form the necessary focus for an answer or more normally part of an answer, or to provide a business context for an aspect of the answer.

The operational and strategic aspects of questions are usually posed in the following way, (using phrases such as):

- ▶ “Consider the benefits and risks of [undertaking a certain course of action]” concerning an option which might face the business or
- ▶ Consider what the business should do to mitigate/improve a situation (or series of incidents).

## 5.4 Techniques for answering examination questions

In some instances, pointers to how the question should be answered are given in the relevant exhibits by:

- a) A range of criteria, facts and factors within the information provided;
- b) A series of numbered or bulleted points indicating the areas of concern; and
- c) The available alternatives listed.

In the instances considered above, the candidate is then expected to:

- a) Identify and comment (provide a professional opinion) on the criteria, facts and factors;
- b) Review and act on the areas of concern – very much like an audit management letter (dealing with weaknesses); and
- c) Make choices (with clear reasons) or prioritise from the alternatives listed.

Candidates must be prepared to apply audit management letter structures and techniques in considering an operational or strategic issue, and writing an answer by:

- ▶ Identifying (or responding to) the incident or issue;
- ▶ Considering its impact on the business: positive; detrimental; difficult to determine (or neutral);
- ▶ Evaluating the consequences of each aspect of the issue (where possible, attempt to quantify even if only “significant”); and
- ▶ Making a decision – that is providing a conclusion – together with any recommendations.

As with any management letter to a client identifying issues (weaknesses) and evaluating consequences before making recommendations, do not start with immaterial issues (like problems with petty cash). Most businesses exist to make profits for their owners and so an overriding criterion is going to be the potential financial impact of any decision. Candidates need to be aware of the underlying financial impact, within an appropriate time frame, even if they are conducting non-financial analysis as part of a requirement.

There are usually some financial factors, numerical criteria or other information to provide an indication of materiality or financial importance concerning the issue. These factors indicate:

- ▶ The relative importance of the issue in relation to a revenue stream;
- ▶ The potential impact on the whole or part of the business, and its main or subsidiary operations;
- ▶ An external or internal financial yardstick against which to evaluate any yes/no decision; and
- ▶ The possible financial effect of choosing positively or negatively (i.e. acting or not acting) on an issue.

In answering any part of a question which involves non-financial analysis, candidates must also make sure that they are using business “common-sense” as well as their analytical skills. Of particular importance is the ability of the candidate to use professional scepticism in this area of analysis.

However, candidates should never put a heading of “Professional Scepticism” in their report. Their professional scepticism must be demonstrated through integration with their analysis and evaluation in the relevant areas.

# Strategic and performance management tools

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## 6 STRATEGIC AND PERFORMANCE MANAGEMENT TOOLS

### 6.0 Purpose

By the end of this chapter you should be able to:

- ▶ Understand and apply strategic management analysis tools; and
- ▶ Understand and apply performance management tools.

### 6.1 Introduction

Business strategic and operational analysis in Case Study examination involves understanding and analysing, from a given scenario, a business strategic thrust and operational efficiency that supports the attainment of the business' strategic and operational objectives.

Strategic analysis involves the following:

- ▶ Environmental analysis;
- ▶ Internal analysis; and
- ▶ Strategic choice.

#### **Analysis of external environments**

Environmental or external analysis is the scanning and evaluation of the business external environment to identify opportunities and threats that face the business. Strategies will then be developed to take advantage of the opportunities and ameliorate the threats. The external environment involves factors beyond the control of the company but which, nevertheless, are relevant to and affect the company. The factors affecting external environment will be difficult or impossible for companies to control and direct. The external environment comprises the macro environment and industry environment. The industry environment is where the company buys its inputs, sells to its customers the goods and services it produces; and where it also competes with rivals who produce similar goods. The macro environment of a company consists of the political, economic, socio-cultural, technological, ecological and legal factors that directly or indirectly affect the operations of the company. Environmental analysis is important for developing a sustainable competitive advantage; identifying opportunities and threats; and providing opportunities for productive co-operation with other companies.

Assessing the environment gives insight into current and potential changes that may have influence on the company's operations. These changes will have impact on the company's strategies, and the creation of special techniques required understanding them. Each company must determine what factor is relevant to its business, because there are no formulae to guide the choice of environmental factors to consider. Scholars agreed that scanning and monitoring the external environment is important in strategic management.

Models useful for this environmental analysis are:

- ▶ PESTEL; and
- ▶ Porter's diamond model.

External analysis may also involve industry or task environment, which is the analysis of the company's competitive position in the industry where it operates.

Models for industry analysis include:

- ▶ Porter's five forces; and
- ▶ Boston consulting group model.

### **Analysis of internal environment**

Internal analysis involves carrying out a position audit of the business to identify strengths and weaknesses within the business, such as its products, management, technology, liquidity, suppliers' quality; existing customers, cost structure, etc.

Strategies are then developed to exploit fully the business' strengths and remove or reduce significantly the weaknesses.

Models useful for position audit include:

- ▶ Value chain analysis;
- ▶ Boston consulting grid;
- ▶ Gap analysis;
- ▶ Benchmarking; and
- ▶ M's

The combination of the two sets of analyses above, the external and internal analysis is known as corporate appraisal. Results from this corporate appraisal (strengths and weaknesses, and opportunities and threats) are then compared with the business' mission statement and strategic objectives to discover the gap which the business must fill to achieve its strategic objectives. Strategies that will enable the business achieve its strategic objectives are then crafted by building on its strengths to exploit opportunities present in the environment and removing or significantly reducing its weaknesses while ameliorating threats in the environment.

Other useful models in corporate appraisal are:

- ▶ SWOT analysis;
- ▶ Porter's generic strategies;
- ▶ Ansoff matrix;
- ▶ Resource audit;
- ▶ Business capacity analysis; and
- ▶ Boston business process model.

Generally, as strategies are implemented, the firm needs to carry out an evaluation of the effectiveness of its strategies in achieving stated objectives and suggesting alternative strategies where the objectives have not been met. This process is called performance management. Models useful for performance management are:

- ▶ Critical success factors (CSF's);
- ▶ Key performance indicators (KPI's);
- ▶ Balanced scorecard;
- ▶ Value for money audit; and
- ▶ Economic value added (EVA).

## 6.2 Strategic management tools

### 6.2.1 PESTEL

PESTEL analysis is a structured way of evaluating the external environment of a business. The purpose of this analysis is to give insight into current and potential changes in the environment that may have influence on the business' operations. Therefore, for ease of analysis, these environmental factors have been grouped into six categories, these are:

P – Political environment;

E – Economic environment;

S – Social-cultural environment;

T – Technological environment;

E – Ecological influence; and

L – Legal environment.

PESTEL is an extension of STEP/PEST tool frequently used for environmental analysis. This tool highlights the key areas in the environment that can affect industries and companies within the environment. Each of the factors is discussed below.

#### **Political environment**

The political environment consists of political factors that may have a strong impact on firms operating in a particular state, region or country. Generally, a firm's investment decisions will be influenced by factors such as:

- ▶ Government/political stability of the country;
- ▶ Threat of government actions, such as threat of nationalisation and indigenisation of industry;
- ▶ Wars and civil restiveness; and
- ▶ Terrorists activities.

For firms operating in countries with volatile political systems or under dictators, political consideration is very important.

#### **Economic environment**

Economic environment consists of the influence of macroeconomic variables on firms and the effect of changes in such economic variables on future business prospects. Such economic factors include:

- ▶ Growth rate in the economy;
- ▶ Rate of inflation;
- ▶ Exchange rate;
- ▶ Interest rate;
- ▶ Unemployment levels;
- ▶ Availability of skilled and unskilled labour;
- ▶ Wage rate;
- ▶ Government tax policy and tax rate;
- ▶ Availability of government subsidies to industry;
- ▶ Existence or non-existence of free trade; and
- ▶ Existence of economic blocs such as ECOWAS.

These economic variables would affect a firm's decision on where and in which industry to invest.

### **Social and cultural environment**

There are several social and cultural factors, usually different from state to state, region to region and country to country that can affect firms operating in the state, region or country. These social and cultural factors normally exert influence on the way business is conducted; therefore, a firm must take these factors into consideration. Some of these social and cultural factors are:

- ▶ The attitudes, values and beliefs of customers, employees and the general citizenry;
- ▶ Patterns of work and leisure, such as length of work week and view of what constitutes leisure.
- ▶ Ethnic structure of society;
- ▶ Influence of religion and society's attitude to religion; and
- ▶ Proportion of different age groups.

### **Technological environment**

The technological environment consists of changes in technological factors within the economic environment. Changes in technological factors normally affect all the organisations operating in the environment.

In the modern economy, the rate of changes in technology is so rapid that firms that do not monitor and respond to such changes risk losing their market share. Technological changes will definitely have significant influence on a firm's investment decision, research and development, etc.

### **Ecological influences**

Ecological or environmental factors are important considerations for companies operating in some industries. For example, companies operating in the oil industry must take into consideration the effect of their operations on the environment where they are operating. Ecological factors are particularly important for industries that are:

- ▶ Subject to strict environmental legislation, or the risk of stricter legislation in the future, such as legislation to cut levels of environmental pollution and or noise;
- ▶ Faced with the risk that their source of raw materials will be used up, such as companies operating in the timber industry; and
- ▶ At the leading edge of technological research, such as companies producing genetically modified foods.

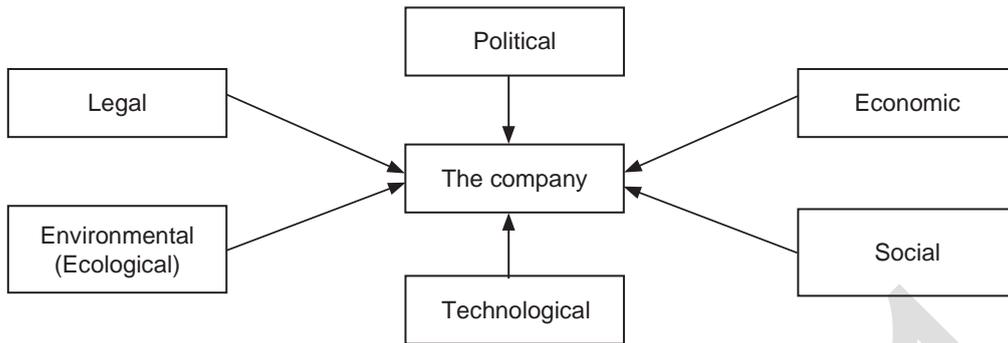
### **Legal environment**

The legal environment consists of the laws and regulations affecting firms and the potential laws and regulations in a country of operation in the future.

Legal considerations may affect a firm's strategic decisions, such as:

- ▶ Relocation of operations from a country with harsh tax system to a country with a more favourable tax system;
- ▶ Employment laws in different countries could also affect a firm's decision on where to locate its operations; and
- ▶ The way a firm operates may be affected by environmental legislation, health and safety legislation, etc. in the country of operations.

## PESTEL MODEL



The table below shows the summary of specific items that can be included inside the elements of PESTEL.

<p><b>Political (P)</b></p> <ul style="list-style-type: none"> <li>▶ Government regulations</li> <li>▶ Environmental regulations</li> <li>▶ Tax policy</li> <li>▶ Trade restrictions and agreements</li> <li>▶ Political stability (e.g. date of next election)</li> <li>▶ Terrorists activities</li> </ul>	<p><b>Economic (E)</b></p> <ul style="list-style-type: none"> <li>▶ Inflation</li> <li>▶ Employment</li> <li>▶ Interest rates</li> <li>▶ Currency exchange rates</li> <li>▶ GDP/Economic growth rate</li> </ul>
<p><b>Social (S)</b></p> <ul style="list-style-type: none"> <li>▶ Population growth</li> <li>▶ Age demographics</li> <li>▶ Numbers going to university</li> <li>▶ Attitudes towards health</li> <li>▶ Attitudes towards pensions/savings</li> <li>▶ Attitudes toward leisure</li> <li>▶ Value system</li> </ul>	<p><b>Technological (T)</b></p> <ul style="list-style-type: none"> <li>▶ Rate of technological change</li> <li>▶ Innovation and automation</li> <li>▶ Research and development incentives</li> <li>▶ Skill needed of workforce</li> <li>▶ 'Make or buy' possibilities</li> </ul>
<p><b>Ecological (E)</b></p> <ul style="list-style-type: none"> <li>▶ Sustainability issues</li> <li>▶ Green issues (food miles)</li> <li>▶ Local impact (disruption/improvement)</li> <li>▶ Environmental pollution</li> <li>▶ Health and safety</li> </ul>	<p><b>Legal (L)</b></p> <ul style="list-style-type: none"> <li>▶ Contract law</li> <li>▶ Company law</li> <li>▶ Employment laws</li> </ul>

### Limitations of PESTEL analysis

This technique does not adopt a quantitative approach to measurement because PESTEL factors generally have a qualitative (subjective) structure, therefore, measurement cannot be generally made. Using PESTEL does not allow the factors constituting the external environment of the company to be objectively or rationally analysed. PESTEL analysis mainly provides a general idea about the macro environment and situation of a company within the environment. Also, most of the factors in the external environment of a business are beyond controls of companies, they can only adapt to them.

The PETSEL approach to environmental analysis does not allow a detailed and objective analysis of the macro environment because in practice, factors within the external environment would not be expected to have equal influence on commercial activities. While some of the factors might have significant or critical effects on company operations or success, others might have limited effects. Thus, there is need for a technique that allows for measurement of the relative importance of factors and sub-factors in evaluating the macro environment of the company.

The issue of holistic perspective to environmental analysis involves considering the relations and interactions between PESTEL factors. Independent measurement and evaluation of each macro environmental PESTEL factors might not reflect the real situation. For example, a political situation might give rise to economic and socio-cultural implications, therefore, PESTEL analysis should adopt an approach based on the inter-dependence of the factors. It might be difficult to isolate political conditions from legal arrangements or economic conditions.

## **6.2.2 SWOT analysis**

### **Introduction**

SWOT analysis is used to carry out a corporate appraisal in strategic management by firms. It is used to identify key factors that might affect firms' strategic choices. SWOT analysis is an analysis of internal strengths and weaknesses, and opportunities and threats in the operating environment. SWOT can be seen as:

- ▶ S – Strengths: Internal strengths that comes from the resources and capabilities of the firm;
- ▶ W – Weaknesses: Internal weaknesses in the resources of the firm;
- ▶ O – Opportunities: Factors in the external environment that could be exploited to the firm's strategic advantage; and
- ▶ T – Threats: Factors in the external environment that could create risks for the firm's future prospects.

Strengths and weaknesses relate to the firm's internal capabilities and core competencies, while opportunities and threats relate to the factors in the external environment. SWOT is therefore, a technique for summarising the results from the external and internal analysis carried out by the firm, which enables the firm to develop appropriate strategies to achieve stated strategic objectives. It is based on the assumption that an effective strategy is one that derives from a good fit between a firm's internal strengths and weaknesses and its external opportunities and threats. This implies that a good fit can maximise a company's strengths to take advantage of opportunities and minimise its weaknesses and mitigate potential threats.

### **Internal strengths and weaknesses**

The company's internal review to determine strengths and weaknesses consists of the good, the bad, and the ugly involving an honest assessment of the company's structure, capabilities, resources, and skills. The internal review should be conducted with a 360-degree concept covering feedback from employees, external consultants or advisors, customers, and also factoring in how the company measures up against its competitors.

The rationale for this internal assessment is to enable the firm discover, maintain and leverage on its strengths in ways beneficial to the company and to determine which weaknesses need to be remedied in order to improve the company's position. The strengths should identify positive characteristics that give the business a competitive edge, while weaknesses are areas that can put the firm at a disadvantage if they are not corrected. It is important to emphasize that a characteristic can represent strength in one case, for example, synergies from mergers and acquisitions (M & As), and a weakness in another, for example, growth that leverages M & As.

### External opportunities and threats

The goal of an external review is to identify opportunities and threats, which are typically created by external forces, such as economic shifts, political climate, laws and regulations, technology, industry trends, target markets, distribution channels, competition, etc. Scanning the external environment is to identify and recognise not just the current opportunities and threats, but also, potential future opportunities and threats. Opportunities are areas in which the company could grow or increase profitability or efficiency. Threats mostly comprise external forces that could cause significant stress or economic downturn to a business, such as ageing population, negative economic evolution, and intensification of competition.

Firms should take advantage of opportunities and evolve strategies that will help them avoid immediate or potential threats. They should narrow down the lists, identify the priorities and create strategies that will incorporate what has been learned from the SWOT analysis. The SWOT strategies matrix can be used to document the strategies that were identified during the "matchmaking" process of the SWOT analysis.

### General application of SWOT

The table below gives a general summary of likely strengths, weaknesses, opportunities and threats a company can face.

The table below shows the summary of specific items that can be included inside the elements of PESTEL, potential laws and regulations in a country of operation in the future.

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>▶ High potential of creativity of the human resources</li> <li>▶ Low turnover of employees</li> <li>▶ The existence of networking resources</li> <li>▶ The existence of important networking relationships</li> <li>▶ Favourable set up</li> <li>▶ Positive image in the competitive Environment</li> </ul>	<ul style="list-style-type: none"> <li>▶ Physical and normal wear of the equipment</li> <li>▶ Traditional management methods</li> <li>▶ Low financial potential</li> <li>▶ Insufficient promotion on the external markets</li> <li>▶ Low budget for the research of the study of the internal and external market</li> </ul>
Opportunities	Threats

<ul style="list-style-type: none"> <li>▶ The existence of cheaper foreign funds</li> <li>▶ Juridical framework favourable to foreign investments</li> <li>▶ Know – how transfer</li> </ul>	<ul style="list-style-type: none"> <li>▶ Negative economic evolution</li> <li>▶ Insufficient promotion on the external markets</li> <li>▶ Low budget aimed at researching the internal and external environments</li> <li>▶ Intense competition</li> <li>▶ Ageing Population</li> </ul>
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Stated below are some of the criteria or questions that might be considered when completing the SWOT analysis for an organisation. Candidates should consider using criteria such as, strategic, operational, commercial, and financial in order to provide a focus for each of these headings, as stated below. Candidates should note that specific relevant details provided in each Case Study must be identified from the case scenario and shown in place of these examples of possible questions.

<p><b>Strengths (S)</b></p> <ul style="list-style-type: none"> <li>▶ What are the organisation’s unique selling points?</li> <li>▶ What does the organisation do better than others?</li> <li>▶ What do your customers perceive as your strengths?</li> <li>▶ What do your employees perceive as your strengths?</li> <li>▶ What do your suppliers perceive as your strengths?</li> <li>▶ What do your competitors perceive as your strengths?</li> <li>▶ What are the organisation’s financial strengths?</li> </ul> <p><b>Note “strengths” are considered as “internal” factors – and therefore capable of being influenced by the organisation</b></p>	<p><b>Weaknesses (W)</b></p> <ul style="list-style-type: none"> <li>▶ What part of the organisation’s activity adds little value?</li> <li>▶ What does the organisation do worse than others?</li> <li>▶ What might your customers perceive as your weaknesses?</li> <li>▶ What might your suppliers perceive as your weaknesses?</li> <li>▶ What might your competitors perceive as your weaknesses?</li> <li>▶ What are the organisation’s financial weaknesses?</li> </ul> <p><b>Note “weaknesses” are considered as “internal” issues – and therefore capable of being managed (and changed) by the organisation</b></p>
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Candidates should note that when using SWOT analysis, they should ensure that:

- ▶ Only specific, verifiable statements are used. An example might be ‘price is N100 per unit lower than competitors’ price’ rather than ‘price is good value for money’;
- ▶ Where possible, factors under each heading should be listed in order of importance so that more time is subsequently spent evaluating the most significant factors first;
- ▶ If possible, some form of risk assessment should be conducted to ensure that high risk or high impact threats and risk-related opportunities are clearly identified and are dealt with in order of importance or significance;
- ▶ All high priority issues identified should be highlighted for inclusion in any subsequent action plan; and

- ▶ Where possible, the analysis should be pitched at the business activity or project level rather than at the overall organisational level, in order to develop more practical, realistic actions.

### **6.2.3 Porter's five forces**

#### **Introduction**

In analysing an industry and the factors that shape competition within the industry, Porter identifies five forces. These forces are:

- ▶ rivalry among existing competitors,
- ▶ threat of new entrants,
- ▶ bargaining power of suppliers,
- ▶ bargaining power of buyers, and
- ▶ the threat of substitute products.

Porter's five forces model can serve as a simple, and powerful tool for understanding where power lies in a given business situation to determine long-term profitability within the specific industrial or service sector. The strongest competitive force or forces determine the profitability of an industry and become the most important in strategy formulation. Porter's five competitive forces of industry will influence prices, costs and investment. It is important to stress that the strength of each force can vary from industry to industry but companies should reflect on the environment represented by the sector(s) in which they compete.

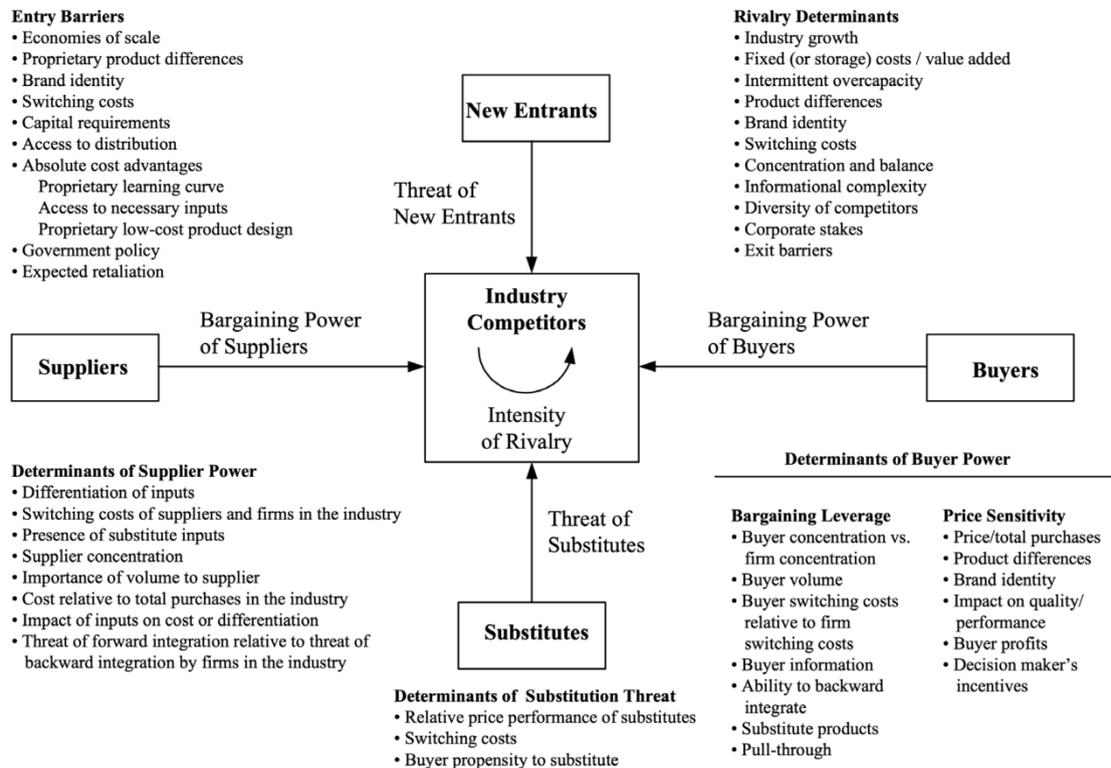
Porter's five forces help to identify where power lies in a business situation, which is important in understanding:

- ▶ The strength of an organisation's current competitive position;
- ▶ The strength of a potential position that an organisation may consider moving into;
- ▶ Whether new products or services are potentially profitable; and
- ▶ Where the power lies.

The analysis can also be used to identify areas of strength, to remedy weaknesses and avoid mistakes.

Porter's five forces model is shown in the figure below.

## Porter's 5 Forces - Elements of Industry Structure (source: Porter, 1985, p.6)



The company's environment is very complex, comprising both social and economic forces, among others, thus, a firm must consider competition strategies by relating the firm to the environment in which it conducts its business. The intensity of competition in a certain sector is neither due to chance, nor bad luck. Industry structure grows out of a set of economic and technical characteristics that determine the strength of each competitive force. For example, if the forces are intense, such as companies in industries like hotels, textiles, and airlines, it will be difficult for any company to earn attractive returns on investment. If the forces are not strong, such as companies in industries like software development, soft drinks, and toiletries, many companies are profitable. Porter's five forces model can apply to any business including agricultural business such as meat packaging and animal husbandry. Some factors can affect industry profitability in the short run such as the weather and business cycle, while, industry structure in form of competitive forces, sets industry profitability in the medium and long run.

### Principles of Porter's five forces

This section examines each of the five forces in the model. These include barrier to entry; intensity of rivalry; bargaining power of buyers; bargaining power of suppliers; and threats of substitute products.

#### Threat of new entrants – barrier to entry

Both potential and existing competitors influence the average industry profitability. Threats of new entrants are influenced by barriers to entry and these include the following factors:

- ▶ Economies of scale, such as size and scope of operations required to achieve viable cost structure; how strong the newcomers are, what is their ability to outsell the current players and benefit from the big numbers, that allows the existing companies to charge prices below the unit costs of new entrants;
- ▶ Product differentiation promotes customer loyalty created by quality, reliability and brand image, making it more difficult for new entrants to rival existing companies;
- ▶ Capital requirements, such as size of cash and financial resources required to establish and run a business because few entrants will take the risk involving large financial resources;
- ▶ Switching costs are one-off costs for a customer to switch to the new rival, such as termination costs, operator training costs, connection charges, and special service equipment;
- ▶ Cost disadvantages independent of scale advantages held by existing competitors such as location, patents and experience, unique low-cost technologies, cheap resources;
- ▶ Access to distribution channels which include means to reach customers with vertical integration which may require the new entrant to bear the cost of setting up its own distribution or depend on its rival for its sales, reducing potential profits; and
- ▶ Government policy such as licensing, subsidies or tax incentives; and expected retaliation from existing competitors which are determined by current rivalry, history of vigorous retaliation and strengths of incumbents. Some national governments may protect domestic industries through import restrictions, thus allowing existing firms to grow bigger and enjoy economies of scale.

### **Jockeying for position among current competitors (rivalry)**

This is otherwise called the Intensity of rivalry between the existing competitors.

The intensity of rivalry, which is the most prominent of the Porter's five forces in an industry, helps determine the extent to which the value created by an industry will be degenerated through keen competition.

Porter reemphasised that intensity of rivalry is dependent on number and size of direct competitors jockeying for business growth through the rivalry for market share, as numerous and/or equally balanced competitors may lead to intense competition.

Keen competition will be experienced in industries where product differentiation and switching costs are low, and high fixed costs as in hotel and airline industries. Porter's "five forces" model has created valuable contribution with regard to the rivalry implications, but it is only one of several forces that determine industry attractiveness.

### **Bargaining power of buyers**

The buyers of goods and services from an industry may be powerful if they are more concentrated than the players in the industry and are able to force down prices as well as reduce the industry's margin. They can purchase from the industry in large volumes, thus forcing down prices, or increase costs through demand for higher quality products and services. If the products and services purchased by buyers lack differentiation or switching costs, they can easily find acceptable alternative sources of supply. Buyer power can be influenced by the following factors:

- ▶ Size and the concentration of customers;
- ▶ Extent to which the buyers are informed; and
- ▶ Concentration or differentiation of the competitors.

The customers will be demanding to pay less, their power being decisive both on the final price and the firm's profit. The company should give consideration to this force by examining the following:

- ▶ How powerful are the biggest buyers; and
- ▶ If there are few buyers, there is little leverage that can be used to increase the price and there will be great pressure on the price on big volume sales. Buyers can have the incentive to be powerful if purchases from the industry represent a significant proportion of their total costs. Buyers will earn low margins and are price sensitive if they cannot pass on cost increases easily, or absorb them due to low profit margins. Examples are travel agencies, or in-bound tour operators.

### **Bargaining power of suppliers**

The suppliers' power is determined by the following factors:

- ▶ Relative size and concentration of suppliers relative to industry participants; and
- ▶ Degree of differentiation in the inputs supplied.

The ability to charge customers different prices in line with differences in the value created for each of those buyers usually indicates that the market is characterised by high supplier power and at the same time by low buyer power. Suppliers have more bargaining power if their product is an important input in the industry success. The supplier's input is crucial to the success of the customer's product and service such as local tourist operators, thereby lowering the customer's price sensitivity. The bargaining power of suppliers is determined by:

- ▶ **Relative size and concentration of suppliers**  
Suppliers to an industry may be powerful if they are more concentrated than the firms in the industry and the firms do not command a significant share of their business because the firms do not represent a potential long-term or major relationship. An example is one-off or small customers versus regular or bulk buyers.
- ▶ **Degree of differentiation in the inputs supplied**  
Suppliers' customers face differentiated products and services or high switching costs. For example, a customer may be reluctant to change a supplier if such change would require extra one-time switching expenditure. Also, if such change entails a perceived deterioration in the quality, image or quality of the supplier's product which will adversely affect the customer's service.

### **Threats of substitute products**

The creation of true economic value is the final arbiter of business success, irrespective of technological changes. Of all the forces in Porter's model, the market the company is analysing can be the most sensitive and the most threatened by the substitution products vector.

For example, the book publishing industry was threatened by a major offensive of the electronic book. Substitute products can be existing or potential products and services

which are able to perform the same function, and substitute products can reduce costs, and/or improved quality of performance and better value which are very often the result of technological innovation.

The threat of substitution can be affected by the following factors:

- ▶ The relative price-to-performance ratios of the different types of products or services to which customers can turn to satisfy the same basic need; and
- ▶ Switching costs – that is, the costs in areas such as retraining, retooling and redesigning that are incurred when a customer switches to a different type of product or service.

To assist candidates, shown below is a Porter's five forces proforma, containing some of the criteria or questions that might be considered when completing the five forces analysis for an organisation. These are shown as examples to generate a focus for candidates' analysis.

Put differently, some critical questions can be examined under each of the five forces as shown below.

<b>Threat of new entrants</b>	<ul style="list-style-type: none"> <li>▶ Is the market profitable: will it attract new entrants?</li> <li>▶ What are the barriers to entry: patents; economies of scale; capital?</li> <li>▶ What is the regulatory environment: restrictive or non-existent?</li> <li>▶ Does the economic environment make new entrants likely?</li> </ul>
<b>Competitive rivalry</b>	<ul style="list-style-type: none"> <li>▶ What are the numbers and strengths of competitors?</li> <li>▶ Is the competition local or national?</li> <li>▶ Is it a niche or specialist market?</li> <li>▶ Is it an open market, oligopoly or monopoly?</li> <li>▶ Is the industry national or global?</li> </ul>
<b>Substitutes</b>	<ul style="list-style-type: none"> <li>▶ Are there close substitutes for the organisation's products?</li> <li>▶ Are the products undifferentiated from others: by quality or price?</li> <li>▶ Are there alternative technologies?</li> </ul>
<b>Bargaining power of suppliers</b>	<ul style="list-style-type: none"> <li>▶ Are there numerous suppliers or only a few?</li> <li>▶ Are there dominant players?</li> <li>▶ Are there opportunities for using alternative (international) suppliers?</li> <li>▶ What are the costs of switching supplier?</li> </ul>
<b>Bargaining power of suppliers (the possibility of driving up prices or restricting supplies)</b>	<ul style="list-style-type: none"> <li>▶ Are there numerous suppliers or only a few?</li> <li>▶ Are there dominant players?</li> <li>▶ Are there opportunities for using alternative (international) suppliers?</li> <li>▶ What are the costs of switching supplier?</li> </ul>

<b>Bargaining power of buyers (the possibility of driving down prices or switching)</b>	<ul style="list-style-type: none"> <li>▶ Are there many customers or only a few?</li> <li>▶ Are there important/dominant buyers determining demand and prices?</li> <li>▶ What is the cost to a buyer of switching?</li> <li>▶ Are there any price controls or an effective regulator?</li> <li>▶ Does the market work effectively?</li> </ul>
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## 6.2.4 Value Chain

### Analysis Introduction

A firm is usually organised and structured around departments, divisions or functions. Each of these undertakes some activities that are geared towards adding value to the firm. All these activities and processes must be coordinated effectively so that they can add value to the firm.

Value refers to the benefit that a customer obtains from the firm's product or service. This value is obtained from the attributes of the product or service. And what the customers normally pay for in buying the product or service is the value, benefits they receive from the product. A customer will be willing to pay more for a product that offers a higher value and in choosing between competing products, the customer will choose the one that offers more value.

The value created by a firm, when it makes goods or provide services is the difference between the sales value of the products or service less the cost of inputs or buying-in components.

According to Michael Porter, in a competitive market, the most successful companies are those that are best at creating value. Porter suggested two ways this can be done. These are:

- ▶ By becoming a cost leader – when the firm can create the same value as its competitors at lower costs; and
- ▶ By differentiating its product through creation of more value than its competitors for a competing product or service, the customers are willing to pay more to buy it.

### The concept of value chain

Porter, in Competitive Strategy, developed the concept of value chain. Value chain refers to the inter connected activities in an organisation that create value. Porter opined that:

- ▶ Any of these activities can create value;
- ▶ Management should therefore analyse these value-creating activities to identify those areas where the organisation is creating more value and where it is creating lower value; and
- ▶ Management should identify those activities that give the organisation a competitive advantage over rivals.

The above analysis will enable the management to make decision about:

- ▶ How to improve value creation;
- ▶ How to strengthen competitive advantage over rivals; and

- ▶ Whether some activities should be stopped because they cost more than the value they are creating, i. e, the performance result is negative value creation.

However, Porter's value chain is mostly associated with companies having physical resources, such as manufacturing companies.

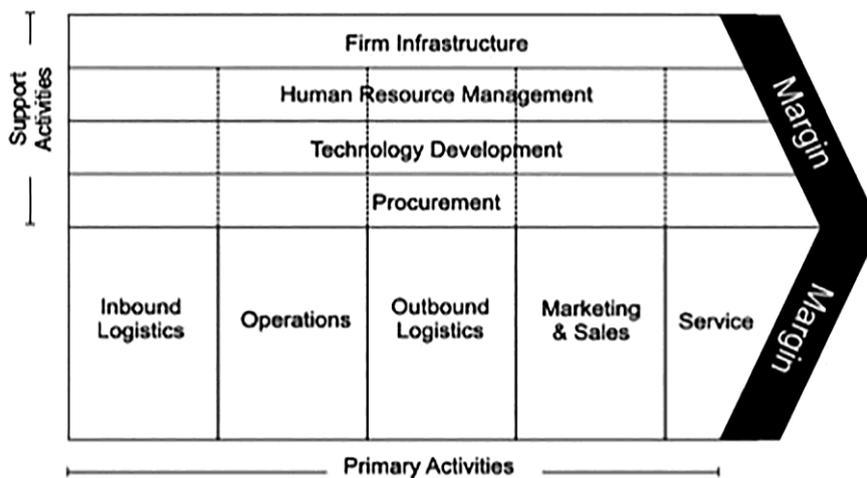
### Value chain analysis model

Porter divided value creating activities into two as follows:

- ▶ Primary activities; and
- ▶ Support activities.

Porter value chain model is as shown below.

Figure 1: Porter's Generic Value Chain



### Primary value chain activities

Primary activities relate directly to the physical creation, sale, maintenance and support of a product or service consisting of inbound logistics, operations, outbound logistics, marketing and sales, and after sales service.

There are five generic categories of primary activities, but details of which are industry specific. These are:

- ▶ Inbound logistics. These are the activities connected with the receiving, warehousing (storage), and inventory control of input materials. It also includes customer access, and data collection,
- ▶ Operations. These are the value-creating activities that transform the inputs into the final product. It covers branch operations, assembly component, and fabrication for a manufacturing company.
- ▶ Output logistics. These are the activities required to get the finished product to the customer, including warehousing, order fulfilment, and report preparation.
- ▶ Marketing & Sales. These are those activities associated with getting buyers to purchase the product, including pricing, advertising, and channel selection. It covers sales force, promotion, proposal writing, and website.

- ▶ **Service activities.** These are those that maintain and enhance the product's value, including customer support and repair services. It also covers installation, and complaint resolution.

### **Support activities**

The primary value chain activities described above are facilitated by support activities. There are four generic categories of support activities, but details of which are industry specific. These are:

- ▶ **Procurement:** These are the activities connected with purchasing raw materials and other inputs used in the value-creating activities. It also includes services, advertising, data, and machines.
- ▶ **Technology development:** These are activities which include process automation, research and development, and other technology development used to support value chain activities. It also covers product design, process design, and market research.
- ▶ **Human resources management (HRM):** These are the activities associated with recruiting, development through training & education, and compensation/ reward system.
- ▶ **Firm infrastructure:** These relate to activities such as finance, planning, investor relations, legal, quality management, etc.

Support activities support the primary functions such as procurement (purchasing), human resource management, technological development, and infrastructure to maintain daily operations. Companies use these primary and support activities as "building blocks" to create a valuable product or service.

Support activities are sometimes viewed as necessary "overheads" to support the primary value chain, but they can also create value, for example:

- ▶ Procurement can add value by identifying a cheaper source of material or equipment;
- ▶ Technology development can add value to the operational process by the introduction of new IT system; and
- ▶ Human resources management add value by improving skills of employees through training.

### **6.2.5 Porter's generic strategies**

Each company has a responsibility to ensure it gains competitive advantage over its rivals so as to be able to out-perform the other firms in the industry. Therefore, the key strategic challenge for most businesses is to find a way of achieving a sustainable competitive advantage over the other competing products and firms in a market. There are many routes a firm can take to get a competitive advantage, the company can offer its customers greater value than its competitors, either by providing greater benefit or selling at lower prices than its competitors.

Porter suggested three "generic" business strategies that could be adopted by firms in order to gain competitive advantage. But each firm will select strategies based on the extent to which the scope of its business' activities is narrow or broad and the extent to which the firm seeks to differentiate its products from that of its competitors. Porter (1980, 1985) opines that superior performance can be achieved in a competitive industry through the pursuit of a generic strategy, which he defines as the development of an overall cost leadership, differentiation, or focus approach to industry competition.

The three generic strategies, as proposed by Porter is shown in the table below:

**Porter's generic strategies** (source: Porter, 1985, p.12)

		<b>COMPETITIVE ADVANTAGE</b>	
		Lower Cost	Differentiation
<b>COMPETITIVE SCOPE</b>	Broad Target	1. Cost Leadership	2. Differentiation
	Narrow Target	3A. Cost Focus	3B. Differentiation Focus

### **The differentiation strategy**

Differentiation involves making your products or services different from those of other firms in the industry or more attractive than those of the competitors. The strategy to be used to achieve this depends on the nature of the industry and the products and services. Generally, this will involve the features, functionality, durability, support, and also brand image that the customers value. This involves selection of one or more attributes that many buyers perceive as important, and uniquely positions itself to meet those needs, which results in charging a premium price. However, differentiation strategy requires that the firm develops a product or provides a service that is recognized by the consumers as being unique, thus enabling the firm to charge above average prices. As a result of brand loyalty by the customers, demand becomes price- inelastic, leading to higher profit margins for the firm.

But before a differentiation strategy can become successful, firms need:

- ▶ Good research, development and innovation;
- ▶ Ability to deliver high-quality products or services; and
- ▶ Effective sales and marketing, so that the market understands the benefits offered by the differentiated offerings.

To overcome the risk of attack from smaller competitors pursuing focus differentiation strategies in different market segments, large firms using differentiation strategy must continuously ensure that they are alert with their new product development processes.

### **Cost leadership**

Firms pursuing cost leadership as a competitive strategy can choose between two options. First, they can offer their products at lower cost than those of the competitors, however, they will need to convince the consumers that the product is of the same quality with the other competitors but it is just simply that, it is the least expensive in the market.

Second, they can take the option of producing at the lowest cost while still charging the average prices in the market, thus be able to make larger margins than the competitors.

### **Focus strategy**

In a focus strategy the firm concentrates on a select few target markets. This strategy is also referred to as niche strategy. The belief is that when a firm focuses its marketing efforts on one or two segments of the market and address its marketing mix to these target markets it will be able to meet the needs of customers in those markets adequately. Therefore, the firm's purpose, using this strategy, is to gain competitive advantage through effectiveness rather than efficiency. This strategy is however more suitable for relatively small firms and it is usually useful in segments which are less vulnerable to substitutes or where competition is weak so as to earn above average return. Two variants of this strategy could be identified, these are cost focus and differentiation focus.

- ▶ **Cost focus:** In cost focus a firm seeks a cost advantage in its target segment. This strategy is the same as the cost leadership concept, except that it is focused on one specific niche or segment of the market. Rather than a firm trying to sell to everyone in the market, it focuses on a small portion of the market to sell a unique product.
- ▶ **Differentiation focus:** In differentiation focus a firm seeks differentiation in its target segment. In this strategy, the firm, although working within a niche market, will be trying to stand out on the basis of quality. As long as the firm can present to the consumers what they are looking for and thus justify its higher price, it may be able to grab a large share of the niche market.

#### **6.2.6 Porter's diamond model Introduction**

Traditionally, Economists belief that a country's competitive advantage over other countries is due to the natural resources that it enjoys. Natural resources include not only land and mineral deposits, but also the labour force and size of the population. However, Michael Porter was of the view that the national domestic market plays an important role in creating competitive advantage for companies on a global scale. In his opinion, companies operating in a strong domestic market can develop competitive strengths and they can then build on this strength of their 'home base' to extend their business operations into other countries, where their competitive advantage will also apply and help them achieve success.

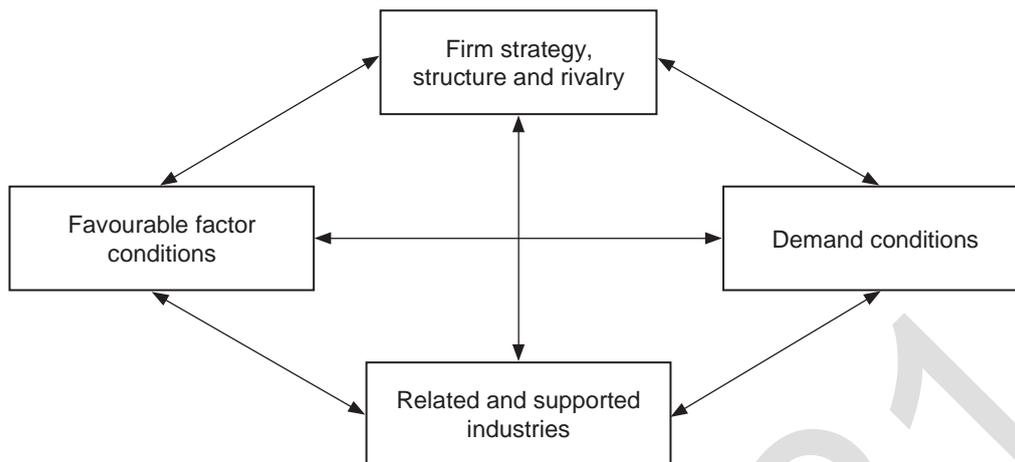
Porter therefore, developed a model called Porter's Diamond model to provide an analysis of the factors that give a country or region a comparative competitive advantage. He further opined that a key to national or regional competitive advantage in a particular industry is the ability to innovate. Therefore, firms and industries must innovate to remain competitive and a country must encourage innovation in order to retain a national comparative advantage.

Porter used a diamond shape model to show four interrelated factors that create comparative competitive advantage for a country over other countries.

These are:

- ▶ Favourable factor conditions
- ▶ Related and supporting industries
- ▶ Demand conditions in the home market
- ▶ Firm strategy, structure and rivalry.

These four factors can be presented in a diamond shape diagram as follows:



### **Factor conditions**

Porter categorised these factor conditions in a country into two:

- ▶ **Basic factors:** these are factors of production that exist naturally in a country and include land, natural minerals and favourable climate; and
- ▶ **Advanced factors:** These are factors that are created over time and they include labour skills and knowledge, technological resources and infrastructure.

Also, Porter was of the opinion that a country that suffers a comparative disadvantage due to lack of a particular basic factor can decide to create it through innovation, just as Japan that does not have enough land for storage decided to create a just-in-time method of production.

This is the situation in a country relating to production factors like knowledge and infrastructure and can be grouped into material resources- human resources (skilled labour & labour costs, education & qualifications and commitment) – knowledge resources, capital and infrastructure. Put differently, the factor conditions include quality of research or liquidity on stock markets and natural resources like climate, minerals, oil, etc., for creating an international competitive position.

A country creates its own important factors like skilled resources and technological base. The stock of factors at a given time is less important than the extent that these factors of production are upgraded and deployed. Local disadvantages in factors of production force innovation while adverse conditions like labour shortages or scarce raw materials force organisations to develop new methods and this innovation often leads to a national competitive advantage.

### **Related and supporting industries**

The success of a market of a country also depends on the presence of suppliers and related industries within a region. For example, the raw materials from fabrics suppliers in Italy helps to drive the success of the Milan fashion industry.

When local supporting industries are competitive, firms enjoy more cost effective and innovative inputs. This effect is strengthened when the suppliers are strong global competitors. Competitive suppliers reinforce innovation and internationalisation.

In addition to suppliers, related organisations are of importance too. For example, if an organisation is successful, this could be beneficial for related or supporting

organisations. They can benefit from each other's know-how and encourage each other by producing complementary products.

### **Demand conditions in the home market**

Demand conditions involve the nature of the market and the market size. There always exists an interaction between economies of scale, transportation costs and the size of the home market. If a producer can realise sufficient economies of scale, this will offer advantages to other companies to service the market from a single location.

The country will need to be blessed with or to develop sophisticated homebuyers that have awareness and demand for advanced, quality, and innovative products, which can create international competitiveness. When the market for a particular product is larger locally than in foreign markets, the local firms devote more attention to that competitive advantage than foreign firms, leading to a competitive advantage when the local firms begin exporting the product.

A more demanding local market will have an impact on the pace and direction of innovation and product development, leading to national advantage. A strong trend-setting local market helps local firm anticipate global trends.

### **Firm strategy, structure and rivalry**

This factor is related to the way in which an organisation is organised and managed, its corporate objectives and the measure of rivalry within its own organisational culture. Firm's strategy and rivalry is the competition in the home market that drives innovation and quality. When there are lots of competition and lots of rivalry, this keeps companies on their toes, and so they try to out-compete each other by continually developing more innovative and quality products and or services.

Local conditions affect firm's strategy. For example, German companies tend to be hierarchical'. Italian companies tend to be smaller and are run like extended families. The structure and strategy help to determine in which types of industries a nation's firms will excel. It also focuses on the conditions in a country that determine where a company will be established.

Cultural aspects play an important role in this. Regions, provinces and countries may differ greatly from one another and factors like management, working morale and interactions between companies are shaped differently in different cultures. This could provide both advantages and disadvantages for companies in a certain situation when setting up a company in another country. In addition to the above-mentioned determinants, Government and chance events can influence competition between companies.

### **The role of government**

Porter believed that governments can play a powerful role in encouraging the development of industries and companies both at home and abroad. Governments finance and construct infrastructure (roads, airports) and invest in education and healthcare. Moreover, they can encourage companies to use alternative energy or alternative environmental systems that affect production. This can be done by granting subsidies or other financial incentives.

Specifically, the role of government in the model is to:

- ▶ Encourage companies to raise their performance, for example by enforcing

- ▶ strict product standards;
- ▶ Focus on specialised factor creation;
- ▶ Stimulate local rivalry by limiting direct cooperation and enforcing antitrust regulations;
- ▶ Pressure companies to innovate and invest;
- ▶ Create education and training systems that develop appropriate labour skills and knowledge;
- ▶ Help companies to raise their performance levels by enforcing strict product standards; and
- ▶ Create demands for new and advanced products by purchasing the products themselves.

### **6.2.7 Benchmarking Introduction**

Benchmarking is defined by the Xerox Company, as the continuous process of measuring products, services and practices against the toughest competitors or the companies recognised as industry leaders (“best in class”). It is a process of setting standards or targets for products, services or work processes with reference to firms that are recognised as models of ‘best practice’.

A benchmark is a firm that provides the ‘best practice’ for comparison. A firm uses benchmarking to evaluate its own products, services or work processes by comparing them with the ‘best practice’ of the benchmark firm.

The purpose of benchmarking is to identify measures that need to be taken to improve or change, so that the firm becomes as good as, or better than, the benchmark.

The benchmarking process

Benchmarking is usually a continuous process which consists the following stages:

- ▶ Identification of the aspects of performance that are to be compared with a benchmark partner;
- ▶ Selection of a suitable benchmark partner;
- ▶ Comparison of the products, services or processes with the benchmark;
- ▶ Identification of gaps in performance between the benchmark and the firm’s products, services or processes;
- ▶ Identification of changes to be made to improve performance;
- ▶ Implementation of improvements; and
- ▶ Monitoring and evaluation of results.

#### **Methods of benchmarking**

There are several methods of benchmarking:

- ▶ internal benchmarking
- ▶ competitive benchmarking
- ▶ process benchmarking
- ▶ customer benchmarking.

Benchmarking can also be grouped into the following categories:

- ▶ strategic benchmarking
- ▶ functional benchmarking
- ▶ ‘best practices’ benchmarking (process benchmarking)
- ▶ product benchmarking.

#### **Internal benchmarking**

Internal benchmarking uses a benchmark within the firm itself. Other parts of the

same firm are compared with the benchmark.

For example, a firm might have offices in different geographical areas. The best-performing of these offices might be taken as a benchmark, and the other offices are compared with it. The benchmarking exercise should identify the reasons why each office has not performed as well as the benchmark. When the reasons for the worse performance are recognised, plans can be made to deal with the problems and achieve improvements.

### **Competitive benchmarking**

Competitive benchmarking uses a successful competitor as the benchmark. A company compares its own products and systems with those of the competitor, and the purpose is to discover the reasons why the competitor is more successful.

When the reasons are identified, plans can be made to improve competitiveness, either by copying what the competitor does, or devising new products or systems that are even better than those of the competitor.

### **Process benchmarking**

Process benchmarking is the most common method of benchmarking. It involves a comparison of the performance of the firm in one particular activity or process with the performance of another entity in a different industry. This type of benchmarking seeks to identify best practice anywhere, by looking at firms with a reputation for excellence. The purpose of process benchmarking is to use a benchmarking approach to analyse operational systems, such as purchasing, call handling, order processing, delivery systems, information systems, and so on.

A firm compares its own practices in an aspect of its operations with those of a benchmark firm that is in an unrelated industry (and so is not a competitor).

A process benchmarking programme is agreed between two organisations, which then share information about their systems and compare their performances. Each organisation is able to use the benchmarking process to review its systems and procedures and look for ways of improving their performance.

Benchmarking can be used as an approach to improving quality – in products, services and systems. Comparisons with the ‘best’ can provide ideas:

- ▶ for copying the benchmark firm, or
- ▶ for doing something in a different way, not necessarily in exactly the same way as the benchmark firm.

### **Customer benchmarking**

Customer benchmarking is a completely different approach. This uses the customer as a benchmark, by trying to establish what the customer wants and expects. A company can compare what a customer wants with what the company actually provides.

Gaps can be identified between customer expectations and ‘reality’, and the company can then look for ways to close the gap.

### **Strategic benchmarking**

Strategic benchmarking involves a comparison of the strategies of different companies. A company can compare its own strategies with those of its most successful competitor, or with the strategies of successful firms in other industries.

A firm will use benchmarking to find out why the competitor is more successful. A starting point for the comparison is usually a survey of customers and shared suppliers, to find out what the competitor does better.

Aspects of strategy that might be considered for benchmarking include:

- ▶ strategic objectives
- ▶ core competencies
- ▶ process capability
- ▶ products
- ▶ strategic alliances
- ▶ the use of technology.

### **Functional benchmarking**

Functional benchmarking is a form of competitor benchmarking. It involves a comparison of performance of a core business function in the firm with the performance of the same function in a successful competitor. For example, functional benchmarking might involve a comparison of:

- ▶ the sales and marketing function; and
- ▶ the research and development function.

The aim should be to find out why the competitor appears to perform this function more successfully, in order to identify changes and improvements that should be made.

### **Product benchmarking (reverse engineering)**

Product benchmarking, also called reverse engineering, is a form of competitor benchmarking. It involves a comparison of a firm's products with the products manufactured by its main competitors.

The comparison will usually look at:

- ▶ the competitor's costs;
- ▶ product concepts; and
- ▶ strengths and weaknesses in product design and quality.

This product analysis will usually involve obtaining some products of the competitor and analysing them in the workshop or laboratory.

## **6.2.8 Boston consulting group (BCG) matrix Introduction**

BCG matrix is a planning and performance measurement model used by firms to analyse the range of products they sell and to plan the firms' future investments in the products. To carry out this analysis, the following information about each product is needed:

- ▶ Total market size;
- ▶ Rate of growth in the total market;
- ▶ The firm's share of the total market; and
- ▶ Changes in the firm's share of the total market.

The above information is then used to classify the firm's products into four categories, using the BCG matrix. These categories are:

- ▶ Stars;
- ▶ Cash cows;
- ▶ Dogs; and
- ▶ Question marks.

### **Stars**

Stars are products with the market growing at a fast rate, and the product enjoys a large share of the total market. These are new products which may not be profitable presently but with new investment, they will result in high financial return in the future. Stars are product of future success, so firms need 'stars' in order to succeed in the future, and so should invest in them.

Because the market is growing and there is no over-capacity in production and over- supply to the market, the company can determine the pricing strategy to adopt, such as, 'market penetration' or 'market skimming'.

Eventually when the growth in sales slows down, a star will become a cash cow. In other words, a product that is a star early in its life cycle will become a cash cow during the mature stage of the product's life.

### Cash cows

Cash cows are products that enjoy large share of the market, although the market is growing slowly, or is not growing at all. These products are very profitable and provide large cash inflows for the firm. Every company needs cash cows to survive in the long- term. The cash from cash cows helps to finance investment in stars. Eventually, cash cows must be replaced when the product reaches the end of its economic life. Firm's strategy concerning cash cow is maintaining and protecting the position of the product in its market and cost reduction.

### Dogs

Dogs are products that have only a small share of the market and the market is growing slowly, or not at all. These products are often (but not always) losing money. The correct strategic decision is usually to withdraw the product from the market.

### Question marks

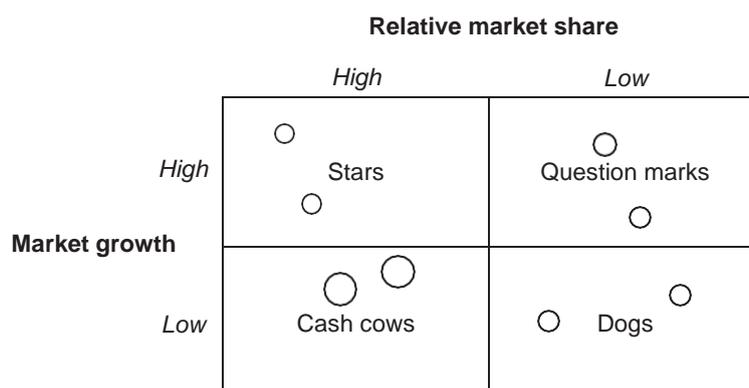
Question marks are also called 'problem children'. These are products where the company has a small share of the market, although the market is growing at a fast rate. These products are currently losing money. However, new investment in ?, such as more investment in research and development or marketing might turn a 'question mark' into a 'star', but there is also a risk that it may become a 'dog' when the growth in the market slows down. Therefore, investing in 'question marks' may be a strategic gamble.

### Structure of the BCG matrix

A BCG matrix is shown below. The individual products (or business units) can be plotted in the matrix as a circle. The size of the circle shows the relative money value of sales for the product. A large circle represents a product with large annual sales.

The position of the products in each quadrant also shows the relative rate of growth in the total market, and the relative share that the company's product has in the total market.

### Illustration: BCG matrix

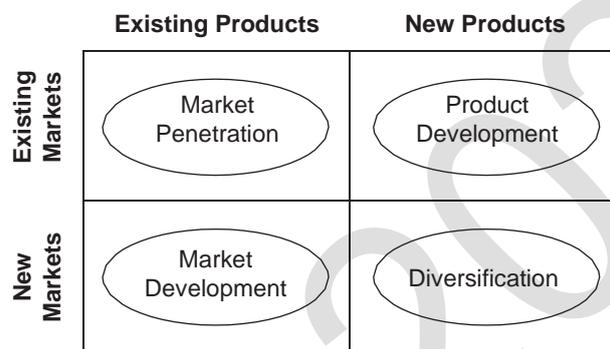


### 6.2.9 Ansoff matrix Introduction

Ansoff matrix, otherwise called a product-market growth strategy focuses on alternative corporate growth strategies via a firm's present and potential products and markets (customers). Ansoff Matrix involves four possible product-market combinations, namely:

Market Penetration, Market Development, Product Development, and Diversification. By considering ways to grow via existing products and new products, and in existing markets and new markets, there are four possible product-market combinations.

These are Market Penetration, Market Development, Product Development, and Diversification. Ansoff matrix model is as shown below:



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#### Market penetration

Market penetration is a growth strategy where the business focuses on selling existing products into existing markets. In this strategy, there can be further exploitation of the products without necessarily changing the product or the outlook of the product. This will be possible through the use of promotional methods, using various pricing policies that may attract more clientele, or making the distribution more extensive. Market penetration seeks to achieve four main objectives:

- ▶ Maintain or increase the market share of current products – this can be achieved by a combination of competitive pricing strategies, advertising, sales promotion and perhaps dedicating more resources to personal selling;
- ▶ Secure dominance of growth markets;
- ▶ Restructure a mature market by driving out competitors; this would require a much more aggressive promotional campaign, supported by a pricing strategy designed to make the market unattractive for competitors; and
- ▶ Introduce various initiatives that will encourage increased usage by existing customers – for example by introducing loyalty schemes. Another example is the usage of toothpaste, research has shown that the toothbrush head influences the amount of toothpaste that one will use. Thus, if the head of the toothbrush is bigger it will mean that more toothpaste will be used thus promoting the usage of the toothpaste and eventually leading to more purchase of the toothpaste.

A market penetration marketing strategy is very much about “business as usual”. It is the least risky because the business is focusing on markets and products it knows well. Also, the products are already familiar to the consumers and the established

market.

The company is likely to have good information on competitors and on customers' needs. It is unlikely, therefore, that this strategy will require much investment in new market research since the company leverages many of its existing resources and capabilities.

However, market penetration has limits, and once the market approaches saturation, another strategy must be pursued if the firm is to continue to grow.

### **Market development**

Market development otherwise called market expansion is a growth strategy where the business seeks to sell its existing products into new markets. This can be made possible through further market segmentation to aid in identifying a new clientele base. This strategy assumes that the existing markets have been fully exploited, thus, the need to venture into new markets. There are many possible ways of approaching this strategy, which include:

New geographical markets; for example, the business can expound by exporting its products to other new countries. It may also mean setting up branches of the business in other areas that the business had not ventured into yet. Various businesses have adopted the franchise method as a way of setting up branches in new markets. A good example is Guinness. This beer had originally been made to be sold in countries that have a colder climate, but now it is also being sold in African countries.

New product dimensions or packaging: for example, new product packaging, which means repacking the product in another method or dimension. That way, it may attract a different customer base.

New distribution channels (e.g. moving from selling via retail to selling using e-commerce and mail order). This would entail selling the products via e-commerce or mail order. Selling through e-commerce will capture a larger clientele base since we are in a digital era where most people access the internet often. Different pricing policies to attract different customers or create new market segments. The business could change its prices so as to attract a different customer base or create a new market segment. Market Development is a far much risky strategy as compared to Market Penetration.

This is because it is targeting a new market and one may not quite tell how the outcome will be.

### **Product development**

Product development is a growth strategy where a business aims to introduce new products into existing markets. It can also involve the modification of an existing product. This strategy may require the development of new competencies and requires the business to develop modified products which can appeal to existing markets.

By modifying the product, one would probably change its outlook or presentation; increase the product's performance or quality. By doing so, it can appeal more to already existing market. A good example is car manufacturers who offer a range of car models so as to target the car owners in purchasing a replica of the car. This strategy can also be used for clothing and pens.

A strategy of product development is particularly suitable for a business where the product needs to be differentiated in order to remain competitive. A successful

product development strategy places the marketing emphasis on:

- ▶ Research & development and innovation;
- ▶ Detailed insights into customer needs (and how they change); and
- ▶ Being first to market.

### **Diversification**

Diversification is the growth strategy where a business markets new products in new markets. This involves an organisation marketing or selling new products to new markets at the same time. This is an inherently more risk strategy because the business is moving into markets in which it has little or no experience. It is the most risky strategy among the others as it involves two unknowns. First, new products being created and the business does not know the development problems that may occur in the process.

And there is also the fact that a new market is being targeted, which will bring the problem of having unknown characteristics. For a business to take a step into diversification, they need to have their facts right regarding what it expects to gain from the strategy and have a clear assessment of the risks involved.

There are two types of diversification:

- ▶ Related diversification - the business remains in the same industry which it is familiar with. For example, a cake manufacturer diversifies into fresh juice manufacturing. This diversification is in the same industry which is the food industry; and
- ▶ Unrelated diversification –no previous industry relations or market experiences. For example, diversification from a food industry to a mechanical industry. Another example is an airline company which diversified into car rentals, gyms, fast foods and hotels.

For a business to adopt a diversification strategy, therefore, it must have a clear idea about what it expects to gain from the strategy and an honest assessment of the risks. Though diversification may be risky, with an equal balance between risk and reward, then the strategy can be highly rewarding. Another advantage of diversification is that in case one business suffers from adverse circumstances, other line of business may not be affected.

#### **6.2.10 Gap analysis Introduction**

Gap analysis is a strategic tool used for analysing the gap between the target and anticipated results which involves making a comparison of the present performance level of the entity or business unit with that of standard established previously. It assesses the extent of the task involved and the ways in which gap might be bridged. It is part of the strategic planning process.

It is an examination of an organisation's current performance for the purpose of identifying the differences between their current state of business and where the company intends to be.

Conducting a gap analysis can assist an organisation improve business efficiency, products and profitability by allowing the company to identify "gaps". Thus, the company will be able to better focus its resources and energy on those identified areas in order to improve them.

#### **Steps to gap analysis completion**

Four steps are involved in gap analysis completion, these are:

- ▶ Identify the current state;
- ▶ Identify where you want to be, the future state;
- ▶ Identify the gap; and
- ▶ Devise improvements to close the gaps.

### **Types of gap**

There are four types of gaps, these are:

- ▶ **Performance gap:** The difference between expected performance and the actual performance. This gap includes improvement gap, expansion gap, or diversification gap;
- ▶ **Product/market gap:** The gap between budgeted sales and actual sales is termed as product/market gap. This gap includes product line gap, distribution gap, usage gap, or competitive gap;
- ▶ **Profit gap:** The variance between a targeted and actual profit of the company; and
- ▶ **Manpower gap:** When there is a lag between required number and quality of workforce and actual strength in the organisation, it is known as manpower gap.

### **Uses of gap analysis**

Gap analysis can be used in many areas, such as:

- ▶ Sales;
- ▶ Financial performance;
- ▶ Human resource management;
- ▶ Productivity;
- ▶ Quality assurance;
- ▶ Cost control;
- ▶ Employee satisfaction;
- ▶ Energy conservation;
- ▶ Market competitiveness; and
- ▶ Technical skills.

### **Gap analysis tools**

There are a variety of gap analysis tools and the particular tool a company uses depends on its specific set of target objectives. Two common gap analysis tools are McKinsey 7S model and SWOT analysis. McKinsey 7S model is a gap analysis tool used to determine specific aspects of a business through the lens of seven people-centric groupings: strategy, structure, systems, staff, style, skills and shared values.

SWOT analysis is a gap analysis strategy used to identify the internal and external factors that affect the effectiveness and success of a product, project or person. The company can then determine the best solution by playing to their strengths, allocating resources to seize opportunities, while at the same time avoiding potential threats.

#### **6.2.11 Business capacity analysis Introduction**

Capacity analysis is the process of determining the capacity of an operation. This can involve evaluating the production capacity, the physical capacity of infrastructure and facilities, and mechanical capacity.

### **Types of capacity analysis**

There are three common types of business capacity analysis, these are:

- ▶ **Production capacity:** The peak throughput of all the systems in an operation. (i.e., how many orders can be processed/fulfilled compared to demand.)  
Production capacity can be increased by changing strategy from adding labour

to replacing labour with automation to streamlining processes, so that they are more efficient in making improvements to specific pieces of equipment.

- ▶ **Physical capacity of infrastructure and facilities:** How much space is available for work processes and storage of inventory? An operation can increase the physical capacity of their facilities by reclaiming vertical space through the use of automated storage and retrieval systems (AS/RS) or goods-to-person technologies, to drop-shipping larger items to keep them out of inventory; and
- ▶ **Mechanical capacity:** The peak throughput of specific machines and technology, for example, sorters, conveyors, palletisation equipment, etc. Mechanical capacity can be increased by optimising existing equipment with repairs or improvements, or by replacing aging equipment with more modern machinery that have greater efficiencies and throughput.

### Strategies for increasing the capacity of an operation

Three strategies an organisation can choose from are: lead capacity, lag capacity, and match capacity.

- ▶ **Lead capacity:** By increasing capacity before the demand is present, this strategy allows an operation to immediately ramp up production when the demand materialises, preventing an inability to fulfil orders that could cause customers to turn to competitors. The main risk with following a lead capacity strategy is that an operation can make the wrong prediction and use capital to increase capacity for a future demand that never materialises.
- ▶ **Lag capacity:** an operation would wait until demand increases before increasing capacity. Lag capacity removes the risk associated with the lead capacity, allowing an operation to only invest capital to increase capacity that it knows is necessary. The disadvantage here is that it is likely to experience stockouts and lower service levels as it ramps up capacity to meet the new, increased demand. This can cause issues with business retention as customers turn to competitors to fulfil their needs.
- ▶ **Match capacity:** An operation will aim to increase capacity as demand increases, in smaller increments. This is often done with the aim of reducing the risk of following an upfront lead capacity strategy while minimising the business losses typically experienced with a lag capacity strategy.

### Usefulness of capacity analysis

Understanding the various capacities of an organisation's operation will allow the company to identify weaknesses, improve efficiencies, and turn the business into a more profitable organisation.

#### 6.2.12 Resource audit Introduction

A resource audit is conducted to understand the strengths or weaknesses of the resource base of an organisation. This implies that the quality of resources available to implement the strategy can be known through resource audit. Also, the strategic capacity or strategic capability of an organisation can be better understood through resource audit.

#### Types of resource audit

The types of resource audit include:

- ▶ Physical resources;
- ▶ Human resources;

- ▶ Financial resources; and
- ▶ Intangibles.

### **Audit of physical resources**

The audit of the physical resources includes listing of physical resources like PPE (Property, Plant & Equipment), their age, working condition, life span, capabilities, location, etc.

### **Audit of human resources**

Human resource audit includes assessing, verifying and listing out the number of employees, their skill inventory, age inventory, qualification-wise inventory, knowledge wise inventory and capability-wise inventory.

### **Audit of financial resources**

Financial resource audit includes analysis and listing out sources and uses of financial resources. This includes:

- ▶ capital structure;
- ▶ working capital;
- ▶ accounts receivables;
- ▶ control of debtors and creditors; and
- ▶ relationship among shareholders, bankers, debenture holders.

### **Audit of intangibles**

The resource audit exercise should not forget the intangibles. Intangibles like goodwill have value. Goodwill plays vital role in service-oriented organisations, retail organisations, etc.

Goodwill is represented by:

- ▶ brand image;
- ▶ customer loyalty;
- ▶ congenial contacts and relations;
- ▶ public image about the firm; and
- ▶ quality and reliable service.

### **Guidelines on resource audit**

- ▶ The resource audit should take into considerations all resources necessary for implementation of strategy.
- ▶ The audit should not be restricted to the legally recognised assets.
- ▶ The resource audit should also consider the resources/assets outside the organisation. These assets include networks, contacts with customers, dealers, suppliers, etc.
- ▶ The Resource audit should also point out the organisation's distinctive capabilities in addition to the resources necessary for strategy implementation.

## **6.3 Performance management tools**

### **6.3.1 Critical success factors (CSF) Introduction**

Critical success factors (CSF's) refer to those vital areas 'where things must go right for firms to achieve their strategic objectives. They have been defined as: 'those components of strategy in which the organisation must excel to out-perform competition' (Johnson and Scholes). They are the critical factors or activities required for ensuring the success of the business. They represent a few key factors that firms should focus on to be successful. The achievement of CSF's would allow the firm to

cope better than its competitors with any changes in the competitive environment. Therefore, they can be viewed as the limited number of areas in which satisfactory results will ensure successful competitive performance for the individual, department, or firm.

However, the firm must have in place the core competencies that are required to achieve the CSF's, i.e. something that they are able to do that is difficult for competitors to copy. Critical Success Factors are normally identified in such areas as production processes, employee and organisational skills, functions, techniques, and technologies. Candidates should however, note that the specific factors vary from business to business and industry to industry. The key to using CSF's effectively, therefore, is to ensure that the definition of a factor of each organization's activity is central to its future. This means that the success in determining the CSF's for each organisation is to determine what is central to its future and achievement of that future.

In literature, at least four types of CSF's have been identified, these are:

- ▶ Industry critical success factors (CSF's) resulting from specific industry characteristics. Different industries will have unique, industry-specific CSF's. An industry's set of characteristics define its own CSF's;
- ▶ Strategy critical success factors (CSF's) resulting from the chosen competitive strategy of the business. The nature of a firm's position in the marketplace or the firm's adopted strategy to gain market share will give rise to CSF's. Differing strategies and positions have different CSF's. Not all firms in an industry will have the same CSF's in a particular industry. A firm's current position in the industry (where it is relative to other competitors in the industry and also the market leader), its strategy, and its resources and capabilities will define its CSF's. The values of a firm, its target market, etc., will all impact the CSF's that are appropriate for it at a given point in time.
- ▶ Environmental critical success factors (CSF's) resulting from economic or technological changes. Environmental factors such as, economic, regulatory, political and demographic changes create CSF's for an organisation. These environmental factors are not under the control of the firm but the firm must consider them in developing CSF's. Examples of these are industry regulations, political development, economic performance of a country, and population trends; and
- ▶ Temporal critical success factors (CSF's) resulting from internal organisational needs and changes. These relate to short-term situations and are often crises that a firm is facing at a particular time. These CSF's may be important but are usually short-lived. Temporal factors are temporary or one-off CSF's resulting from a specific event necessitating their inclusion.

### **Developing CSF's for a firm**

Identifying CSF's is important as it allows firms to focus their efforts on building their capabilities to meet the critical success factors, or even allow firms to decide if they have the capability to meet the requirements of the Critical success factors (CSF's) that will enable them to achieve their strategic objectives.

In developing critical success factors for a firm, candidates should note the following:

- ▶ Ensure a good understanding of the environment, the industry and the firm;
- ▶ Build knowledge of competitors in the industry, i.e., knowing where competitors are positioned, what their resources and capabilities are, and

- ▶ what strategies they will pursue;
- ▶ Develop critical success factors which result in observable differences or possibly measurable in certain respects such that it would be easier to focus on these factors; and
- ▶ Develop critical success factors that have a large impact on an organisation's performance.

Candidates should understand that CSF's are activity statements, therefore, a "good" CSF should begin with an action verb that clearly and concisely conveys what is important and should be attended to. Verbs that characterise actions, such as, attract, perform, expand, monitor, manage, deploy, etc, should be used.

### **Critical success factors (CSF's) and key performance indicators (KPIs)**

Candidates should understand that a Critical Success Factor is not a Key Performance Indicator (KPI). Critical success factors are elements that are vital for a strategy to be successful. KPIs are measures that quantify objectives and enable the measurement of strategic performance.

For example, a firm that wants to improve its customer response rate can craft the following:

CSF = installation of a call centre for providing quotations

KPI = number of new customers/ response time

#### **Examples of CSF**

Research into CSF's of organisations has shown that there are seven key areas. These are:

- ▶ Training and education;
- ▶ Quality data and reporting;
- ▶ Management commitment, customer satisfaction;
- ▶ Staff Orientation;
- ▶ Role of the quality control department;
- ▶ Communication to improve quality; and
- ▶ Continuous improvement.

### **6.3.2 Key performance indicators (KPIs)**

#### **Introduction**

Key performance indicators are metrics that show the value produced by a business, program, team or individual. The achievement of CSF's can be measured by establishing key performance indicators (KPIs) for each CSF and measuring actual performance against these KPIs. KPIs may be financial and non-financial.

It has been suggested that good KPIs should:

- ▶ Provide an objective way to see if strategy is working;
- ▶ Offer a comparison that measures the degree of performance change over time;
- ▶ Focus employees' attention on what matters most to success;
- ▶ Allow measurement of accomplishments, not just of the work that is performed;
- ▶ Provide a common language for communication; and
- ▶ Help reduce intangible uncertainty.

#### **6.3.2.1 Examples of KPIs**

The following are common examples of KPI:

- ▶ **Return on capital employed:** This is a fundamental indicator of the performance of an organisation. It measures the ratio of profits to the total amount of capital invested to achieve those profits;

- ▶ **Revenue per employee:** This is a basic indicator of an organisation's productivity and it is often used as a benchmark to see if an organisation is over or under staffed as compared to competitors in the same industry. Revenue per employee is the total revenue of a company divided by the number of employees;
- ▶ **Customers satisfaction:** Measuring performance from the customer perspective by asking them how satisfied they are with products or services. This is a common way to measure the performance of frontline employees;
- ▶ **Return on investment:** The contributions to profits generated by an investment such as a project or business purchase. It is expressed as a percentage of the investment;
- ▶ **New revenue rate:** The percentage of your revenue that is generated by new products. It's away to measure innovation and expenditure on research & development. The definition of "new product" differs with industry;
- ▶ **Productivity:** The amount of output per hour of work. A basic measure of employee performance. For example, a software development team might measure story points per month per developer;
- ▶ **Efficiency:** The amount of output per unit of input. For example, a farm that measures the number of apples produced per acre of land;
- ▶ **Waste:** The amount of waste per unit of output. For example, a supermarket that tracks the percentage of food products that expire before being sold;
- ▶ **Turnaround time:** The average time it takes to complete an activity. For example, the time it takes to resolve customer complaints;
- ▶ **Volume:** Volume metrics such as the number of sales deals closed in a month per sales person;
- ▶ **Quality:** Quality metrics such as customer perceptions of your brand.
- ▶ **Budget variance:** The amount by which you are over or under budget expressed as a percentage of the budget;
- ▶ **Schedule variance:** The amount of time by which you are late or early to deliver to commitments expressed as a percentage of total scheduled time; and
- ▶ **Defect density:** The number of defects per output. For example, software development teams may measure defects per thousand lines of code and factories may measure defects per thousand units produced.

### 6.3.3 Value for money

#### Introduction

The value for money approach to measuring performance is predominantly used in not-for-profit organisations and is based on the idea that these organisations must work within financial constraints. Government departments must operate within budget limits. Charities must operate within spending limits set by the amount of donations they receive.

Not-for-profit organisations should therefore aim to make the best use of the money available to them and create 'value' in what they do. Making the best use of money is described as achieving value for money (VFM).

Value for money is an objective that can be applied to any organisation whose main objective is non-financial but which has restrictions on the amount of finance available for spending. It could therefore be appropriate for all organisations within the public sector.

However, value for money can also be seen as a measure of the effectiveness

and/or the efficiency of a product. It is an assessment as to whether the customer has derived the maximum benefit possible from the good/service, within the constraints of the resources (time, money, materials) available to him/her.

### **Elements of value for money**

There are three aspects to achieving value for money, often referred to as the '3Es':

- ▶ economy;
- ▶ efficiency; and
- ▶ effectiveness.

The concept of VFM can also be applied in commercial businesses, but it is more commonly used in performance measurement systems of not-for-profit organisations.

### **Economy**

Economy means keeping spending within limits and avoiding wasteful spending. It can also mean achieving the same results with less cost. A simple example of economy

is found in the purchase of supplies. Suppose that an administrative department buys items of stationery from a supplier, and pays ₦20 each for ball point pen. It might be possible to buy each of the same quality to fulfil exactly the same purpose for ₦15 each. Economy would be achieved by switching to buying the ₦15 ball point pen, saving ₦5 per pen with no loss of operating efficiency or effectiveness.

### **Efficiency**

Efficiency means getting more output from available resources. Applied to employees, efficiency is often called 'productivity'. Suppose that an employee in the government's tax department processes 20 tax returns each day. Efficiency would be improved if the same individual increases the rate of output, and processes 25 tax returns each day, without any loss of effectiveness.

### **Effectiveness**

Effectiveness refers to success in achieving end results or success in achieving objectives. Whereas efficiency is concerned with getting more outputs from available resources, effectiveness is concerned with achieving outputs that meet the required aims and objectives. For example, the effectiveness of treatment of a particular medical condition will be improved if the proportion of patients who are treated successfully rises from 80% to 90%.

### **Measuring value for money**

Some of the tools used to measure value for money are:

- ▶ cost-benefit analysis - to evaluate the net economic impact of a project; most commonly used in major infrastructure investment; and
- ▶ cost-effectiveness analysis (for more intangible outcomes such as health).

#### **6.3.4 The balanced scorecard (BSC) Introduction**

The balanced scorecard (BSC) is a strategic planning and performance management tool that organisations use to:

- ▶ Communicate strategic performance objectives, i.e. what they are trying to accomplish;
- ▶ Align the day-to-day work that everyone is doing with strategy;
- ▶ Prioritise projects, products, and services; and
- ▶ Measure and monitor progress towards strategic targets.

A balanced scorecard looks at an organisation from four different perspectives to measure its success. It can be described as a strategic planning and management system used to align business activities to the vision statement of an organisation. A balanced scorecard tries to interpret a company's vision/mission statement into the practicalities of managing the business better at every level.

The balanced scorecard forces managers to look at the business from four important perspectives. It links performance measures by requiring firms to address four critical areas:

- ▶ Customer perspective - How do customers see us?
- ▶ Internal business processes or perspective - What must we excel at?
- ▶ Innovation & learning perspective - Can we continue to improve and create value? -
- ▶ Financial perspective - How do we look to shareholders?

The balanced scorecard approach was developed by Kaplan and Norton in the 1990's as an approach to measuring performance in relation to long-term objectives. They argued that for a business entity, the most important objective is a financial objective. However, in order to achieve financial objectives over the long term, it is also necessary to achieve goals or targets that are non-financial in nature, as well.

The concept of the balanced scorecard is that there are several aspects of performance ('perspectives on performance') and targets should be set for each of them. The different perspectives may sometimes appear to be in conflict with each other, because achieving an objective for one aspect of performance could mean having to make a compromise with other aspects of performance. The aim should be to achieve a satisfactory balance between the targets for each of the different perspectives on performance. These targets, taken together, provide a balanced Score card, and actual performance should be measured against all the targets in the score card.

The reason for having a balanced scorecard is that by setting targets for several key factors, and making compromises between the conflicting demands of each factor, managers will take a more balanced and long-term view about what they should be trying to achieve. A balanced scorecard approach should remove the emphasis on financial targets and short-term results.

However, although a balanced scorecard approach takes a longer-term view of performance, it is possible to set shorter-term targets for each item on the scorecard. In this way, it is possible to combine a balanced scorecard approach to measuring performance with the annual budget cycle, and any annual incentive scheme that the entity may operate.

### **The balanced scorecard: four perspectives of performance**

In a balanced scorecard, critical success factors are identified for four aspects of performance, or four 'perspectives':

- ▶ customer perspective
- ▶ internal perspective
- ▶ innovation and learning perspective
- ▶ financial perspective.

The position of Kaplan and Norton is that for each perspective an entity should identify key performance measures and key performance targets. The four

perspectives provide a framework for identifying what those measures should be, although the specific measures used by each entity will vary according to the nature of the entity's business. This is done by answering identified key question for each perspective.

Answer to this question will indicate the most important issues and performance measure will then be selected for each of these issues.

<b>Perspective</b>	<b>The key question</b>
<b>Customer perspective</b>	<p><b>What do customers value?</b></p> <p>By recognising what customers value most, the entity can focus its performance targets on satisfying the customer more effectively. Targets might be developed for several aspects of performance such as cost (value for money), quality or place of delivery.</p>
<b>Internal perspective</b>	<p><b>To achieve its financial and customer objectives, what processes must the organisation perform with excellence?</b></p> <p>Management should identify the key aspects of operational performance and seek to achieve or maintain excellence in this area. For example, an entity may consider that customers value the quality of its service, and that a key aspect of providing a quality service is the effectiveness of its operational controls in preventing errors from happening.</p>
<b>Innovation and learning perspective</b>	<p><b>How can the organisation continue to improve and create value?</b></p> <p>The focus here is on the ability of the organisation to maintain its competitive position, through the skills and knowledge of its work force and through developing new products and services or making use of new technology as it develops.</p>
<b>Financial perspective</b>	<p><b>How does the organisation create value for its owners?</b></p> <p>Financial measures of performance in a balanced scorecard system might include share price growth, profitability and return on investment.</p>

Several measures of performance may be selected for each perspective, or just one. Using a large number of different measures for each perspective adds to the complexity of the performance measurement system.

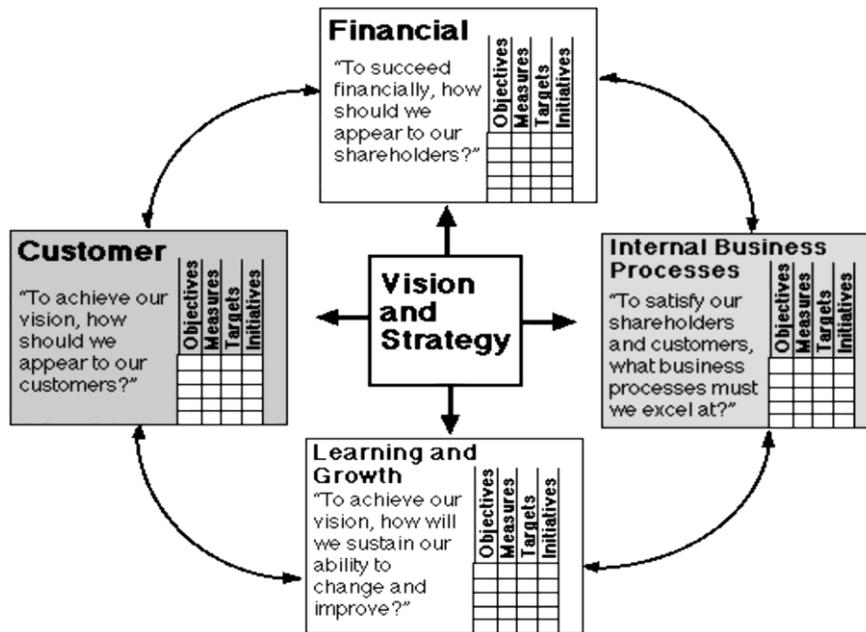
### **Using the balanced scorecard**

With the balanced scorecard approach, the focus should be on strategic objectives and the critical success factors necessary for achieving them. The main focus is on what needs to be done now to ensure continued success in the future.

The main performance report for management each month is a balanced scorecard report, not budgetary control reports and variance reports. Examples of measures of performance for each of the four perspectives are as follows. This list is illustrative only, and entities may use different measurements:

<b>Perspective</b>	<b>Outcome measures</b>
<b>Critical financial measures</b>	<ul style="list-style-type: none"> <li>Return on investment</li> <li>Profitability and profitability growth</li> <li>Revenue growth</li> <li>Productivity and cost control</li> <li>Cash flow and adequate liquidity</li> <li>Avoiding financial risk: limits to borrowing</li> </ul>
<b>Critical customer measures</b>	<ul style="list-style-type: none"> <li>Market share and market share growth</li> <li>Customer profitability: profit targets for each category of customer</li> <li>Attracting new customers: number of new customers or percentage of total annual revenue obtained from new customers during the year</li> <li>Retaining existing customers</li> <li>Customer satisfaction, although measurements of customer satisfaction may be difficult</li> <li>On-time delivery of customer orders</li> </ul>
<b>Critical internal measures</b>	<ul style="list-style-type: none"> <li>Success rate in winning contract orders</li> <li>Effectiveness of operational controls, measured by the number of control failures identified during the period</li> <li>Production cycle time/throughput time</li> <li>Amount of re-working of defective units</li> </ul>
<b>Critical innovation and learning measures</b>	<ul style="list-style-type: none"> <li>Revenue per employee</li> <li>Employee productivity</li> <li>Employee satisfaction</li> <li>Employee retention or turnover rates</li> <li>Percentage of total revenue earned from sales of new products</li> <li>Time taken to develop new products from design to completion of development and introduction to the market</li> </ul>

The balanced scorecard model is shown below:



Each of these perspectives focuses on a different side of an organisation, creating a balanced view of the firm. The four perspectives are inter-dependent - improvement in just one area is not necessarily a recipe for success in the other areas. A balanced scorecard approach is to take a holistic view of an organisation and co-ordinate metric-driven incentives (MDIs) so that efficiencies are experienced by all departments and in a joined-up fashion.

### 6.3.5 Economic value added (EVA)

Peter Drucker once opined, "until a business returns a profit that is greater than its cost of capital, it operates at a loss." This statement calls profit as a good measure of expected increase in the value of a business to question. First, in order to make a profit, capital must be invested. And capital, as a resource, has a cost. Therefore, the actual creation of extra value should be the profit less the cost of capital invested.

Also, another reason why profit is not a good measure of the expected increase in the value of a business is that profit is measured by accounting conventions and, therefore, is not a proper measure of real economic profit.

As a result of the above weaknesses of profit as a measure of increase in business value, Stern Stewart (a management consultancy firm) devised a method of measuring economic profit, called economic value added (EVA).

EVA for a financial period is the economic profit after deducting a cost for the value of capital employed. It is measured as:

Net operating profit after tax (NOPAT) – (capital employed x cost of capital).

$EVA = NOPAT - (\text{capital employed} \times WACC)$  Where WACC = weighted average cost of capital.

## Calculation of NOPAT

NOPAT in EVA requires the following adjustments to accounting profit, so as to arrive at the economic profit:

- (1) **Interest costs.** In calculating NOPAT, interest costs of debt capital should not be deducted from profit. This is because debt capital is included in the capital employed. Therefore, NOPAT is the profit before deducting interest costs but after deducting tax. Also, adjustment must be made on the interest on debt so as to take care of the tax relief on interest.

$$\text{NOPAT} = \text{Profit after tax} + [\text{Interest costs less tax relief on the interest}]$$

- (2) **Depreciation.** Non-cash expenses should not be deducted from profit. So, in calculating NOPAT, non-cash item such as, depreciation should not be removed from profit. However, in place of accounting depreciation on non-current assets, an economic depreciation will be removed from profit to arrive at NOPAT. This is to allow for the economic consumption of value that occurs when the assets are used. Therefore:

$$\text{NOPAT} = \text{Profit after tax} + \text{Post-tax interest cost} + [\text{Accounting depreciation} - \text{Economic depreciation}]$$

- (3) **Other non-cash expenses.** Other non-cash expenses should also be added back in order to measure NOPAT. These include additional provisions for irrecoverable debts and other provisions.
- (4) **Investments in intangible items.** Investments in intangible items such as, spending on promotion activities, investing in a brand name, research and development spending and spending on employee training (to increase the economic value of the work force) are items of discretionary spending by management that add to the value of the business. In conventional accounting systems, these items of expense are usually written off as expenses in the year that they occur. However, to arrive at NOPAT, these items of expense that have been written off in the conventional accounts should be added back. They would also be added to the value of the company's capital. Economic depreciation charges will be applied as appropriate to this economic capital, in subsequent years.

## Charge for capital

EVA is NOPAT minus a charge that represents the cost of capital employed. There are two elements to the capital charge:

- the value of the company's assets; and
- the cost of capital.

## Capital employed

The valuation of capital employed should be based on economic values of the capital employed. In most cases, this means that non-current assets should be valued close to their current value, rather than value based on their historical costs. In a simplified system for measuring the economic value of a company's capital employed, the starting point is the book value of the company's net assets. This is:

- ▶ book value of non-current assets at the beginning of the year; plus
- ▶ book value of net current assets at the beginning of the year.

**Some adjustments should then be made for:**

**Investments in intangibles** - Spending on intangible items should be added back in calculating NOPAT, as explained earlier. In addition, the net book value of intangible items should be included in capital employed, and so an estimate of the net book value of the intangibles should be added to the accounting value of the company's net assets.

**Provisions and allowances** - Additions during the year to allowances for irrecoverable debts and additions to provisions should be added back to profit in calculating NOPAT. The total amount of allowances for irrecoverable debts, provisions for deferred tax and other provisions should also be added to capital employed.

**Off-statement of financial position financing and operational leases** - Some companies keep items of capital off their statement of financial position. A notable example is assets held on operating leases. The acquisition of leased assets is a form of debt finance, because the lessor has provided the financing for the assets that the company is leasing. The estimated value of assets held under operating lease agreements (and the value of any other assets financed 'off statement of financial position') should be added to capital employed.

**Cost of capital**

The capital charge is calculated by applying the weighted average cost of capital (WACC) to the value of capital employed.

WACC is the weighted average of equity capital and debt capital in the company's target capital structure, as follows:

- ▶ If the current debt structure of the company is close to the long-term target debt structure of the company, the weighted average cost of capital can be calculated from the current value of equity and debt capital.
- ▶ However, if the target capital structure is different from the current capital structure, the weighted average cost of capital is calculated using the target proportions of equity and debt.

The cost of equity and the cost of debt can vary from year to year. A new WACC may therefore be calculated each year, with appropriate costs for equity and debt in each year.

**Illustration**

Adeb Nigeria Limited's income statement and statement of financial position for the year ended 2017 are as follows:

Income statement	2017
	₦000
Profit before interest and tax	162,000
Interest cost	<u>16,000</u>
Profit before tax	146,000
Tax at 25%	<u>36,500</u>
Profit after tax	109,500
Dividends paid	<u>56,000</u>
Retained profit	<u>53,500</u>

Statement of financial position	2017
	₦000
Non-current assets	365,000
Net current assets	<u>270,000</u>
	<u>635,000</u>
Shareholders' funds	
	445,000
Long-term and medium-term debt	<u>190,000</u>
	<u>635,000</u>

### Notes

- Capital employed at the beginning of the year was ₦510 million.
- The company had non-capitalised leased assets of ₦48 million in the year. These assets are not subject to depreciation.
- The estimated cost of equity in the year was 10% and the cost of debt was 7%.
- The company's target capital structure is 50% equity and 50% debt.
- Accounting depreciation was equal to economic depreciation so there is no need to make an adjustment from accounting depreciation to economic depreciation.
- Other non-cash expenses were ₦24 million.

### Solution

EVA is calculated as follows.

Net operating profit after tax	2017
	₦000
Profit after tax	109,500
Add: Interest cost less tax: (16,000 less 25%)	12,000
Add: Non-cash expenses	<u>24,000</u>
NOPAT	145,500

Capital employed	2017
	₦000
Book value of total assets less current liabilities	510,000
Non-capitalised leased assets	<u>48,000</u>
	<u>558,000</u>

$$WACC = (10\% \times 50\%) + [7\% (1 - 0.25) \times 50\%] = 7.625\%$$

EVA	Year 1
	₦000
NOPAT	<u>145,500</u>
Capital charge: (558,000 x 7.625%)	<u>42,548</u>
Economic value added (estimate)	<u>102,952</u>

## Ethics and the professional accountant

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## 7 ETHICS AND THE PROFESSIONAL ACCOUNTANT

### 7.0 Purpose

By the end of this chapter you should be able to:

- ▶ Explain the place of ethics in the accounting profession;
- ▶ Explain IFAC pronouncement on ethics and ethical conducts for professional accountants
- ▶ Understand how to determine ethical conduct; and
- ▶ Understand the place of ethics in Case study examination.

### 7.1 Introduction to ethics

Ethics may be defined as 'written and unwritten codes of principles and values that govern decisions and actions within an organisation'.

In the business world, an organisation's culture sets standards for determining the difference between good and bad decision-making and behaviour. The expression 'business ethics' can be used to describe the actions both of individuals within an organisation and of the organisation as a whole – though in effect these are the same thing as the culture of an organisation is necessarily shaped by the individuals who work for it (especially those in positions of power, the ones who 'set the tone').

In the commercial world the term 'business trust' (the trust that outsiders can place in a business) is seen as being an important aspect of determining business ethics. In recent times major companies, or even whole business sectors, have suffered as a result of a fall in 'business trust'. There is substantial evidence that if trust of any kind can be called into question for a business, it is very difficult for that trust to be re-established.

In the most basic terms, business ethics has two parts. Firstly, the organisation must know the difference between right and wrong, and secondly, it must choose to do what is right in the circumstances in which it finds itself.

### 7.2 A professional approach to ethics

The accountancy profession's approach to ethics is principles-based approach to ethics rather than rules-based approach. The introductory paragraph in the IESBA code of ethics states:

"A distinguishing mark of the accountancy profession is its acceptance of the responsibility to act in the public interest. Therefore, a professional accountant's responsibility is not exclusively to satisfy the needs of an individual client or employer. In acting in the public interest, a professional accountant shall observe and comply with this Code. If a professional accountant is prohibited from complying with certain parts of this Code by law or regulation, the professional accountant shall comply with all other parts of this Code."

The Code establishes the fundamental principles of professional ethics for professional accountants and provides a conceptual framework that professional accountants shall adhere to:

- ▶ Identify threats to compliance with the fundamental principles;
- ▶ Evaluate the significance of the threats identified; and
- ▶ Apply safeguards, when necessary, to eliminate the threats or reduce them to an acceptable level.

A professional accountant shall use professional judgment in applying this conceptual framework. The Code then sets out the five fundamental principles with which a professional accountant shall comply. These are:

- a) **Integrity** – a professional accountant shall be straightforward and honest in all professional and business relationships. This means that a professional accountant shall not be associated with reports, returns, communications or other information where he believes that the information:
- ▶ contains a materially false or misleading statement;
  - ▶ contains statements or information furnished recklessly; or
  - ▶ omits or obscures information required to be included where such omission or obscurity would be misleading.

This principle of integrity, therefore, demands that a professional accountant should be straight forward and honest in performing professional services. It also implies fair dealing and truthfulness. It follows that a professional accountant's advice and work must be uncorrupted by self-interest and not be influenced by the interests of other parties.

- b) **Objectivity** – a professional accountant shall not allow bias, conflict of interest or undue influence of others to override professional or business judgments. Therefore, relationships that bias or unduly influence the professional judgement of the professional accountant should be avoided.
- c) **Professional competence and due care** – a professional accountant shall maintain professional knowledge and skill at the level required to ensure that a client or employer receives competent professional services based on current developments in practice, legislation and techniques and act diligently and in accordance with applicable technical and professional standards. Competent professional service, therefore, requires the exercise of sound judgment in applying professional knowledge and skill in the performance of such service. Professional competence may be divided into two separate phases:
- ▶ Attainment of professional competence; and
  - ▶ Maintenance of professional competence.

However, the maintenance of professional competence requires a continuing awareness and an understanding of relevant technical, professional and business developments. Continuing professional education and development enables a professional accountant to develop and maintain the capabilities to perform competently within the professional environment. While diligence requires the professional accountant to act in accordance with the requirements of an assignment, carefully, thoroughly and on a timely basis.

- d) **Confidentiality** – a professional accountant shall respect the confidentiality of information acquired as a result of professional and business relationships and, therefore, not disclose any such information to third parties without proper and specific authority, unless there is a legal or professional right or duty to disclose, nor use the information for personal advantage of the professional accountant or third parties. In deciding whether to disclose confidential information, a professional accountant should consider the following:
- ▶ whether the interests of all parties, including third parties whose interests may be affected, could be harmed if the client or employer consents to the disclosure of information by the professional accountant;
  - ▶ whether all the relevant information is known and substantiated, to the extent that is practicable; and
  - ▶ the type of communication that is expected and to whom it is addressed.
- e) **Professional behaviour** – the principle of professional behaviour imposes an obligation on professional accountant to comply with relevant laws and regulations and avoid any action that may bring discredit to the profession.
- This includes actions which a reasonable and informed third party, having knowledge of all relevant information would conclude negatively affects the good reputation of the profession. In marketing and promoting themselves and their work, professional accountants should not bring the profession into disrepute. Professional accountants should be honest and truthful and should not:
- ▶ make exaggerated claims for services they offer, the qualifications they possess, or experience they have gained, or
  - ▶ make disparaging references or unsubstantiated comparisons to the work of others.

The word 'shall' mean that these principles are absolute and non-negotiable. Within the conceptual framework, the following five threats are set out:

- ▶ Self-interest threat – the threat that a financial or other interest will inappropriately influence the professional accountant's judgment or behaviour;
- ▶ Self-review threat – the threat that a professional accountant will not appropriately evaluate the results of a previous judgment made or service performed by the professional accountant, or by another individual within the professional accountant's firm or employing organisation, on which the accountant will rely when forming a judgment as part of providing a current service;
- ▶ Advocacy threat – the threat that a professional accountant will promote a client's or employer's position to the point that the professional accountant's objectivity is compromised;
- ▶ Familiarity threat – the threat that due to a long or close relationship with a client or employer, a professional accountant will be too sympathetic to their interests or too receptive of their work; and
- ▶ Intimidation threat – the threat that a professional accountant will be deterred from acting objectively because of actual or perceived pressures, including attempts to exercise undue influence over the professional accountant.

### 7.3 Ethics in professional life

An ICAN chartered accountant – or a student aspiring to become an ICAN chartered accountant must develop, and adhere to, an ethical approach to work. As with many areas of professional competence, the ability to be aware of and be able to identify and address ethical issues is one that develops over time. This task is complicated by the fact that an ethical issue does not arrive with a red flag waving to draw attention to it.

Frequently in practice it will present itself in a subtle and inconspicuous manner. Your work experience will probably have provided you with an opportunity to observe ethical issues as they arise and put ethical principles into practice. As you progress through your training, you will have found that your day-to-day work has an ethical dimension, affecting everything from how you treat other people to how you analyse and judge information and situations, and make decisions. You would have developed your professional values through your formal structured training, as well as through informal on-the-job discussions and observations.

Ethical behaviour pervades a whole organisation. It is important, as a professional, to be able to determine whether one aspect of questionable ethical business behaviour, or the behaviour in one area of the business, is providing a signal about the existence of poor ethical business behaviour throughout the organisation.

### 7.4 Determining whether an action is ethical

In order to determine whether or not an action, commercial incident, or pattern of behaviour presents an ethical dilemma, it is important to consider the outcomes of the decision-making process. One way of identifying ethical dilemmas is by using the 'four-way test' to evaluate decisions – so-called because it involves asking four general questions; although this is not a definitive list, but a reflective process:

- ▶ Is the decision/action a truthful one?
- ▶ Is the decision/action fair to everyone affected?
- ▶ Will the decision/action build goodwill for the organisation?
- ▶ Is the decision/action beneficial to all parties who have vested interest in the outcome?

If these four questions can be answered with a 'yes,' it is likely that the decision is an ethical one.

Another way of considering whether decisions/actions are ethical is by using the 'publicity test' – that is, by asking what would be the reaction, if the decision/action were published in the local or national press. Apart from reasons of commercial sensitivity, if the organisation would not want the wider world to know of the decision/actions, then it may mean that it will create a potential ethical dilemma.

### 7.5 A structured approach

In those cases in practice where a potential ethical dilemma presents itself, there is need to develop a logical and structured approach to dealing with the situation.

Below are key steps to be followed:

- ▶ Gather the relevant facts and identify the problem;
- ▶ Identify the affected parties;
- ▶ Identify the ethical issues involved;

- ▶ Consider and evaluate alternative courses of action and associated consequences; and
- ▶ Decide on a course of action.

## **7.6 Ethics: 'shades of grey' in opinions**

It is also very important in practice to be tactful when dealing with ethical issues because, whatever the origin of a questionable ethical issue, it is sometimes a debatable matter whether an issue has occurred through wilful actions, negligence, or by accident. It is also frequently a matter of opinion whether, for a particular situation, there is a clear ethical issue to be addressed – there are often 'shades of grey' in opinions and these must all be assessed as carefully as possible, bearing in mind any cultural, national or religious differences.

## **7.7. Ethics in Case Study examination**

### **7.7.1 What are the key factors concerning ethics in Case Study examination**

- ▶ Many of the practical steps identified above will also apply in varying degrees to the Case Study.
- ▶ The examiners are looking for ways in which candidates assemble the answer to an ethical issue within the context of the case, rather than follow the pathway that would be available to them in a working situation.

### **7.7.2 Provision of ethical help by the profession**

One of the key differences between the Case Study and professional practice is that in real life situations, a student would automatically seek support and advice from the hierarchy available to him/her in the organisation or from the relevant professional body (e.g. the ICAN) for any identified actual or potential ethical issue.

Because this is not possible in an examination, candidates must be able to analyse, discuss and attempt to resolve the issues themselves. However, this is no different from the assessment of any other topic in the Case Study. In practice, professional support and help will usually (to a greater or lesser extent) be available for any problem identified, and this is no more or less true for the assessment of an ethical issue.

As a result, it would clearly be an inappropriate answer for a candidate merely to state that the identified problem should be 'passed up the line' without providing a convincing structured analysis of the issue, the ethical issues involved, and the impact that the issue might have on the business. It is therefore important that students develop the techniques for assessing and answering questions related to ethical issues.

### **7.7.3 What do the Case Study examiners expect when they refer to 'ethics'?**

In the Case Study examination, candidates are expected to develop answers based on their demonstration of professional skills. Tackling ethical issues is by its nature an exercise of professional judgement. A candidate's consideration of, and response to ethical issues within the Case Study will therefore normally be assessed mainly under the areas of how well the issue has been identified and explained, as well as how judgement has been applied.

Ethical considerations therefore form a significant part of the total marks available. As a result, a candidate who does not deal with the ethical issues of the case would be seriously jeopardising his or her chances of success in the examination.

#### **7.7.4 Ethical requirements in the Case Study**

Ethical issues would not normally form a specific requirement but, within a requirement, may cover such aspects as:

- ▶ Lack of professional independence or objectivity;
- ▶ Conflicts of interest among stakeholders;
- ▶ Doubtful accounting or commercial practice; and
- ▶ Inappropriate pressure to achieve a reported result.

Ethical issues are embedded in the Case Study and are a component of examination requirements but they will not normally constitute a specific single requirement. They will usually, but not necessarily, form a part of a requirement which typically asks candidates to discuss the organisation's operations or strategy, but can occur anywhere in the scenario.

They will not normally have a numerical component, but again this is not a hard-and-fast rule: candidates may be asked, for example, to estimate the financial implications of adopting or not adopting a particular approach to an ethical issue.

It is important to be aware that the issues arising in the Case Study will normally be issues of business ethics rather than professional ethics – i.e. you are being asked to discuss how the subject entity should deal with a particular dilemma that it faces, rather than the implications for you as advisor in providing advice.

In relation to this, one vital consideration is to know the identity of your audience. If you are being asked to report to the board of directors as a whole (which will often be the case), but you know from reading the case material that the directors all have different vested interests that may not benefit the entity as a whole, you will need to be very careful about what advice you give and how you word it.

#### **7.7.5 The four categories**

As identified above, there are four general categories under which ethical issues might arise. Note that the four categories are all, by their nature, areas of concern – each one contains a word that suggests inappropriate behaviour or a difficult situation ('lack', 'conflict', 'doubtful', 'inappropriate').

It is hard to provide a definitive list of ethical issues that could potentially occur in the Case Study under the four headings, but here are some general examples that might arise under each.

##### **Lack of professional independence**

- ▶ Failing to ensure that your advice is in the best interests of the individual(s) or company that commissioned it.
- ▶ Abusing confidentiality.
- ▶ If your role is one in which you are working on secondment (working directly for/ or on behalf of a client) compromising yourself in the work you deliver.
- ▶ Offering or being expected to perform further work outside your sphere of expertise.

##### **Conflicts of interest among stakeholders**

- ▶ Cartel or other linked arrangements which act against consumers' interests
- ▶ Established company practices which contradict environmental and social responsibilities
- ▶ Undisclosed related party transactions (e.g. employing relatives)
- ▶ Performance-related pay (including commissions and bonuses)
- ▶ Abuse of close personal contacts for commercial gain

### **Doubtful accounting or commercial practice**

- ▶ Aggressive attitude towards a supplier
- ▶ Imposition of unfair contract terms
- ▶ Health & safety failings
- ▶ Abuse of customer information
- ▶ Misuse of commercial intelligence / breach of copyright
- ▶ Misleading advertising

### **Inappropriate pressure to achieve a reported result**

- ▶ Manipulation of KPI's
- ▶ Misclassification of items in financial statements to ensure compliance with bank covenants
- ▶ Questionable bad debt provision policy
- ▶ Abuse of cut-off
- ▶ Potential bias in forecast / business plan to support application for loan

It should be emphasised that the categorisation is not rigid – the significance of these examples is that they serve as a list of possible areas of ethical concern.

In the Case Study, the first category (lack of professional independence) is likely to be the least significant. This is not to say that it might not occur at all. Typically, your role has been created in such a way that the work you carry out in the examination is specifically allowed by your terms of engagement; and the ethical issues you are being asked to tackle are those relating to the business itself and not to your role.

#### **7.7.6 Identifying ethical issues in the Case Study examination**

Some ethical issues are obvious, while others are more subtle and are matters of assessment and opinion. As was stated earlier, ethical issues will not always come with a red flag waving and are not standardised.

Once you have conducted the initial reading of the Case Study and familiarised yourself with its broad contents, you should read it again with a view to picking out and noting (or highlighting) any potential ethical issues.

It will help to remember the general category it belongs so as to enable you focus your ethical analysis to identify all the relevant potential issues.

In most Case Study examinations there will be a specific request to consider a problem or an issue which will include the request to consider its ethical dimension – and obviously that should be addressed.

Candidates must recognise linkages (and contradictions), both within and between exhibits. For example, an exhibit dealing with the wider context may mention a general ethical issue; whilst another exhibit may then explain how the entity attempts to deal with the issue in the context of its own business operations, and the organisation may look for your “support” in its actions to resolve the issue.

It must be stressed that the analysis and identification of ethical issues (similar to any financial analysis) to be included in an answer should only be done where it is relevant to the requirements.

You must avoid the temptation to adopt a 'scattergun' approach to an ethical requirement and reproduce bland generalised or platitudinous answers to cover ill-defined ethical issues. Keep your answers focused and relevant.

Overall, your approach to ethical issues should be no different in broad terms from your preparatory work on other aspects of the Case Study, such as those of

financial statements analysis. The same attention to detail will put you at a strong advantage before you enter the examination hall.

Finally, always ensure that you apply diplomatic professional judgement to ethical issues; try to avoid seeing ethical issues only in black or white and not the multiple shades of grey that can exist.

ICAN 2021

## Writing a professional report

### Contents

- 8.0 Purpose
- 8.1 Introduction to reporting writing in ICAN Case Study examination
- 8.2 Business analysis report
- 8.3 Financial statement analysis report
- 8.4 Financial data analysis report
- 8.5 Executive summary
- 8.6 Report structure
- 8.7 Language and style
- 8.8 Report format

## 8 ASSESSMENT PROCEDURE

### 8.0 Purpose

By the end of this chapter you should be able to:

- ▶ Write a good professional report;
- ▶ Craft a good executive summary; and
- ▶ Understand the format of report required in Case Study examination.

### 8.1 Introduction to reporting writing in ICAN Case Study examination

One of the deficiencies of candidates sitting the ICAN Case Study examination is inability to produce a good report, as required. Mastering the art of writing good and professional report is key to passing any Case Study examination. Therefore, succeeding in Case Study examination requires two major skills; analytical skill and report writing skill. Deficiency in any of these two skills portends failure.

There are three types of analyses you will find in the ICAN Case Study examination. These are:

- ▶ Financial statements analysis which includes ratio analyses, common size analysis, trend analysis, working capital analysis, etc.;
- ▶ Financial data analysis which has to do with analysing financial and non – financial data provided in the case, to analyse a business situation with a view to solving a business operational problem or make business decision. This is done by performing appropriate calculations, making judgements and reaching conclusions which will lead to appropriate recommendations based on the analysis carried out; and
- ▶ Business analysis, which include environmental analysis, strategic and operational analyses using appropriate models.

Candidates are normally required to carry out the above analyses and write a report to advise a client or to assist his/her boss to make informed decisions.

To write a good report, candidates must understand various types of business reports using appropriate style and language. Therefore, the first thing is to determine whether it is an internal report or an external report. An internal report is a report addressed to some person in your organisation, usually, your boss or members of your company's board. An external report is a report addressed to an external party, usually, in Case Study examination, a staff of your client, either the Managing Director or the Chief Financial Officer. For an internal report, you will use a memo format, while for an external report a letter format should be used. Also, for an external report, you will need to include a relevant disclaimer in the appropriate place, usually, the title page of the report.

The next thing to note when writing a report is the purpose of the report. You must determine the purpose the report is going to serve in the hands of the user. Is it to inform, advise, direct, persuade, etc?

The third thing is to determine who is the recipient of the report? What is his position in the organisation? This will help you to determine the appropriate language and style in communicating your thoughts. Therefore, in writing your report you must bear in mind the following:

- ▶ The purpose or objective of the report;
- ▶ The type of report, whether it is informational or analytical;
- ▶ The structure of the report;
- ▶ Your audience, those who will read the report. This will help you to choose the appropriate language for the intended audience; and
- ▶ Suitable headings that will communicate your intention and enhance the readability of the report.

#### Business analysis report

The purpose of business analysis is to move the company forward. It is to provide information to facilitate operational, tactical and strategic analysis that will assist management in making informed operational and strategic decisions about the company's operations and processes. This objective must be borne in mind when carrying out a business analysis and reporting on your findings. The analysis must show clearly the company's strengths and weaknesses. It must also reveal the opportunities and threats that are in the company's environments - the industry, national and international environments. The information needed for a business analysis is to be gleaned from the company's records and historical reports. The outcome of a business analysis is to make decisions and action plans that will allow the company to build on its strengths, ameliorate its weaknesses, seize opportunities and avoid threats in the environment.

Documents that could be useful in carrying out business analysis are:

- ▶ The company's board and management meetings' minutes;
- ▶ Historical financial statements analysis for at least, past five years;
- ▶ Chairman's and Directors' reports for the past five years;
- ▶ SWOT analysis report; and
- ▶ Any other data analysis that are available and relevant, e. g. data from market and industry surveys.

When carrying out a SWOT analysis, begin with the company's strengths, weaknesses, areas of recent growth, core competence and any other information taken from available data analysis. Write down the company's vision statement, mission statement and statement of key objectives. From these statements, list out the critical success factors (CSF) and key performance indicators (KPI). Based on these, assess the performance of the company vis-à-vis its stated objectives.

## 8.2 Financial statements analysis report

The purpose of financial statements analysis is always focused on three specific areas, these are: the profitability; the position; and the future potentials of the company. Depending on who is commissioning the analysis, for example, the internal management will like to know the company's profitability and present position as this will enable them to forecast and plan for the future. An investor will be concerned with the future potential earnings ability of the company while a creditor will be concerned about the company's position and future prospects. The purpose for carrying out financial statements analysis varies but each financial statements analysis should contain key components that show the company's profitability, efficiency, short-term and long-term solvency. This is because it is only after careful review of all the components that a conclusion can be drawn regarding the company's financial health.

The financial statements usually comprise:

- ▶ Statement of financial position;
- ▶ Statement of comprehensive income;
- ▶ Statement of cash flow;
- ▶ Shareholders' statement of equity; and
- ▶ Attached notes to the financial statements.

In preparing your financial statements analysis report, follow the following guidelines:

- ▶ Determine the purpose, use and the user of the report and bear this in mind in writing your report, most especially, this will dictate the content of the report;
- ▶ Determine the information need of the user. This will enable you select the appropriate ratios you will review and include in your report;
- ▶ Follow an appropriate framework. Do not mix the ratios in your review and report, i. e. be organised. When you are writing about profitability, do not discuss about solvency, deal with each aspect separately in your report. You can start with profitability, followed by efficiency or activity ratios, then, position which deals with short-term and long-term solvency and finally the future prospect of the company. However, how you organise your report very much depends on the purpose of the financial statements analysis;
- ▶ Review the background of the company's business and financial data behind the background as these will help you to closely integrate your financial statements analysis to the company's operations. This will also assist you to understand where the company's problem is coming from;
- ▶ In your report, consider the environments of the company, its industry, national and international environments. This will assist you to understand the financial situation of the company in the light of its business environment and in comparison, with the industry situation; and
- ▶ Conclusions on your financial statements analysis should include:
  - Whether the performance of the company, in terms of profitability, is improving, or whether it is declining; and whether it is above or below the industry average;
  - Whether the company is putting its assets into effective and efficient use to generate profit or the assets are under-utilised;
  - Whether the company is able to meet its day to day financial commitments or not;
  - Whether it is high geared or low geared and the implications of this;
  - Whether the company has a bright future or its existence is under threat; and
  - Your recommendations, based on your financial statements analysis should include the actions the management of the company should take, based on your conclusions from the financial statements analysis, to ensure continued survival and future profitability of the company.

### **8.3 Financial data analysis report**

Financial data analysis varies from case to case, depending on the examiner's requirement and the data supplied in each case scenario. Candidates are required to determine the type of data, the purpose of the data and the decision the management of the company wants to make based on the data analysis. Candidates should analyse the data, using the analytical skills they have gained in the previous professional examination subjects such as Performance Management and strategic financial management to determine what type of analysis is required to help in taking the management decision that is required in the case scenario. The result of the analysis will be the basis for the candidates' conclusions and recommendations, i.e., action the management should take.

## 8.4 Executive summary

An executive summary is a brief section at the beginning of a report, or proposal, or business plan that summarises the document. Therefore, an executive summary is a concise summary of a business report. The purpose of executive summary is to consolidate the principal points of your report in one place. After reading the executive report, the reader should be able to understand the main points you are making and your evidence for those points without having to read the whole report. It is not a background and not an introduction. People who read only the executive summary should be able to get the essence of the report. Your executive summary should explain why you wrote the report, and emphasises your findings, conclusions and recommendations. The executive summary should answer the reader's questions in brief. Although the executive summary is always at the beginning of the report, it is normally written last, when you are certain about the contents of the report. Broadly, an executive summary, as you might expect, summarises the main points of the underlying report and draws out the key points. It usually has three sections: introduction, main body and conclusion.

The introduction explains what the report is about, including what action needs to be taken as a result. It does not need to be more than one or two sentences.

The main body outlines the key findings, conclusions and recommendations from the report to which this is the summary. The main section needs to focus on the interesting and most relevant bits of the report. Most importantly, the executive summary needs to stand alone without the reader having to refer to the main body of the report.

Finally, you need a conclusion, which outlines the action needed from the person reading the report. Bullet points are a useful form to highlight the key points.

Two key questions you need to ask before you start writing your executive summary are:

- ▶ Who is the intended audience of my executive summary?
- ▶ Which of the contents of the report that I am summarising do they really need to know?

### The intended audience

As with all writing projects, it is important to know your audience. The intended audience for an executive summary may be quite different from the intended audience for the whole report.

The executive summary serves several possible purposes, such as:

- ▶ People who may read the executive summary to find out if they need to read the full report. This group may include people within the organisation and outside who the report is likely to touch on what they do every day. They will often be subject experts; they just need to know if there is anything new that they should read. This group will be looking for a broad summary of the contents of the wider report;
- ▶ People who may want to find out if they would find the full report interesting and relevant, even if not strictly essential. Again, this group is likely to be subject experts, but may also include analysts searching for a particular 'angle' on the subject. This group will also welcome a straightforward summary of the contents; and
- ▶ People who may read the executive summary instead of the full report. This is the group that you really need to think about and they include the board or executive team of the/your organisation. What goes into the executive

summary, therefore, is the message that they are going to take away. For these people, the executive summary is their window into the subject and it needs to be transparent, not opaque, as well as concise and balanced, if they are to understand it.

### **What does your intended audience need to know?**

Ask yourself, what would the intended reader need to know and to act upon on this report? The executive summary should convey these without the reader going through the whole report.

Therefore, your executive summary should be:

- ▶ Presented as a document that can stand on its own;
- ▶ One to maximum of two pages, depending on the length of the report; and
- ▶ Written in a formal tone, avoiding the use of first-person pronouns (I, we, our, etc.).

The following guidelines will help you:

- ▶ State the purpose of the report. Remember that your audience may not have much time, so they should know this information immediately;
- ▶ Organisation is key for communicating your message. So, present the major points in the same order they are written in the report;
- ▶ Avoid introducing information that is not addressed in the report;
- ▶ Summarise the results, conclusions, or recommendations made in the report. Inform your audience quickly and thoroughly instead of having them guess;
- ▶ Use headings as needed, but phrase them differently from those in the report. This will keep your summary organised while avoiding redundant language;
- ▶ Format the summary in the same way as the report;
- ▶ Reread the summary carefully and ask yourself, "Is my message clear? Did I include key conclusions and recommendations? Could my audience peruse this executive summary without missing the main point? Would I be interested in the full report based on this summary?" and
- ▶ Proofread and edit.

Finally, your executive summary should answer the following questions:

- ▶ Briefly, what is this report about?
- ▶ Why is this report important? That is, why this report in the first instance?
- ▶ What are the major findings or results?
- ▶ What are the conclusions from the findings?
- ▶ What are the recommendations?

### **8.5 Common mistakes to avoid in executive summaries**

When writing your executive summary, avoid the following:

- ▶ Repetition of the contents of the executive report at the beginning of the main report;
- ▶ Providing too much detailed background in the executive summary;
- ▶ Including too much detail in the executive summary. It is in the body of the report that details should be;
- ▶ The use of different terms in the executive summary apart from those used in the report. If the summary mentions findings, the report should include findings--not observations. If the summary cites results, the report should describe results--not outcomes.
- ▶ The executive summary should reflect what is in the main report, so avoid the temptation of including new things that are not in the main report in the executive summary;
- ▶ Avoid too much or too few details in the executive summary. Executive

summaries should be from one paragraph to two pages, covering only the essential findings, results, conclusions and recommendations.

- ▶ Avoid inclusion of the contents of the executive summary in the conclusion section of the main report. Conclusion is simply a wrap-up that drives home the main points. It is not an executive summary.

### **8.5.1 Examples of an executive summary**

The following are examples of executive summary that will give you an idea of what an executive summary is. The first example is an executive summary from an internal audit report, addressed to the company's executives while the second is an executive summary of a financial analysis report.

#### **Example 1**

Scope and objective: Internal audit performed a review of business activities at the PH branch to determine the level of compliance with established policies and procedures. Findings and recommendations: The audit identified two areas that require improvement: (1) the level of documentation for inventory adjustments, inventory counts adjustments; and (2) the use of existing forms and reports that support business processes. The report contains two high-priority and three medium-priority recommendations. (See Table a, page 5.) [You will list recommendations here].

Management response: Management of the branch has accepted the findings and Has developed action plans to implement the recommendations. Internal Audit will follow up with the implementations.

#### **Example 2**

This report provides an analysis and evaluation of the current and prospective profitability, liquidity and financial stability of Colab Nigeria Limited. Methods of analysis include trend, horizontal and vertical analyses as well as relevant ratios. Other calculations include rates of return on shareholders' equity and total assets and earnings per share. All calculations can be found in the appendices. Results of the analyses show that all ratios are below industry averages. Also, comparative performance is poor in the areas of profit margins, liquidity, credit control, and inventory management.

The report shows that the prospects of the company in its current position are being threatened. The major areas of weakness require further investigation and remedial action by management.

Recommendations discussed include:

- ▶ Improving the average collection period for accounts receivable;
- ▶ Improving/increasing inventory turnover; and
- ▶ Reducing prepayments and perhaps increasing inventory levels.

However, this analysis has the following limitations:

- ▶ Forecasting figures are not provided;
- ▶ Nature or type of company is not known nor the current economic conditions provided; and
- ▶ Data limitations, as not enough information is provided or enough details given, i.e. monthly details not known, and results are based on past performances not present.

## 8.5.2 Report structure

Your report should have the following structure:

### a. Executive summary

An executive summary is a concise discussion on the contents of the whole report. It is meant, as the name indicates, for the busy executives, to enable them have a glimpse of the whole report.

### b. Introduction

This should include explanation of the reasons and justification for the analysis together with the focus of your report. Specifically, your introduction should cover:

- ▶ Terms of reference, aims and objectives of the report
- ▶ The scope and limitation of the report
- ▶ An outline of the report structure
- ▶ Relevant background of the company, short history, the present problem, etc.

### c. Body of the report

This should be structured around appropriate headings and subheadings. It should include analyses carried out, the results of the analyses or findings. It will also include discussion of findings. The purpose of headings and subheadings is to help you organise the presentation of your thoughts to the readers of your report. The headings serve as a guidepost for the reader and divide the report into segments that make the report easy to read and comprehend. It should be noted however, that headings are directional, descriptive, parallel and sequential in transition. Usually, ICAN Case Study examinations have two requirements, therefore, your main headings should be structured around these two requirements while the sub headings under each main heading will be based on the structure of your discussions under each of the requirements.

### d. Conclusion

Analyse, interpret and draw conclusions from the facts presented in the body and data presented in the appendices. These should be specific, concise and organised. The conclusion of your report should be one short section, or a paragraph of four to six sentences. In your conclusion, recap the most important and salient points of the report and your analysis, such as goals achieved, new vision statement, profits, company's strengths and areas for improvement.

ICAN Case study examinations always have two requirements and each of the requirements asks for specific thing. Your conclusion should touch on the specific thing in each requirement. For example, if requirement 1 is asking you to appraise the financial health of the company, your conclusion must include your assessment of the company's short-term and long-term solvency of the company and the implications of this to the future prospect of the company.

### e. Recommendation

This includes specific actions you are advising the management to take, based on the requirements of the case and your findings in your analyses and the conclusions you have arrived at.

**f. Appendices**

Appendices contains detailed information and calculations, tables and figures that are not included in the body of the report in order not to make the report too cumbersome but are required to aid the readers' understanding of the basis for the conclusions and recommendations in the report.

**8.6 Language and style**

Things to ensure and things to avoid:

Things to ensure:

- ▶ Agreement of subjects and verbs;
- ▶ Correct capitalisation;
- ▶ Correct pronouns;
- ▶ Correct use of abbreviations and special terms – before using an abbreviation the meaning must have been stated earlier in the report;
- ▶ Brevity – eliminate words, phrases, sentences, paragraphs or sections that are superfluous, i. e. that do not change the meaning and content of the report if they are removed.
- ▶ Use of appropriate approach that will arouse and hold the interest of the reader; and
- ▶ Use of appropriate language familiar to the recipient and in common use in the field of the subject of the report.

Things to avoid include:

- ▶ Spelling mistakes; and
- ▶ Over capitalisation.

There are two basic must for your report. These are accuracy and objectivity.

**Accuracy:** Your analysis -financial, data and business analyses must be accurate and based on the information and data provided in the case scenario and additional appendices provided.

**Objectivity:** Your report must be devoid of emotions and personal prejudices. You are not to express your opinion on what you felt it should be, but base your conclusions and recommendations on facts presented in the case scenario.

**8.7 Candidates' report format**

Candidates' report is expected to be in accordance with the format below:

**Page 1:** Cover page, which should be as follows:

To: The Board of Directors of .....  
Report on .....

Prepared by: (Name of your firm, if an external report or your boss or department's name, if an internal report) Date:

This report is prepared for the Board of Directors of.....and it is intended for their use. We accept no liabilities from third parties who may rely on the contents without due authorisation.

**Page 2:** Executive  
summary Section 1:  
General:

The purpose of the report; Summary of  
the two requirements; Assumptions;  
and  
Reservations – scepticism.

Section 2: Requirement 1 conclusions

Section 3: Requirement 1 Recommendations

Section 4: Requirement 2 conclusions

Section 5: Requirement 2 Recommendations

**Pages 3 - X:** Report on requirement 1 with appropriate headings and subheadings which must include your conclusions and recommendations (this may take few pages).

**Page X- XX:** Report on requirement 2 with appropriate headings and subheadings which must include your conclusions and recommendations (this may take few pages).

**Page XX - XXX:** Appendices (this may take few pages, depending on the number of appendices and their contents).

## Assessment procedure

### Contents

- 9.0 Purpose
- 9.1 Competency based assessment and marks allocation
- 9.2 The marking key
- 9.3 Marks within skills boxes
- 9.4 Constructing the marking key
- 9.5 An example of the marking key
- 9.6 How are grades awarded?
- 9.7 How is numerical work rewarded?
- 9.8 What is an appropriate grade profile?
- 9.9 Quality versus quantity
- 9.10 Examination focus

## 9 ASSESSMENT PROCEDURE

### 9.0 Purpose

By the end of this chapter you should be able to:

- ▶ Understand the assessment procedures in Case Study examination; and
- ▶ Understand the marking key and how this is used in the assessment of Case Study examination.

### 9.1 Competency based assessment and marks allocation

It is important for candidates to understand that in the Case Study examination the assessment uses a process known as competency based assessment (CBA). This means that it is the evidence of a candidate's professional skills (or competence) that is being assessed.

The starting-point for developing the assessment of a specific case is the generic competences that are set out in the introduction which are then tailored to the Case Study requirements. The list of assessed skills indicates the areas in which professional skills might be assessed in a Case Study examination and that list is combined with the case requirements to create a tailored list for the specific examination requirement.

### 9.2 The marking key

In order to assess candidates objectively, a specific marking key is developed for each Case Study examination. This will assess a candidate's professional skills in the following way:

- ▶ There will be two main requirements for which marks are given, together with marks for integrative and multidisciplinary skills (including relevant financial and non - financial appendices).
- ▶ There will be 8 skills assessment boxes (SABs or more commonly referred to as boxes) – see definition and an example below – for each of the two requirements,
- ▶ There will be 4 skills boxes for integrative and multidisciplinary skills that apply to the document as a whole (2 of which are for the financial appendices). (See an example below).
- ▶ There will be 5 executive summary assessment boxes (ESABs) which apply to the whole report, covering summary of responses to requirements 1 and 2.
- ▶ Thus, across the whole paper, there will be 25 skills boxes.

A typical allocation of grade boxes is therefore as follows:

Requirements	Boxes
Executive Summary	5
Requirement 1	8
Requirement 2	8
	21
Overall paper: Report	2
Overall paper: Appendices:	2
<b>TOTAL</b>	<b><u>25</u></b>

The starting-point for developing the assessment of a specific case is the generic competences that are set out in the introduction which are then tailored to the Case Study requirements. The list of assessed skills indicates the areas in which professional skills might be assessed in a Case Study examination and that list is combined with the case requirements to create a tailored list for the specific examination requirement.

### **9.3 Marks within skills boxes**

Within each skills box, there will be a number of assessment criteria (ranging from 4 – 8) which will be the basis for assessing candidates under each box (an example is shown in 9.5 below). However, not all will be relevant to any given Case Study. The examiners select those that are relevant to ensure that the marking of successive cases is comparable.

Candidates will only need to demonstrate 4 of these assessment criteria to achieve the maximum assessment marks for that specific box and to display adequate competency in that box.

### **9.4 Constructing the marking key**

Having selected the required competences for the examination, the examiners will then set out the specific criteria on which each competency is to be assessed. This will comprise a set of the possible facts, technical and ethical knowledge, outputs from analyses, implications from the analyses, professional judgements, conclusions and recommendations, which are relevant to the case.

### **9.5 An example of the marking key**

The Case Study usually entails the need to challenge assumptions or to apply professional scepticism to facts and figures supplied by people or entities that may have vested interests.

It is likely that the examination requirements will comprise components that interact in a number of ways. For example, you might be required to prepare a report that comprises:

- ▶ An assessment of current financial information, in whole or in part, with or without adjustments by comparison with previous results, forecasts or other criteria and the application of professional scepticism; and
- ▶ An evaluation of a current problem or proposal based on some elements of the financial information provided in the context of current or future options by considering criteria such as the possible benefits and risks, and any ethical considerations.

The marking key would thus comprise four sections being:

- ▶ Executive summary: summary of the whole report;
- ▶ Requirement 1: Financial statements analysis and related issues;
- ▶ Requirement 2: Data analyses and related issues; and
- ▶ Overall paper: appendices; structure and communication criteria

The (extracts of the) marking key shown comprises a mixture of information which is provided as an example of the type of boxes Case Study examiners would create.

Boxes with only four criteria are presented because a failure to achieve any one of the critical criteria identified means that a candidate will drop a grade.

**KEY: EXECUTIVE SUMMARY**

<p><b>1) GENERAL</b></p> <ul style="list-style-type: none"> <li>▶ States the purpose of the report</li> <li>▶ States the summary of the two requirements</li> <li>▶ States assumptions</li> <li>▶ States reservations, i. e. scepticism</li> </ul> <p>V      NC      BC      CA      SA</p>	<p><b>4) REQUIREMENT 2 - CONCLUSIONS</b></p> <ul style="list-style-type: none"> <li>▶</li> <li>▶</li> <li>▶</li> <li>▶</li> <li>▶</li> </ul> <p>V      NC      BC      CA      SA</p>
<p><b>2) REQUIREMENT 1- CONCLUSIONS</b></p> <ul style="list-style-type: none"> <li>▶</li> <li>▶</li> <li>▶</li> <li>▶</li> <li>▶</li> <li>▶</li> <li>▶</li> </ul> <p>V      NC      BC      CA      SA</p>	<p><b>5) REQUIREMENT 2 - RECOMMENDATIONS</b></p> <ul style="list-style-type: none"> <li>▶</li> <li>▶</li> <li>▶</li> <li>▶</li> <li>▶</li> <li>▶</li> </ul> <p>V      NC      BC      CA      SA</p>
<p><b>3) Requirement 1 - Recommendations</b></p> <ul style="list-style-type: none"> <li>▶</li> <li>▶</li> <li>▶</li> <li>▶</li> <li>▶</li> <li>▶</li> </ul> <p>V      NC      BC      CA      SA</p>	<p>V      NC      BC      CA      SA</p>

**KEY: REQUIREMENT 1 – Financial statement analysis  
(Example of possible generic key factors)**

<p><b>1) Using data and information appropriately</b></p> <ul style="list-style-type: none"> <li>▶ Uses data identifying business entity in context</li> <li>▶ Uses data identifying position in industry</li> <li>▶ Uses data identifying point(s) in lifecycle</li> <li>▶ Identifies wider context</li> <li>▶ Identifies impact of new competition in sector</li> <li>▶ Identifies impact of new IT on retail sales sector</li> </ul> <p><b>V    NC        BC    CA    SA</b></p>	<p><b>2) Identifying issues and options</b></p> <ul style="list-style-type: none"> <li>▶ Older revenue streams driven by footfall</li> <li>▶ Identifies need to maintain existing customer base</li> <li>▶ Newer revenue streams attract younger customers</li> <li>▶ Importance of IT and internet (pros and cons)</li> <li>▶ Discusses marketing options</li> <li>▶ Identifies materiality of investment issue for IT</li> </ul> <p><b>V    NC        BC    CA    SA</b></p>
<p><b>3) Using professional tools and knowledge</b></p> <ul style="list-style-type: none"> <li>▶ Identifies &amp; uses appropriate key numerical information</li> <li>▶ Uses appropriate analytical tools</li> <li>▶ Key ratios calculated (cross referenced to appendix)</li> <li>▶ Identifies issue of inventory valuation on GP</li> <li>▶ Comments on changed revenue mix (new ↓ old ↑)</li> <li>▶ Comments on other case scenario information</li> <li>▶ Integrates numbers and words</li> </ul> <p><b>V    NC        BC    CA    SA</b></p>	<p><b>4) Applying scepticism and ethics</b></p> <ul style="list-style-type: none"> <li>▶ Figures to be used for extending bank loan</li> <li>▶ Closing inventory high due to 'price fluctuations'</li> <li>▶ No inventory write off this year</li> <li>▶ Branch activity/information interdependent (A ↓ X ↑)</li> <li>▶ Branch X manager just achieves sale bonus criteria</li> <li>▶ Questions changing 'seasonality' of retail sales</li> </ul> <p><b>V    NC        BC    CA    SA</b></p>

<p><b>5) Using analytical skills</b></p> <ul style="list-style-type: none"> <li>▶ Analysis of revenue trend in ₦ and percentages</li> <li>▶ Comment on sales of core items up: ₦ 3,254k (13.7%)</li> <li>▶ Comment on sales of imported items up: ₦ 368k (2.1%)</li> <li>▶ Comment on analysis of GP trend in ₦ and percentages</li> <li>▶ Overall decrease due to growth in old core business</li> <li>▶ Comments on high GP in other sales</li> <li>▶ Appropriate explanations of work conducted</li> </ul> <p><b>V      NC            BC      CA      SA</b></p>	<p><b>6) Evaluative skills and judgement</b></p> <ul style="list-style-type: none"> <li>▶ Growth in established revenue lines = good value</li> <li>▶ Success of overall growth in a recession = strength</li> <li>▶ Diverse revenue streams = business strength</li> <li>▶ Evaluates impact on GP of stream mix (old ↓ new ↑)</li> <li>▶ Importance of maintaining old core business</li> <li>▶ Evaluates slow growth/decline in new sales</li> <li>▶ Considers any provenance factors</li> </ul> <p><b>V      NC            BC      CA      SA</b></p>
<p><b>7) Conclusions</b></p> <ul style="list-style-type: none"> <li>▶ Draws conclusions (under a heading)</li> <li>▶ Concludes on strength of diverse revenue streams</li> <li>▶ Concludes on overall revenue growth</li> <li>▶ Concludes on GP% OP%</li> <li>▶ Concludes on customer profile and IT</li> <li>▶ Concludes on impact of recession</li> </ul> <p><b>V      NC            BC      CA      SA</b></p>	
<p><b>8) Makes Recommendations</b></p> <ul style="list-style-type: none"> <li>▶ Maintain diverse revenue streams</li> <li>▶ Create new interactive website</li> <li>▶ Invest in appropriate IT and staff training</li> <li>▶ Maintain / improve contact with established customers</li> <li>▶ Consider more varied retail locations</li> <li>Other sensible / commercial recommendations</li> </ul> <p><b>V      NC            BC      CA      SA</b></p>	

## KEY: OVERALL FACTORS – Appendices and report structure

<p><b>Appendix 1: R1 financial statement analysis</b></p> <ul style="list-style-type: none"> <li>▶ Tabulated and mix of ₦ and %s</li> <li>▶ Revenue trend overall and change in revenue mix</li> <li>▶ GP calculation overall and by stream</li> <li>▶ Calculation of inventory days</li> </ul> <p><b>V      NC            BC      CA      SA</b></p>	<p><b>Report: Structure</b></p> <ul style="list-style-type: none"> <li>▶ Sufficient appropriate headings</li> <li>▶ Appropriate use of paragraphs / sentences</li> <li>▶ Legible</li> <li>▶ Correctly/sequentially numbered pages</li> </ul> <p><b>V      NC            BC      CA      SA</b></p>
<p><b>Appendix 2: Financial data analysis</b></p> <ul style="list-style-type: none"> <li>▶ Logical approach and numbers clearly derived</li> <li>▶ Well-presented and labelled</li> <li>▶ Calculates [contribution] for next 2 years / SWOT</li> <li>▶ Flexes critical material assumption.</li> </ul> <p><b>V      NC            BC      CA      SA</b></p>	<p><b>5) Report: Style and language</b></p> <ul style="list-style-type: none"> <li>▶ Needs appropriate disclaimer (if external report)</li> <li>▶ Suitable (formal) language for audience</li> <li>▶ Tactful / ethical comments</li> <li>▶ Acceptable spelling and punctuation</li> </ul> <p><b>V      NC            BC      CA      SA</b></p>

### 9.6 How are grades awarded?

Competency is assessed by reference to four levels in each box:

- ▶ **Superior achievement (SA)** – candidates have to show that they have understood the requirement and have provided relevant evidence relating to most (at least 4 items) of the assessment criteria in the box.
- ▶ **Competent achievement (CA)** – candidates have to show that they have understood the requirement and have provided relevant evidence (some or enough – usually, at least 3) relating to the assessment criteria in the box.
- ▶ **Below competent achievement (BC)** – candidates have shown only a partial understanding of the requirement and/or provided less than sufficient evidence (at least 2) relating to the assessment criteria in the box.
- ▶ **Not competent (NC)** – candidates have made an attempt to demonstrate the skill required but there is little or sparse evidence (only 1 item) of their understanding of what is required in the box.
- ▶ **Void (V)** – candidates have not provided any evidence to show that they have understood the requirement or demonstrated the skill required. Void means that under that box nothing relevant has been provided.

The professional skills that are assessed in Case Study are themselves interrelated. In general:

- ▶ If your assimilation and use of data and information is weak it will lead to poor analysis;
- ▶ Inadequate analysis of the problems and poor identification of solutions will leave you without a proper basis for evaluating issues and exercising accurate judgement;

- ▶ If you are unable to evaluate accurately and exercise appropriate judgement, it is unlikely that you will provide adequate support for your conclusions; and
- ▶ Without developing critically relevant conclusions, you will have no basis for stating any reservations or making any recommendations.

In the grades for the overall paper, your integrative and communication skills will be assessed.

Make sure that you know to whom you are writing. Having identified your audience, keep it in mind throughout. Each audience will have different requirements and expectations. Regardless of the audience, you will need to:

- ▶ Avoid technical terminology, jargon and colloquialisms – use simple language;
- ▶ Be professional – remember you are addressing a client or a partner or your boss;
- ▶ Avoid casual or indiscreet comments – imagine having to read the report aloud to the recipient;
- ▶ Be succinct – try to avoid lengthy, convoluted or unnecessary explanations;
- ▶ Be relevant – only deal with the facts relating to the work you have been asked to do;
- ▶ Be tactful – imagine having to read the report aloud to anyone mentioned in it; and
- ▶ Remember the qualities of a good report.

Finally, your report as a whole must answer the requirements that have been set, not those that you would like to have answered.

## 9.7 How is numerical work rewarded?

The Case Study will always require you to perform some calculations, though the extent of these will vary from case to case. What will not change, however, is their purpose – they should be calculated to enable the mathematical facts to be established in your work.

It is important to note that as well as being rewarded in the appendix for appropriate calculations, marks will also be awarded for appropriate numerical work transferred from the appendices into the main body of the report. Marks for this numerical work can be spread across all areas of professional skills.

### 9.7.1 Appendices

Candidates are expected to produce clear and separate numerical appendices which contain their numerical calculations. Appendices should

- ▶ be used for all significant calculations.
- ▶ be relevant and concise – not an endless series of ‘standard’ but irrelevant ratios.
- ▶ be clearly labelled and all workings explained – such that a person reading them can follow them.
- ▶ state all assumptions used.
- ▶ contain key information which is then integrated into the body of the report.

### 9.7.2 Translation of initial grades to final marks

The overall marks are built up from the individual competencies, with marks awarded as follows:

Superior achievement (SA)  
Competent achievement (CA)  
Below competent achievement (BC)  
Not competent (NC)  
Void (V) 0

The marking key comprises 25 boxes therefore, a candidate's maximum result would be 100 and the pass mark is 50.

## 9.8 What is an appropriate grade profile?

The range of grades awarded to each requirement varies from paper to paper depending on the subject matter. To ensure a pass, a candidate should aim to achieve more than 50% passing grades (CA or SA) in each of the requirements.

### 9.8.1 Applying your knowledge of the previous learning materials

Grades available in the Case Study relate to the application of your professional skills and business knowledge rather than solely to your demonstration of technical skills. Nevertheless, a good technical grounding is an essential foundation. You should ensure that you feel confident in all the technical areas previously studied.

### 9.8.2 Understanding the stage of the business in its lifecycle

In the Case Study examination paper there will be a variety of exhibits. Some exhibits, such as, industry overviews or correspondence, are contextual and provide the background for your required output. Others, such as the subject entity's financial statements, will need to be used in much greater detail. Others still, such as a list of the entity's key clients, or an operational schedule, may come somewhere in the middle. However, there is one important question that you will have to understand and address at the outset, as this will usually have a pervasive impact on your answer: at what stage in its lifecycle is the business? This will determine the appropriate framework for any required discussion of its business strategy, financial strategy or business transformation issues.

### 9.8.3 Understanding the role of the candidate in the case

Your role in the case will be as a student in the final year of his/her professional training, which might be in a:

- ▶ Professional accountancy practice; or
- ▶ Company outside the accountancy profession;

You might be either employed by or on secondment to a client or another department in your organisation. It is important that you appreciate your required role, as this will provide the appropriate perspective for your examination output.

### 9.8.4 Report structure and demonstration of communication skills

The requirements of a Case Study examination will normally focus on a report to a client or an employer. The body of the report should contain the two main sections – both of which should contain an integrated analysis and evaluation of the issues requested – plus the detailed financial (and other) analyses contained in the appendices (which are rewarded separately). An executive summary will also be required. These are the normal key features of the Case Study and are covered in detail in this Case Study Text.

## 9.9 Quality versus quantity

'How much do I have to write in order to pass the Case Study examination?'

Passing Case Study has nothing to do with how much you write and everything to do with what you write. The aim of the exercise is to keep your script relevant. The more voluminous scripts tend to be those that are padded out with irrelevant material, an inevitable consequence of which is that their authors run out of time to spend on the aspects that really matter.

## 9.10 Examination focus

**To be successful in the Case Study examination, you will need to:**

- ▶ Read the requirement carefully and ensure that you only answer the aspects requested, but ensure that you answer all aspects.
- ▶ Carry out an assessment of the financial data provided in the Case Study exhibits in order to identify the appropriate analytical tool(s) to be used.
- ▶ Use the appropriate analytical tool(s) to perform the detailed calculations and present them in an appendix
- ▶ Label or explain all of your calculations in the appendix
- ▶ Bring forward the key information from the appendix and integrate them into the report
- ▶ Analyse the information logically and explain that analysis in the report
- ▶ Evaluate your initial analysis and identify any critical factors
- ▶ Use professional scepticism to critically evaluate the quality of the information provided, and by whom – what was their level of expertise?
- ▶ Consider the provenance of the information provided: who was the provider and what was the purpose of the creation of the information?
- ▶ Explain and critically evaluate all assumptions and apply judgement to the evaluation.
- ▶ Where deemed necessary, using sensitivity analysis, flex any critical numbers and recalculate.
- ▶ Make a decision and state your conclusions under a heading.
- ▶ Present any practical and commercial recommendations.

## Technology tools for business

### Contents

- 10.0 Purpose
- 10.1 Blockchain technology
- 10.2 Artificial intelligence and robotics
- 10.3 Digital communication

## 10.0 Purpose

At the end of this chapter, readers should be able to discuss and apply:

- (a) Blockchain technology;
- (b) Artificial intelligence and robotics; and
- (c) Digital communications in business.

## 10.1 Blockchain technology

### 10.1.1 Introduction

Disruptions in technology have affected many industries and their operations. After the transition from manual accounting to computerised accounting process, accounting for a while, has been shielded from these technology driven disruptions. The first phase of transition caused accountants to gain relevant computer skills and computer software knowledge to adapt to a machine-driven environment. In recent years, some of the roles of the accountant is being threatened with new innovations in technology. One of these innovations is the blockchain technology.

### 10.1.2 Definitions of blockchain technology

Several authors have attempted defining the concept of blockchain technology. A few of these definitions are highlighted below:

- (a) In the book, "*Blockchain technology: Beyond bitcoin. ApplInnov Rev 2:6–19*" (2016), Crosby states that "a blockchain is essentially a public ledger of transactions or events recorded and stored in chronologically- and linearly-connected blocks. Later blocks then maintain the hash of previous blocks".
- (b) In the book, "*Leaderless, Blockchain-Based Venture Capital Fund Raises \$100 Million, And Counting*" (2016), Morris explains "a blockchain as a distributed database that maintains a continuously-growing list of data records secured from tampering and revision. It consists of blocks, holding batches of individual transactions. Each block contains a timestamp and a link to a previous block".
- (c) In the report, "*Blockchain technology: opportunities and risks*" (2016), Condos states that "Blockchain as a type of distributed, electronic database (ledger) which can hold any information (e.g. records, events, transactions) and can set rules on how this information is updated".
- (d) In the book, "*Blockchain: Blueprint for a New Economy*" (2015), Swan describes "Blockchain technology as one that enables records to be shared by all network nodes, updated by miners, monitored by everyone, and owned and controlled by no one".
- (e) In the journal, "*Visions, Part 1: The Value of Blockchain Technology*" (2015), VitalikButerin explains the blockchain "as a magic computer that anyone can upload programs to and leave the programs to self-execute, where the current and all previous states of every program are always publicly visible, and which carries a very strong crypto economically secured guarantee that programs running on the chain will continue to execute in exactly the way that the blockchain protocol specifies".
- (f) In the article, "Why Bitcoin has value" (2014), Van Alstyne describes Blockchain technology as "a sequential distributed database where the entire earlier transaction history is stored and shared in a (block) chain in a public ledger".

Summarily, a blockchain is a chain of blocks that contain information. It is a completely open and distributed ledger to record information, once any data is recorded in a blockchain it cannot be changed or tampered with easily. Blockchain in accounting may be defined as an open, distributed database or public ledger that can record all transactions or digital events between two parties efficiently and in a verifiable and permanent way. It is like a giant spreadsheet for registering all assets and an

accounting system for transacting on these assets on a global scale.

### **10.1.3 The origin of blockchain technology**

Haber and Stornetta (1991) in their article, 'How to time stamp a digital document', in the Journal of Cryptology, introduced a technological solution to reduce data manipulation or modification by placing a time stamp. Blockchain technology was introduced in order to track the origin of data and any subsequent attempt to modify same. In 1991, they first proposed computationally practical procedures that involved creating cryptographically secured chain of blocks via time stamps, so that it becomes impossible for a user, either to back-date or to forward-date a document. Their procedures claimed to maintain privacy and removed the need for record keeping or time stamping by a third party.

This concept of cryptographically secured chain of blocks laid the foundation of blockchain. Blockchain, in its current form became popular after Satoshi Nakamoto used blockchain as the public transaction ledger for Bitcoin. Since then, blockchain technology has been implemented in recording of events, medical records, transaction processing, among others, in virtually all sectors of the economy.

Blockchain is a ledger that shows the histories of accounts which are replicated and distributed to every participant. It creates authenticity and privacy of identity by using cryptography algorithms. It is also a decentralisation protocol for shared control, tolerating disruption and for transaction validation. The blocks are connected in the order of its chronological occurrence which provides a trail to analyse the transactions. The information are in the form of digital media which eliminates manual and paper documents.

### **10.1.4 Modus operandi of blockchain**

Like the name suggests, in a typical blockchain process, there are peer-to-peer nodes. When a transaction is requested, the request is sent to these nodes. Nodes then verify the transactions with a computer algorithm. If majority of the nodes verify the transaction, a new time stamped block is created and added to the blockchain of all previously verified blocks. This completes the transaction and the ledger is updated.

### **10.1.5 Benefits of block chain technology in accounting**

- (a) Standardisation would allow auditors to verify a large portion of the most important data behind the financial statements automatically.
- (b) The cost and time necessary to conduct an audit would decline considerably. Auditors could spend freed up time on areas they can add more value, for example, on very complex transactions or on internal control mechanism.
- (c) Using the blockchain makes it possible to prove integrity of electronic files easily. One approach is to generate a hash string of the file. That hash string represents the digital fingerprint of that file. Next, that fingerprint is immutably time stamped by writing it into the blockchain via a transaction. At any subsequent point in time, one can prove the integrity of that file by again generating the fingerprint and comparing it with the fingerprint stored in the blockchain. In case the fingerprints are identical, the document remained unaltered since first writing the hash to the blockchain.
- (d) Finally, blockchain technology allows for smart contracts, that is, computer programs that may execute under certain conditions. Think of an invoice paying for itself after checking that delivered goods have been received according to specifications and sufficient funds are available on the company's bank account.
- (e) The blockchain technology has the potential to shape shift the nature of today's accounting. It may constitute a way to vastly automate accounting processes in compliance with regulatory requirements. A flow of new applications will likely follow that are built on top of each other, leading the way for new, unprecedented services.

- (f) With the use of blockchain technology in an organisation, manual procedure of recording and verification is reduced. Blockchain technology is the future of accounting, because instead of keeping separate records based on transaction receipts, companies can write their transactions directly into a joint register, creating an interlocking system of enduring accounting records.
- (g) The most effective method to reduce frauds and errors in recording and verification is by implementing the blockchain technology in the organisation. Since all entries are distributed and cryptographically sealed, falsification or destruction of such entries in order to hide activity is rendered practically impossible.
- (h) Blockchain finally allows traceable audit trails, automates the auditing processes and authentication of transactions.

#### **10.1.6 Conclusion**

Blockchain is currently one of the most widely debated technologies, because of its indestructible and incorruptible features. Blockchain accounting offers to record data in a way which can be simultaneously accessible by auditors and regulators. This could potentially reduce the need for accountants to record transactions in separate locations with almost no way to consolidate and validate same.

Blockchain accounting is capable of providing a more transparent and secured accounting framework to track transactions and assets. Hence, traditional accounting is at the verge of a disruption which will redefine the role and need for accountants in an industry. Instead of being record keepers, accountants will become interpreters of financial statements and direct facilitators in decision making.

## **10.2 Artificial intelligence and robotics**

### **10.2.1 Introduction**

It involves developing computer programs or machines to complete tasks which would otherwise require human intelligence. It is “The science and engineering of making intelligent machines, especially intelligent computer programs”. Artificial Intelligence (AI) can be defined as the development of coded computer software routines (algorithms) with specific instructions to perform tasks for which a human brain is normally considered necessary. Such software can help people understand and process language, recognise sounds, identify objects and make use of learning patterns to solve problems. Put simply, AI enables computers to model intelligent behaviour with minimal human intervention, and has been shown to outperform human beings at specific tasks. Examples of these tasks are visual perception, speech recognition, decision-making, and translation between languages. Together with the internet, AI changes the way we experience the world and has the potential to be a new engine for economic growth.



Source: <https://builtin.com/artificial-intelligence/ai-companies-roundup>

### **10.2.2 Traits of an AI**

The following includes some capabilities of AI:

- (a) Capable of predicting and adapting - AI uses algorithms that discover patterns from huge amounts of information;
- (b) Makes decisions on its own - AI is capable to augment human intelligence, deliver insights and improve productivity;

- (c) Continuous learning - AI uses algorithms to construct analytical models. From those algorithms, AI technology will find out how to perform tasks through innumerable rounds of trial and error;
- (d) AI is forward-looking - AI is a tool that allows people to reconsider how we analyse data and integrate information, and then use these insights to make better decisions; and
- (e) AI is capable of motion and perception.

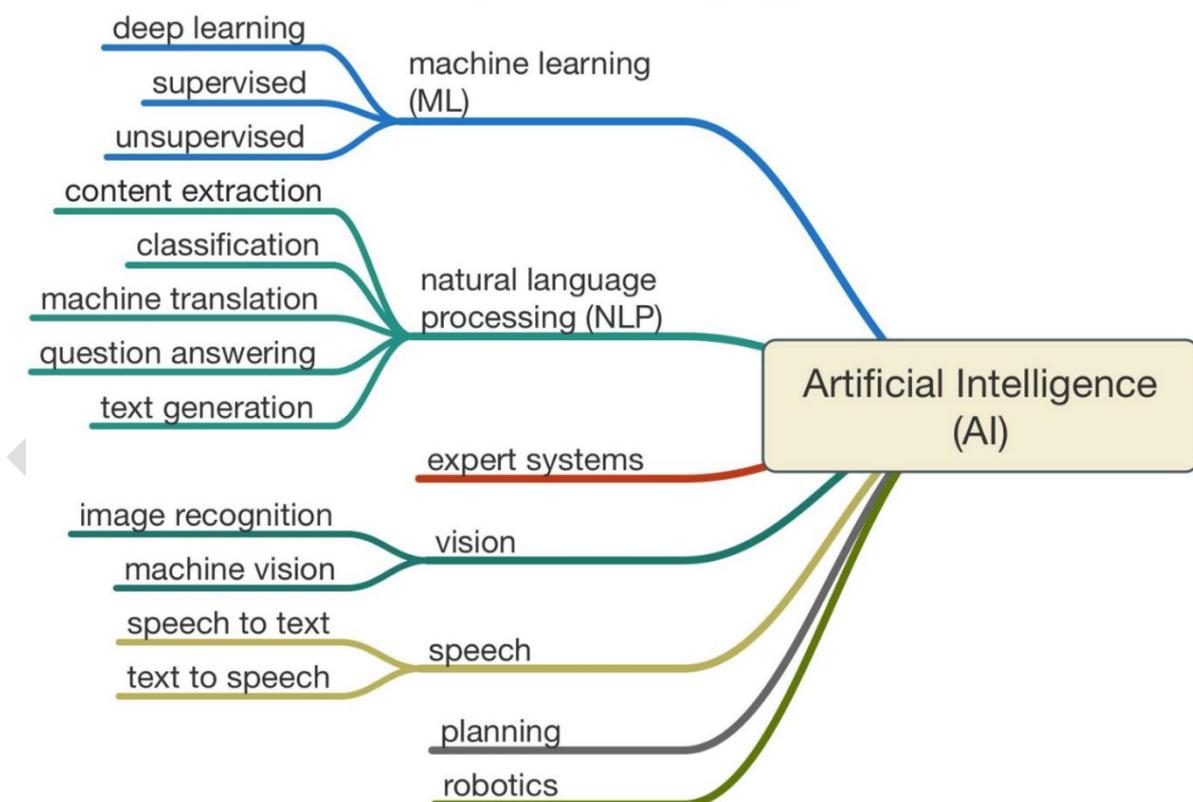
### 10.2.3 Types of Artificial intelligence (AI)

The following include types of artificial intelligence:

- (a) Weak / narrow artificial intelligence (AI)  
Narrow Artificial intelligence (AI) also known as weak AI, is designed to perform specific tasks within a domain (e.g. language translation, facial recognition or only internet searches or only driving a car); and
- (b) General / Strong Artificial Intelligence (AI)  
General AI is hypothetical and not domain specific, but can learn and perform tasks over a wide area of application. The long-term goal of many researchers is to create an artificial general intelligence (AGI or strong AI) which is a machine with the ability to apply intelligence to any problem, rather than just one specific problem, typically meaning "at least as smart as a typical human".  
While narrow AI may outperform humans at whatever its specific task is, like playing chess or solving equations, AGI would outperform humans at nearly every cognitive task.

### 10.2.4 Achieving Artificial Intelligence

There are many ways of achieving AI, some of them are as follows:



Source: <https://chethankumargn.medium.com/artificial-intelligence-definition-types-examples-technologies-962ea75c7b9b>

- (a) Natural Language Processing (NLP)

Natural language processing helps computers communicate with people in their very

own language and scales other language-related tasks. For example, NLP makes it possible for computers to read text, hear speech, interpret it, measure thoughts and emotions, and determine which parts are important. Today's machines can analyse more language-based information than humans without exhaustion and in a continuous, unbiased way.

(b) Vision

In recent years, the cost of acquiring and identifying large data sets has gone down due to advances in industrial internet of things (IIoT), making machine learning more accessible for inspection applications than ever before. The other main way AI is used in vision systems is to improve recognition applications continuously.

(c) Autonomous vehicles

Autonomous cars generate data from their surroundings and feed it into the intelligent agent, which in turn takes decisions and allow an autonomous vehicle to conduct specific activities in almost the same environment, a repetitive loop is established called a perception activity cycle.

### 10.2.5 Machine learning

(a) Introduction

An application of artificial intelligence that gives machines the ability to learn and improve without the help of humans or new programming. Machine learning (ML) is a way of continuously refining an algorithm. The refinement process involves the use of large amounts of data and is done automatically, allowing the algorithm to change with the aim of improving the precision of the artificial intelligence.

(b) Definitions

- i. Machine Learning (ML) is an algorithm category that enables software applications to predict responses more accurately and specifically without explicitly programming them. Machine learning is primarily focused on the development of algorithms which are capable of receiving input data as well as using statistical analysis to predict an output while updating outputs with new data.
- ii. Algorithms are a sequence of instructions used to solve a problem. Algorithms, developed by programmers to instruct computers in new tasks, are the building blocks of the advanced digital world. Computer algorithms organise enormous amounts of data into information and services, based on certain instructions and rules. It is an important concept to understand, because in machine learning, learning algorithms, not computer programmers, create the rules.

Instead of programming the computer every step of the way, this approach gives the computer instructions that allow it to learn from data without new step-by-step instructions by the programmer. This means computers can be used for new, complicated tasks that could not be manually programmed. Things like photo recognition applications for the visually impaired or translating pictures into speech.

The basic process of machine learning is to give training data to a learning algorithm. The learning algorithm then generates a new set of rules, based on inferences from the data. This is in essence generating a new algorithm, formally referred to as the machine learning model. By using different training data, the same learning algorithm could be used to generate different models. For example, the same type of learning algorithm could be used to teach the computer how to translate languages or predict the stock market. Inferring new instructions from data is the core strength of machine learning. It also highlights the critical role of data: the more data available to train the algorithm, the more it learns. In fact, many recent advances in AI have not been due to radical innovations in learning algorithms, but rather by the enormous amount of data

enabled by the internet.

#### 10.2.6 How machines learn

How machines learn: Although a machine learning model may apply a mix of different techniques, the methods for learning can typically be categorised as three general types:

- (a) Supervised learning: The learning algorithm is given labeled data and the desired output. For example, pictures of dogs labeled “dog” will help the algorithm identify the rules to classify pictures of dogs;
- (b) Unsupervised learning: The data given to the learning algorithm is unlabeled, and the algorithm is asked to identify patterns in the input data. For example, the recommendation system of an e-commerce website where the learning algorithm discovers similar items often bought together; and
- (c) Reinforcement learning: The algorithm interacts with a dynamic environment that provides feedback in terms of rewards and punishments. For example, self-driving cars being rewarded to stay on the road.

Machine learning is not new. Many of the learning algorithms that spurred new interest in the field, such as neural networks, are based on decades old research. The current growth in AI and machine learning is tied to developments in three important areas:

- i. Data availability: Just over 3 billion people are online with an estimated 17 billion connected devices or sensors. These generate a large amount of data which, combined with decreasing costs of data storage, is easily available for use. Machine learning can use this as training data for learning algorithms, developing new rules to perform increasingly complex tasks;
- ii. Computing power: Powerful computers and the ability to connect remote processing power through the Internet make it possible for machine-learning techniques that process enormous amounts of data; and
- iii. Algorithmic innovation: New machine learning techniques, specifically in layered neural networks, also known as “deep learning”, have inspired new services, but also spurring investments and research in other parts of the field.

10.2. 7 Applications of artificial intelligence (AI) and machine learning (ML) in business  
Artificial intelligence (AI) and machine learning (ML) are of regular application in daily commute, searching the web or checking latest social media feeds. Today, businesses across the globe are leveraging artificial intelligence to optimise their processes and reap higher revenues and profits. Artificial intelligence (AI) and machine learning (ML) have massive effect on life, as well as business.

Here are some examples of AI and ML that are used daily:

- (a) E-commerce;
- (b) Marketing;
- (c) Accounting and fintech;
- (d) Logistics and supply chain;
- (e) Streamlined manufacturing with AI;
- (f) Casino/hotels/integrated resorts;
- (g) Retail business;
- (h) Recruiting automation;
- (i) Workplace communication;
- (j) Human resource management;
- (k) Health care benefits;
- (l) Self-driving cars;
- (m) Finance;
- (n) Travel and transportation; and
- (o) Social media.

**10.2.8 Robotics** is an interdisciplinary field that integrates computer science and engineering. Robotics involves design, construction, operation, and use of robots. The goal of robotics is to design machines that can help and assist humans. Robotics integrates the fields of:

- (a) Mechanical engineering;
- (b) Electrical engineering;
- (c) Information engineering;
- (d) Mechatronics;
- (e) Electronics;
- (f) Bioengineering;
- (g) Computer engineering;
- (h) Control engineering;
- (i) Software engineering;
- (j) Mathematics, among others.

#### **10.2.9 Systems amenable to robotics application**

Robotics develops machines that can substitute for humans and replicate human actions. Robots can be used in many situations for many purposes, but today many are used in:

- (a) Dangerous environments (including inspection of radioactive materials, bomb detection and deactivation);
- (b) Manufacturing processes;
- (c) Where humans cannot survive (e.g. in space, underwater, in high heat, and clean up and containment of hazardous materials and radiation);
- (d) Robots in certain replicative behaviors which are usually performed by people. Such robots attempt to replicate walking, lifting, speech, cognition, or any other human activity;
- (e) Bio-inspired robotics; and
- (f) Science, technology, engineering, and mathematics (STEM ) as a teaching aid.

#### **10.2.10 Applications of robotics**

The current and potential applications include:

- (a) Military robots;
- (b) Industrial robots;
- (c) Cobots (collaborative robots);
- (d) Construction robots;
- (e) Agricultural robots (AgRobots);
- (f) Medical robots;
- (g) Robot combat facilities;
- (h) Domestic robots;
- (i) Nanorobots;
- (j) Swarm robotics;
- (k) Autonomous drones; and
- (l) Sports field line marking.

## 10.3 Digital communication

### 10.3.1 Introduction

Electronic communication (e-communication) is the transmission of information using advanced facilities, such as computer modems, facsimile machines, voice mail, electronic mail, teleconferencing, video-cassettes, and private television network. E-communication is a communication system where information is conveyed by use of information technology devices.

The communication is mandatory in different fields for processing, controlling, making decisions and planning. The fields include finance, accounting, human relation, personal, marketing, sales, purchases and production. This type of communication can be developed by sharing data, like images, graphics, sound, pictures, maps and software.

### 10.3.2 Types of electronic communication

With the revolutionary development of information technology, the world is becoming smaller and people staying at any corner are well-capable of communicating with others, whatever the distance is, people and organisations use different modern devices of communication technology.

Below is a list of types of electronic communication:

- i. Autoresponders;
- ii. Blogs;
- iii. Bookmarking;
- iv. Calendars;
- v. Collaborative software in the workspace;
- vi. Computer screen messages;
- vii. Data conferencing;
- viii. Ebooks;
- ix. Electronic and web chat shows;
- x. Electronic bookmarking;
- xi. Electronic brochures;
- xii. Electronic content on cds and dvds;
- xiii. Electronic flash teaser;
- xiv. Electronic games;
- xv. Electronic meeting system;
- xvi. Electronic newsletter;
- xvii. Electronic questionnaires and surveys;
- xviii. Electronic voteline;
- xix. Email;
- xx. Email campaigns with links to intranet;
- xxi. Emailable audiovisuals;
- xxii. Enterprise bookmarking;
- xxiii. Extranet;
- xxiv. Eye witness news electronic broadcasts;
- xxv. Faxing;
- xxvi. Flash mailer;
- xxvii. Forums;
- xxviii. Instant messaging;
- xxix. Intranet;
- xxx. Online chat;
- xxxi. Online consultation;
- xxxii. Personalized urls (Purls);
- xxxiii. Pop up electronic teasers;
- xxxiv. Radio or voice clips sent or broadcast electronically;
- xxxv. Screensavers;
- xxxvi. Skype;
- xxxvii. Short message service (SMS) campaign;
- xxxviii. Social networks like Friendster, myspace, Twitter and Facebook;
- xxxix. Sound clips;

- xl. Special code to web page as part of bigger campaign;
  - xli. Synchronous conferencing;
  - xl.ii. Telephone campaign with electronic aspects;
  - xl.iii. Telephony;
  - xl.iv. Text chat;
  - xl.v. Video;
  - xl.vi. Video conferencing;
  - xl.vii. Viral email competitions;
  - xl.viii. Voice mail;
  - xl.ix. Wall of fame on intranet;
- I. Web conferencing;
  - li. Web publishing;
  - lii. Webcam; and
  - liii. Website.

Some of these methods of electronic communication are discussed below:

**(a) Instant messaging**

Instant messaging refers to short messages that are sent in real time over mobile telephones or the internet. The messages can include multimedia items, such as pictures, videos and voice recordings.

**(i) Advantages of instant messaging include:**

- Messages are cheap and sometimes free to send;
- Messages are received directly after being sent;
- You can see if the message has been delivered;
- You can see when your message has been read;
- You can send a variety of messages; including text messages, pictures, videos, music and web links; and
- You can create group conversations in order to discuss a specific topic or plan events.

**(ii) Disadvantages of instant messaging include:**

- Messages are not always saved;
- It is an informal method of communication and might not be suited for business-related communications;
- There is a pressure to respond immediately, as people can see when you read their messages;
- Can be distracting, as one message can lead to a whole conversation; and
- Low security, as instant messaging services use a public network.

When communicating by instant messaging, take note of the following:

- You may not get an immediate reply. The person you are messaging might be busy and will reply once he or she is available;
- Keep your messages short and to the point;
- Do not type your messages using uppercase as it can be interpreted as shouting;
- Be polite; and
- Do not use slang words and abbreviations. This might save you time, but it can also confuse others, if they are not aware of the meaning.

**(b) Electronic messaging (email)**

Email is one of the first and most popular forms of electronic communication. It allows the user to send and receive files and messages over the internet, and can be used on a wide variety of devices.

**(i) Popular email applications include:**

- Yahoo;
- Google mail (gmail); and
- Hotmail.

**(ii) Additional features of email**

Email is not limited to only sending messages over the internet; it provides users with many features. Below are some of these features:

- **Calendar**  
Google Calendar is a time-management and scheduling calendar service developed by Google. It became available in beta release April 13, 2006, and in general release in July 2009, on the web and as mobile apps for the Android and iOS platforms.  
Google Calendar allows users to create and edit events. Reminders can be enabled for events, with options available for type and time. Event locations can also be added, and other users can be invited to events. Users can enable or disable the visibility of special calendars, including Birthdays, where the app retrieves dates of birth from Google contacts and displays birthday cards on a yearly basis, holidays and a country-specific calendar that displays dates of special occasions.
- **Contact list**  
Users can now get to the contact pages by clicking the application's (app's) icon in the upper right corner of the Gmail inbox. When you click the apps icon, which is a square made up of nine smaller squares, it unfolds to reveal a panel of icons for other Google programs and services, including, Google Photos, Google News and YouTube.

**(iii) Tasks**

Gmail integrates a simple to-do list into users' accounts. Google Tasks allows you to create lists of items, set due dates, and add notes. You can also create tasks directly from Gmail messages.

**(iv) Archives**

Rather than deleting an email and losing it for good, you can choose to archive it instead. As soon as a message is placed in the Gmail archive, it is removed from your inbox and tagged with the label All Mail. These messages remain in your Gmail account and can be retrieved easily at a later time, but in the meantime, they are not visible.

When someone replies to an archived message, it automatically returns to your inbox.

**(iii) Email applications in business**

E-mail is the modern and widely used business communication system supported by information technology. The importance and usefulness of e-mail in business communication are greater than in any other medium.

Email is one of the simplest and most cost-effective methods of corporate communication. E-mails are now regarded as legal documents.

In daily activities such as buying and selling, marketing, trading and telephoning, email is a quick way to exchange information by writing, subscribing, sharing, reporting and presenting. It is the most important way to process clients' requests.

**(iv) Private communication in a company network**

Almost all large and medium-sized companies use professional e-mail services. The email ID contains for example employee1@examplecompany.com instead of yahoo and Gmail for all employees. It is imperative to use professional e-mail to communicate with customers, suppliers, partners, and government agencies at work. This is global best practice.

When you buy a domain or hosting for your professional website, you get a free professional email account (depending on the offers). One may also buy personalised email addresses without registering for a domain.

There are several beneficial reasons for registering personalised domain.

- Communication only works on one corporate network and is generally not accessible to others. That means third party access is prohibited.
- Another advantage of professional/business email is that one does not get distracted and confused by promotional emails.
- It will increase the productivity of a company's employees. Otherwise, if they use a free email account, there is a 90% chance of being distracted while they work on the project.

This is the use of email in business communications and it is very effective when it occurs through a professional or business email account.

**(v) External communication / transactional mails**

Businesses can use the email for external communication to customers, suppliers, and other stakeholders. Transactional mail or transactional direct mail is direct mail that is sent out by either a business or mailing houses. Examples of these external business communications include:

- Order receipts;
- Customer thank you;
- Invoices;
- Account statements;
- Debt or loan collection letters;
- Renewal letters and cycles;
- Account changes;
- Changes to terms and conditions and customer/business agreements;
- Account and membership preferences;
- Welcome packs for new sign ups or customers;
- Customer service / support; and
- Marketing to customers.

**(vi) Advantages of email**

In the work place, communication is extremely important. Employees are now able to make use of the many advantages of email stated below:

- It is very easy to communicate effectively with anybody within the office or anywhere in the world regardless of where they are situated;
- Another advantage of having business email communication at work is that you can respond to clients quickly and easily. This means that you no longer need to spend hours on the phone, trying to get through and leaving messages with receptionists;
- Messages can be sent quickly, in an instant;
- The cost of sending an email is very low, unlike postage and other methods of communication;
- It is easy to use, simply type the address of the recipient, a subject line and your message and click the send button;
- One can copy others on correspondence. One can even blind copy (BCC) someone, if one does not want the recipient of the email to know that you are sending it to another person. A large number of people can be copied and communicated at once;
- One can send attachments, such as files, photos, and spreadsheets;
- Email saves time. No need to spend valuable time going to someone else's office;
- Emails can be responded to when it is convenient. It is not invasive like a visitor or phone call which requires immediate attention;

- It speeds up the workflow process. Documents can be sent for comment and corrections made quickly; and
- Emailing saves paper and printing costs.

**(vii) Disadvantages of email messaging**

Some of the disadvantages of email may be that your staff spends too much time on personal messages as opposed to work related stuff. This is the fundamental disadvantage to allowing email access.

However, if a positive and trusting relationship is able to be maintained between management and staff, then this could contribute to a more productive working environment, where employees can enjoy the many advantages of using email:

- Spam emails can be sent which can clutter one's inbox;
- Viruses can be sent by email;
- Misunderstandings can occur if messages are not constructed properly;
- Not everyone has internet connectivity; and
- Confidential information can be easily forwarded and disseminated, and if done in error could easily end up in the wrong hands.

**(c) The world wide web**

The online world is fast-paced and ever-changing. A business must have a solid online presence by having a well-designed website. Having a website is a prerequisite for all marketing efforts.

The world wide web or the web, is an internet-based system that enables an individual or a company to publish itself to the entire world. The web is the world's largest online shopping mall and the world's largest source of information, news and commentary. People often equate the web to the Internet, but they are two different things. The web consists of pages that can be accessed using a web browser. The internet is the network of networks, where all the information resides. Internet applications like telnet, FTP, internet gaming, internet relay chat (IRC), and e-mail are all parts of the internet, but are not part of the world wide web.

**(i) Web infrastructure**

The "web" is made up of "web servers," which are computers that store and disseminate "web pages" to anyone with an internet connection.

**(ii) Hyperlinks and web addresses**

The salient feature of the web is the hyperlink, which connects one page to another by address, whether on the same website or on another site. The address of a website or page within the site is known as the "uniform resource locator" (URL).

**(iii) The web browser**

Web pages are accessed by the user via a web browser application such as Chrome, Firefox and Safari.

**(iv) Hyper Text Markup Language (HTML) – the web rendering format**

A web page is a text document coded with HTML tags that define how the text and graphics are displayed on screen.

**(v) Websites are made up of HTML files**

A website is a collection of Web pages (HTML files).

**(vi) Web hosting**

Small to medium websites are often maintained by third-party hosting companies.

- (vii) HyperText Transport Protocol – The web protocol  
HTML pages are transmitted to the user via the HTTP protocol.
- (viii) Web Linking  
Accessing a web document requires typing in the uniform resource locator (URL) address of the home page in your Web browser. The home page contains links to other documents that can be stored on the same server or on a server anywhere in the world.
- (ix) **Business uses of the internet and World Wide Web (WWW)**  
The internet and, more particularly, the WWW are attracting businesses in their thousands, with the following appearing to be the main application areas:
- **Publicity, marketing and advertising**  
The WWW appears to be an ideal medium for businesses attempting to promote themselves and their wares. Setting up a site on the WWW, and thus gaining instant access to millions of people all over the globe, can be achieved at a small fraction of the cost using more conventional methods;
  - **Direct on-line selling**  
It is already possible to visit 'virtual malls' full of 'virtual shops', browse through catalogues and examine various products in vast detail, all courtesy of the web. This has all been made possible by the multi-media capabilities that the web provides;
  - **Research and development**  
Companies, especially those involved in research and development can use the internet as an additional resource for collecting information. It is possible to post a query on a bulletin board or join a discussion group and receive advice on how to solve a problem. Alternatively, there are millions of web pages, some of which contain access to searchable databases of information relating to particular subjects;
  - **Communication**  
Electronic mail (e-mail) is the internet service used most extensively by businesses. The use of the email has brought down communication costs for large corporations. An example is 'Digital Equipment' which has over 31,000 computers linked up to the internet and exchanges about 1.7 million e-mail messages each month with people external to the company;
  - **Collaboration**  
When links are formed between companies, it is easy for them to communicate through the internet. One example of this is the collaboration between IBM and Bellcore which use internet links to share workstations;
- (x) **Business benefits of having a website**  
Today, having a company website is as crucial as having a shop, office or telephone number. Research has found that six out of ten customers expect brands to have contents online about their businesses.  
Listed below are some of the benefits of having a website:
- **Online presence 24/7**  
Having a website means customers are always able to find you – anytime, anywhere. Even outside of business hours, your website continues to find and secure new customers. It offers the user convenience as they can access the information they need in the comfort of their own home;
  - **Information exchange**  
At its simplest, a website provides a quick and easy way of communicating

information between buyers and sellers. One can list opening hours, contact information, show images of location or products, and use contact forms to facilitate enquiries from potential customers or obtain feedback from existing ones. Promotional videos can be uploaded to really engage customers and sell products and services in an effective and cost efficient way;

- **Credibility**

In today's modern world, there is an expectation for any reputable company to have some kind of online presence. Potential customers would likely not trust any business that does not have a telephone number or a physical address, and the same can be said for not having a website and email address. These are useful tools to share crucial information about one's business with customers and answer all the frequently asked questions (FAQs);

- **Cuts costs**

Apart from simply displaying information, websites are used to sell goods and provide services directly to consumers, in some cases, removing the need to use "brick-and-mortar" stores which involve large operating costs (staff wages, rent, utilities, etc). Eliminating these overheads will also allow lower prices, giving the business a real competitive edge;

- **Market expansion**

As the site is accessible to anyone all over the world, ability to break through geographical barriers has never been easier. Anyone, from any country, will be able to find the company and as such, is now a potential customer;

- **Consumer insights**

Analytical tools allow the identification of a typical customer and his behaviour. The diverse range of data available can also help a business better understand how social media channels affect a brand, and can even highlight opportunities to change the offline aspects of the business, such as branch opening times, promotions and product ranges;

- **Advertising**

Tools like Google AdWords or advertising on Facebook give the power to reach customers with much more accuracy and reliability than with traditional offline advertising methods. Online advertising via a website are a great way to help build up awareness, if it is done correctly, traffic to the website can experience an increase;

- **Competitors online**

The absence of a website gives the competition an edge over the business;

- **Customer service online**

Websites provide an easier way to handle customer services, offering answers frequently asked questions (FAQs). This reduces customer service costs and saves time; and

- **Growth opportunity**

Websites, in general, are great ways to provide places that potential investors can be referred to. It shows what the company is about, what it has achieved and what it can achieve in the future.

(d) **Social media platforms and its utilisation**

i. **Definition**

Social media refers to websites and applications that are designed to allow people to share contents, efficiently and in real-time. By design, social media is internet-based and gives users quick electronic communication of contents. Contents include personal information, documents, videos, and photos.

~~Social media originated as a way to interact with friends and family but was later~~

adopted by businesses that wanted to take advantage of a popular new communication method to reach out to customers. The power of social media is the ability to connect and share information with anyone on earth or with many people simultaneously.

#### ii. Social media platforms

A social media platform is defined as web-based and mobile-based internet application that allows the creation, access and exchange of user-generated contents.

#### iii. Business uses of social media platforms

The following are social media platforms useful for business:

- Facebook

This is arguably the largest social networking site in the world and one of the most widely used.

Apart from the ability to network with friends and relatives, you can also access different Facebook apps to sell online and you can even market or promote your business, brand and products by using paid Facebook ads;

- WhatsApp

Apart from social networking, WhatsApp provides an opportunity for businesses, especially small businesses and e-commerce stores to market their products. It launched a variant app called WhatsApp Business designed for business owners looking to capitalise on the apps popularity and usage. It is a proven platform for growing small businesses;

- Instagram

Instagram was launched as a unique social networking platform that was completely based on sharing photos and videos. Instagram can be used for visual-based businesses, like art, food, retail, and beauty products. This means the platform is useful for generating leads due to its wide reach;

- Twitter

Twitter is an excellent platform to build awareness for a brand. Twitter utilises the hashtag, which organizes conversations around a word or phrase. By searching hashtags, you can learn what people are talking about so you can craft your tweets to take part in popular conversations.

Since Twitter is often used to provide real time updates to an audience, many brands combine Twitter with offline engagement, such as events;

- YouTube

YouTube is one of the biggest search engine platforms. Many of these searches are for "How To" videos. YouTube is useful in the service industry, in the form of lifestyle and educational videos;

- Skype

It allows you to connect with people through voice calls, video calls (using a webcam) and text messaging. Group conference calls can be conducted on this platform. Skype-to-Skype calls are free and can be used to communicate with anyone, located in any part of the world, over the internet.

- LinkedIn

LinkedIn is easily one of the most popular professional social networking sites or apps and is available in over 20 languages. It is used across the globe by professionals and serves as an ideal platform to connect with different businesses, locate and hire candidates, etc. People use LinkedIn to search for jobs and to network professionally. As

a result, the platform is useful for B2B lead generation, general networking, as well as recruiting employees.

- Telegram

This instant messaging network is similar to WhatsApp and is available across platforms in more than eight languages. However, Telegram has always focused more on the privacy and security of the messages you send over the internet by using its platform. So, it empowers you to send messages that are encrypted and self-destructive. This encryption feature has only just been made available for WhatsApp, whereas Telegram has always provided it.

(e) Digital marketing

Digital marketing encompasses all marketing efforts that use electronic devices or the internet. Businesses leverage digital channels, such as search engines, social media, email, and websites to connect with current and prospective customers.

(i) Digital marketing assets

Digital marketing asset is any marketing tool used online. Common digital marketing assets and strategies businesses use to reach people online include:

- Website;
- Branded assets (logos, icons, acronyms, etc);
- Video contents (video ads, product demos, etc);
- Images (infographics, product shots, company photos, etc);
- Written contents (blog posts, eBooks, product descriptions, testimonials, etc);
- Online products or tools (SaaS, calculators, interactive contents, etc);
- Reviews; and
- Social media pages.

(ii) Types of digital marketing

Digital marketing has become a vital component in organizations' overall marketing strategy. It allows companies to tailor messages to a specific audience, making it possible to market directly to people who are likely to be interested in their products. Digital marketing encompasses a wide variety of marketing tactics and technologies used to reach consumers online. Below is a list of the most popular types of digital marketing:

- Search engine optimisation (SEO); and
- Content marketing;

The channels that can play a part in content marketing strategy include:

- Blog posts;
- Ebooks and whitepapers;
- Infographics; and
- Social media marketing.

(iii) Benefits of digital marketing

Below are some of the benefits of digital marketing:

- Prospects most likely to purchase the product or service are directly targeted.

Digital marketing allows the identification and targeting of a highly-specific audience, and send that audience personalised, high-converting marketing messages.

Digital marketing enables the conduct of the research necessary to identify the peculiarities of the target customer and refine the marketing strategy;

- Digital marketing is more cost-effective than traditional marketing methods  
Digital marketing enables the identification of appropriate channels/media that reach the target market effectively. This saves cost and time;

- Digital marketing gives marketing edge  
Digital marketing provides competitive advantage, which a company can exploit to improve its market share in the industry. However, this may attract the attention of the market leaders which will employ strategies to counteract this move; and
- Digital marketing is measurable  
Digital marketing can give you a comprehensive, online, real time, start-to-finish view of all the metrics that might matter to the company, including impressions, market shares, views, clicks, and time on page. This is one of the biggest benefits of digital marketing.

### 10.3.3 Electronic communication best practices

Netiquette, that is, proper conduct on the internet is essential to save the organisation embarrassment and give users a pleasant experience.

Guidelines when communicating on the internet include:

(a) Texting (messaging):

- i. Keep texts short;
- ii. Sign a text with your name; and
- iii. Spell out all words and do not use “texting lingo” or shorthand;

- Email:

- i. Use a descriptive subject line;
- ii. Be courteous;
- iii. Reply promptly – but allow time to get over an initial reaction to an angry email;
- iv. Remember attachments to an email may contain metadata that can disclose unwanted information to the recipient; and
- v. Ensure the integrity of the web links on email messages, as email may contain links to phishing or rogue web sites;

- Social media:

- i. The internet is not private, hence the need to be careful on what is shared;
- ii. Change your passwords frequently;
- iii. Log off after visiting the page;
- iv. Delete your browsing history, saved passwords and cookies regularly;
- v. Do not disparage anyone via social media;
- vi. Be aware of the acceptable behaviour on that website before sending messages; and
- vii. Educate yourself about a site before joining.

### 10.3.4 Benefits of electronic communication

Electronic communication plays an important role in modern business and society. One cannot think of managing modern businesses without electronic communication. It allows the amalgamation of several media, such as data, graphics, video, and sound, into one message. Devices such as cell phones with mobile communication technology and portable laptops are used in electronic communication.

Benefits of electronic communication include:

- (a) Facilitates quick transmission of information  
The greatest advantage of electronic communication is the quick transmission of information;
- (b) Enhances communication of large volume of information  
Large volume of information can be sent with the help of electronic devices;

- (c) Enables wide coverage  
Information can be transmitted to receivers in different geographical locations in real time;
- (d) Reduces communication cost  
Electronic communication not only saves time but also money;
- (e) Facilitates instant business decision  
With the help of electronic communication, managers can take instant or quick decisions; and
- (f) Eases preservation of information  
Electronic devices can store huge volume of information that can be used in the time of need.  
In summary, electronic communication is convenient and online real time. Electronic communication is the essence of modern technologies.

#### 10.3.5 Disadvantages of electronic communication

The disadvantages of electronic communication include:

- (a) Information and data overload  
Many small and medium organizations are overwhelmed with the abundance of data and information available for use. This suffusion of information, delivered at lightening speed makes it difficult for business owners to absorb;
- (b) The cost of development  
Electronic communication requires huge investment for infrastructural development. Frequent change in technology also demands further investment;
- (c) Undelivered information  
Information may not be delivered due to system error or fault with the technology. Hence, the required service may be delayed or not even delivered;
- (d) Dependence on developed countries  
Developing countries depend on developed countries for new technology infrastructure which cost they cannot afford, hence they depend on developed countries for housing and sharing global network;
- (e) Over-dependence on technology  
Many organisations are deskilling in areas of technical competence due to over-dependence on technology. Whenever technology fails, organisations find it difficult to cope as core skills required to run the organisations have been lost to technology;
- (f) Loss of vital information  
Most vital information are electronically stored, hence, when there is technology failure or cyber attack, these information may be lost irretrievably, except where the organisation has a good back up arrangement;
- (g) Loss of confidentiality  
The deployment of technology in the dissemination of information accentuates the risk of loss of confidentiality of these information; and
- (h) Rapid changes in technology  
Rapid changes in technology create disruptions to the extent that most organizations in the developing economies find it difficult to cope with the pace of changes to the technology and infrastructure.

#### 10.4. Chapter review

At the end of this chapter, readers should be able to discuss:

- (a) Blockchain technology;
- (b) Artificial intelligence and robotics; and
- (c) Digital communication.

## Soft skills for accountants

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## 11.0 Purpose

At the end of this chapter, readers should be able to discuss:

- (a) Originality and initiative
- (b) Creative thinking
- (c) Integrated thinking
- (d) Persuasion
- (e) Negotiation skills
- (f) Cognitive flexibility
- (g) Multiple capitals
- (h) Leadership
- (i) Emotional intelligence
- (j) Social thinking
- (k) Business modeling
- (l) Project management

## 11.1 Originality and initiative

### 11.1.1 Introduction

Originality is the ability to generate a product or idea that is unique or very unusual, unexpected, first of its kind. Originality is deemed the ultimate in creativity. Merriam-Webster dictionary defines originality as, the power of independent thought or constructive imagination.

Longman Dictionary defines initiative as, the ability to make decisions and take actions without waiting for someone to tell you what to do. While Macmillan Dictionary defines initiative as, the ability to decide in an independent way what to do and when to do it. And Oxford dictionary defines initiative as, the ability to assess and initiate things independently.

Creativity, originality and initiative have become topmost amongst skills demanded in the workplace today. This is shown on the table below from the World Economic Forum survey.

Table 4: Comparing skills demand, 2018 vs. 2022, top ten

Today, 2018	Trending, 2022	Declining, 2022
Analytical thinking and innovation	Analytical thinking and innovation	Manual dexterity, endurance and precision
Complex problem-solving	Active learning and learning strategies	Memory, verbal, auditory and spatial abilities
Critical thinking and analysis	Creativity, originality and initiative	Management of financial, material resources
Active learning and learning strategies	Technology design and programming	Technology installation and maintenance
Creativity, originality and initiative	Critical thinking and analysis	Reading, writing, math and active listening
Attention to detail, trustworthiness	Complex problem-solving	Management of personnel
Emotional intelligence	Leadership and social influence	Quality control and safety awareness
Reasoning, problem-solving and ideation	Emotional intelligence	Coordination and time management
Leadership and social influence	Reasoning, problem-solving and ideation	Visual, auditory and speech abilities
Coordination and time management	Systems analysis and evaluation	Technology use, monitoring and control

Source: Future of Jobs Survey 2018, World Economic Forum.

Originality involves the ability to think laterally, imaginatively and to make connections. Innovative individuals look for change and alternative viewpoints and have the ability to explore and try out something new.

#### 11.1.2 Attributes relating to originality

The main attributes of originality include:

- a. Being able to articulate ideas;
- b. Working independently;
- c. Exploring alternatives;
- d. Taking the risk to try out ideas;
- e. Flexibility and adaptability; and
- f. Thinking outside the box.

#### 11.1.3 Process of cultivating originality and initiative

Below are means of development of originality and initiative. Most of these are applicable to other forms of creativity as well. They include:

##### a. Openness to new experiences

Creativity essentially builds on combining existing elements (Allen and Thomas 2011, Kahneman 2011). Chances for novel combinations are better if a rich and diverse collection of elements is available. Numerous studies show that openness to new experiences stands out as a characteristic personality trait of creative scientists and artists alike (Feist 1998). Seeking and embracing new experiences are shown to be deliberate strategy amongst artists, scientists and famous thinkers, these involves:

- Breaking the force of inertia: This process starts with breaking the paralysing effect of inertia which tends to inhibit initial momentum;
- Gathering varied experiences: This is followed by gathering varied experiences from different sources. Embracing the unplanned also has the advantage that one builds a diverse collection of ideas and skills to draw upon. Most of the great contributions to science and arts combine elements developed by predecessors in the field; and
- Taking risks: Willingness to take risks is an essential part of the process of being creative and original in thought and action. Originality comes with a lot of failures and disappointments. A creative individual will not give up, but will rather endeavour to discover his errors and find solutions to them.

## b. Creating an environment for creativity

Many studies show that the personality trait of being “autonomous” is eminently displayed among creative scientists and artists. Most creative people embrace solitude which is conducive to creative production (Feist 1998). Although being socially rejected can fuel creativity (Kim et al. 2013), solitude may also be a voluntary choice. Creating an environment for creativity involves:

- Provide quiet time: Many studies on original ideas show that distracting sounds and other uncontrollable stressors are negatively associated with creativity (Byron et al. 2010). The need for quiet environment is not limited to the physical environment, but also to the state of mind.  
Several studies suggest that despite its negative connotation, boredom may provide fertile grounds for innovation (Gasper and Middlewood 2014);
- Prime the mind: To achieve this state, one focuses one’s mind on solving a particular problem, whilst undertaking a less distractive activity, such as taking a stroll on a lonely path. Many great minds shared the habit of creating seemingly empty time with the explicit goal to solve a problem (Scheffer et al. 2015). A popular example is Darwin, who famously took walks along his especially constructed “thinking path” every day without exception. Several studies now confirm the effectiveness of activities that require little attention, such as walking, for problem solving (Baird et al. 2012, Oppezzo and Schwartz 2014); and
- Be ready to record: It is essential for creative individuals to have readily in their vicinity a means of recording, such as notebook or recorder to make note of any inspiration caught, even at odd moments. This is important as such inspiration may not come when one is primed for it.

## c. Avoid dogma

Dogmas, being principles laid down by authorities as being incontrovertible, are inimical to fresh thinking, creativity and originality. To be original requires taking paths other than the obvious. Two forces however work against this. These are the mind’s strong tendency to lock into the patterns it has seen before (Scheffer and Westley 2007) and social pressures against deviating (Scheffer et al. 2003), hence, the character trait of “norm doubting” is common among creative scientists and artists, these involves:

- Break with the past: Creative individuals usually get emotionally attached to their previous works and approaches. This blinds them, preventing exploration of alternative paths (Chamberlin 1897). The difficulty involved in creating a new path tempts them to follow the old path, rather than giving it up (Arkes and Ayton 1999). This creates tunnel vision, which is inimical to creativity;
- Break the norms: Norms are those things or ways considered by society as typical or standard mode of behaviour. Most creative people are non-conformist. They live in isolated places, not only to create solitude for inspiration, but to break from the norm of society.

To avoid the pressure due to norms, some prominent scientists avoid digging too deeply into the existing literature (Gleick 2011); and

- Team up: To mitigate the effects of society on the creative thinker, many scientists and artists team up with like-minded people in teams and groups, wherein they can share their ideas and thoughts without inhibition. This enables them to think outside the box, that is, in original ways.

### 11.1.4 Challenges to development of originality

Openness to new experiences, autonomy, self-confidence, and a tendency to challenge the ruling norms are mainly inherent character traits, which may be cultivated to enhance originality and creativity.

There are however some challenges which need to be addressed if originality is to be

cultivated. These are tensions and paradoxes in the proposition, some of which are stated below:

- a. Merits and demerits to teaming up (Sawyer 2008);
- b. The risk of “group think” hindering creativity (Esser 1998);
- c. Composing a diverse team may mitigate this risk. Diverse teams can bring up more ideas and perspectives. Complementarity of inherent character traits of different members can facilitate going through all stages of the creative process from conception to implementation (Page 2008, Meredith Belbin 2011);
- d. The group size may however have negative effects. A recent study suggests that, in science, novelty shows an inverse U-shaped relation to group size (number of authors on a paper), with the decline at larger group sizes possibly resulting from coordination problems in sorting out the best ideas (Lee et al. 2015).
- e. Another tension exists between staying away from dogma and “reinventing the wheel” ; and
- f. Tension between the need for diverse inputs and the requirement for undisturbed solitude.

## 11.2 Creative thinking

### 11.2.1 Definitions

Creative thinking is the ability to consider something in a new way. It might be a new approach to a problem, a resolution to a conflict between employees, or a new result from a data set. Employers in all industries want employees who can think creatively and bring new perspectives to the workplace.

Psychologically, creative thinking is a process of producing a composition, product or idea that is essentially new, that is, previously unknown and original. While creativity refers to the ability to produce a composition, product or idea that is essentially new, previously unknown and original. Creativity can be artistic, literary, scientific or product, and can be procedural or methodical. It is a mental process that is unique for the purpose of producing something new, different from the original that includes a specific thought which constitutes different ideas and thoughts freely, that is, convergent thinking (Nurlela, 2015).

Creative thinking means thinking outside the box. Often, creativity involves lateral thinking, which is the ability to perceive patterns that are not obvious. It is breaking out of established patterns to look at things in a different way. It is the skill of being able to produce something new which has some value. It can also be seen as the ability to acquire knowledge, break it down, and rearrange it in an altogether different manner to generate something new and valuable. It arises out of skilful restructuring of our thoughts to allow novel ideas about a given subject or situation (Aravind, n. d.).

Creative thinking might mean devising new ways to carry out tasks, solve problems, and meet challenges. It means bringing a fresh, and sometimes unorthodox, perspective to tasks, inventing something new, thinking up something from scratch and putting things together in a new way. Creative thinking helps a person to solve problems and make decisions (Ruggiero, 1993). It is an important ingredient in corporate strategic formulation process. This way of thinking can help departments and organisations be more productive.

Creativity is the ability to think laterally, imaginatively and to make connections. Creative thinking is a skill that can be nurtured and developed.

Aravind (n.d.) points out what makes a creative person different and special as follows:

- Sensitivity to the existence of problems, opportunities, gaps in knowledge, inconsistencies, and lack of harmony;

- Ability to use existing knowledge in new ways to search for solutions; and
- Make guesses and test their validity “since knowledge is not always gained through language alone”, creative feelings also cannot always be expressed in words.”

Some attributes of creative thinkers, therefore, are:

- Being able to articulate ideas;
- Working independently;
- Exploring alternatives;
- Taking the risk to try out ideas;
- Flexibility and adaptability; and
- Thinking outside the box.

### 11.2.2 Critical thinking

Creative thinking should, however, be differentiated from critical thinking. Both creative and critical thinking involve the use of high order thinking skills. Critical thinking is thinking that interrogates information to evaluate in and judge whether it is true or false; whether it should be believed or not; and how one should act on it. While creative thinking is, on the other hand, thinking that produces the material that critical thinking evaluates. It is generative thinking. Therefore, one phase, creative thinking, produces ideas while the other phase, critical thinking, judges them. Creative people are dynamic, daring, resourceful, independent and hard working. These characteristics enable them to solve problems in unacceptable situation that challenge thinking without having any apparent ready way out.

The two phases of critical and creative thinking (CCT) are intertwined. The thinking moves back and forth especially in the process of solving a problem each phase reinforcing the other. When critical thinking judges that something wants in what is generated by creative thinking, further generation is called forth to improve the situation. This goes on and on many times. This continuous alternating activity between critical and creative thinking is especially important in intellectual matters where excellence is the goal (Musyoka, 2016).

Aravind (n.d.) differentiated between creative and critical thing as follows:

Creative thinking is described as:

- making and communicating connections to think of many possibilities;
- thinking and experiencing in various ways and use different points of view;
- thinking of new and unusual possibilities; and
- giving guidance in generating and selecting alternatives.

Critical thinking is described as:

- analysing and developing possibilities to compare and contrast many ideas;
- improve and refine ideas;
- make effective decisions and judgments; and
- provide a sound foundation for effective action.

### 11.2.3 Learning creativity skill

Cambridge (2011, p. 56) stated the following character traits and learning habits that affect a learner’s personal disposition, motivation and confidence to be creative:

- resilience: an ability to tolerate uncertainty and persevere at a task to overcome obstacles;
- not being afraid to make and learn from mistakes;
- an ability to suspend judgement while generating ideas; and
- willingness to take sensible risks or go out of their comfort zone in their work.

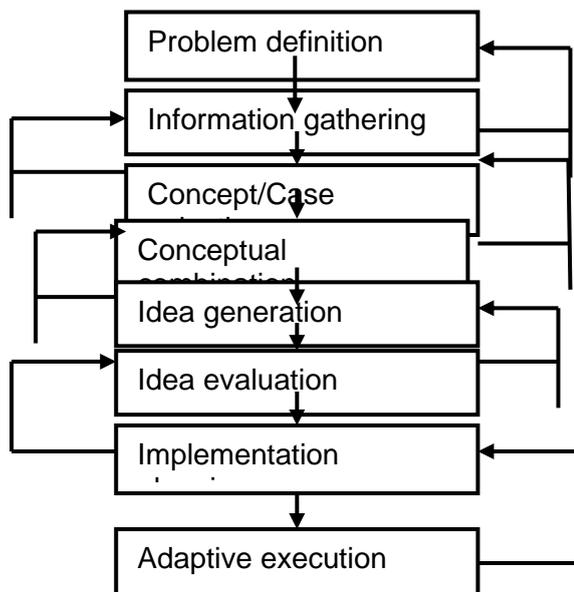
Cambridge (2011 p. 56), states that a creative learner needs to be able to develop and apply a set of skills that they can use in the creative process. These include being able to:

- clarify, analyse and re-define the problem or question to uncover new ways of looking at it;

- ask thoughtful questions;
- notice connections between seemingly unrelated subject matter;
- challenge established wisdom by asking: how would I improve this?
- recognise alternative possibilities; and
- look at things from different perspectives.

#### 11.2.4 Creative thinking process

Mumford, Medeiros and Partlow (2017), developed a model of creative thinking process, this is shown as follows:



Source: Mumford and McIntosh - Creative Thinking Processes: The Past and the Future

#### 11.2.5 Modes of creative thinking

Creative thinking is expressed in diverse situations, varying from artistic work to technical and scientific engagements. Below are some examples creative thinking in various situations:

##### (a) Artistic Creativity

One does not have to be an artist to express artistic creativity. A good example is a sales staff who displays merchandise on a retail store stand to attract customers.

Other cases include creating cartoon characters, designing of logos, writing of advertising copy, creating the packaging for a product or writing drama stories.

##### (b) Creative problem-Solving

Creative problem-solving requires innovation. A creative problem-solver will find new solutions rather than simply identifying and implementing the usual protocols. This might be used to cut costs, increase income or device more efficient modes of service delivery.

##### (c) Creativity in Science and technology

The fields of science and technology require immense creativity. For example, designing space crafts and robots, writing efficient computer programs or simulating complex entities require a lot of creative thinking.

History is replete with failure of many science and technology projects mainly due to dogma, biases and assumption from which the scientists and technologies could not extricate themselves.

### 11.2.6 Expressions of creative thinking

Creative thinking is expressed in several ways. Here are some of the types of creative thinking you might see in the workplace:

#### (a) Analysis

Creative thinking usually starts with a clear understanding of the matter at hand. Many problems are usually complex, hence, requires a process of analysis to break them down to simpler units which can be easily managed.

This requires critical examination of materials, including texts, data, plans, designs, budgets, etc.

#### (b) Open-Mindedness

To think creatively, one must remove any preconceived ideas, assumptions or biases to provide opportunities for fresh ideas and perspectives. This requires open mindedness.

#### (c) Problem-Solving

One of the main benefits of creative thinking is in problem-solving, most especially, when the problem is not following a usual trend or pattern. New models or thoughts may be required to address them.

#### (d) Organisation

Organisation is an essential part of creativity. To be creative one must be able to thread patterns which may not be easily discernible by all to form a logical or physical whole. A creative mind will be able to put together the pieces of a jig saw puzzle to form a whole picture. This is organisation. Though at the analytical stage it seems the pieces are disorganised as they are dissembled, thus creating a similitude or disorganisation usually associated with creative people.

#### (e) Communication

People will only appreciate your creative idea or solution if you communicate it effectively. You need to have strong written and oral communication skills.

Creative thinking requires effective listening to fully understand the issues involved.

### 11.2.7 Benefits of creative thinking

Organisations encourage and reward creative thinking as it:

- (a) Generates new sources of income or enhance existing source, through innovation;
- (b) Creates new products;
- (c) Finds new uses for existing products;
- (d) Creates new markets; and leads to improved bottom lines.

Thus, many organisations go a long way to device an organisational structure that stimulates and encourage creative thinking.

#### Summary

- Creative thinking is the ability to consider something in a new way.
- Creative thinking includes analysis, open-mindedness, problem-solving, organisation, and communication.
- Many employers value creative thinkers.

## 11.3 Integrated thinking

### 11.3.1 Introduction

Integrated thinking has been defined as “a term that refers to the conditions and processes that are conducive to an inclusive process of decision making, management and reporting, based on the connectivity and interdependencies

between a range of factors that affect an organisation's ability to create value over time" (CIMA, 2017).

**Martin (2009), sees** integrative thinking as "the ability to face constructively the tension of opposing ideas and instead of choosing one at the expense of the other, generate a creative resolution of the tension in the form of a new idea that contains elements of the opposing ideas but is superior to each".

### **11.3.2 The philosophy of integrative thinking**

Roger Martin presented a heuristic model, The Philosophy of Integrative Thinking, as a basis for integrative thinking. It comprises four interrelated elements as follows:

- (a) Salience;
- (b) Causality;
- (c) Architecture; and
- (d) Resolution.

This philosophy encourages high tolerance for change, openness, flexibility and disequilibrium. This is contrary to the common managerial endeavour to attain predictability and measurable clarity.

#### **(a) Salience**

Salience is the determination of information or variables relevant to the decision. As many relevant variables as possible are considered. This approximates better to reality. For example, when a company decides to relocate a factory from one place to another, the company may only consider the economic benefit to the shareholders, not bearing in mind the political implication of such a move. This may be a wrong decision by the company.

#### **(b) Causality**

In dealing with causes of observations, integrative thinkers do the following:

- establish causal relationship between the variables and the decision;
- consider non-linear and multi-directional causal relationship, rather than simple, uni-directional relationships;
- create multiple causal models and developing many alternative theories to deal with any ambiguities observed; and
- deliberate on some unexplained observations, though, no causal relationship is established.

#### **(c) Architecture**

The next step in integrative thinking is architecture. This is building a model to capture all the salient variables. This model incorporates the complexities in the process and considers the interrelationships between the salient variables. This method does not attempt to over-simplify the model, but deals with the complexity, by bringing most relevant parts at a point to the fore, while retaining the other parts in the background. At other times, focus will be on those other parts. In this way, no part of the causal map is ignored.

#### **(d) Resolution**

Resolution is the final stage, at which decision must be made. At this stage the attitude of the decision-maker is critical. Less integrative thinkers get into a 'bind' i.e. seeing the choices being limited to either one or the other, when neither is fully satisfactory and dealing with it by proffering solutions to ameliorate the negative effects of the choice made.

The integrative thinker will not see the challenge as a bind, but rather a tension to be creatively and flexibly managed, even if it requires a delay and continual rethinking and restructuring of the problem and its logic.

### **11.3.3 Importance of integrative thinking**

- a) Many managers achieve perplexing and uninspiring outcomes because of the gap between aspirations and outcome. These gaps arise because they over-simplify the models, because the links between cause and effect are usually not clear or obvious.
- b) Over-simplification of the models gives a false sense of being in control of the situation, only leading to error in the end. This is referred to as 'narrow perfectionism' i.e., striving for perfection by narrowing the definition of the task to the point that perfection is guaranteed. When a disaster occurs, each participant aims at exonerating self by showing that they followed the specified steps, rather than attaining the objective.
- c) This over-simplification and narrow perfectionism has led to over-specialisation into functional areas when conducting business research. Models are usually restricted to each functional area rather than engaging in integrative thinking to link the models to other functional areas to produce a holistic view. This makes many research efforts defective.
- d) This malaise has also infected many managers during their training in business schools. They limit their thoughts to their functional areas rather than engaging in integrative thinking, thus, making their training defective, as they compartmentalise their knowledge. This is narrow perfectionism applies to the trainee managers as well.
- e) Integrative thinking is responsible for the great success stories recorded by entrepreneurs with little or no formal business training or business leaders whose success stories cannot be explained by application of narrow models.
- f) Integrative thinkers develop complex models to understand and drive action in a complex world of business. Their models capture the complicated, multi-faceted and multidirectional causal relationships between the many salient variables. They consider customers, employees, internal capabilities, technology, competition, cost structures, industry evolution, regulatory environment, etc., not just a subset of these variables.
- g) Integrative thinkers have holistic view of problems rather than compartmentalise them.
- h) They creatively resolve tensions to produce a more powerful model rather than running into a bind of choosing one model over another when both are sub-optimal, but one is less so than the other.
- i) Successful business leaders must develop their integrative thinking capacity to achieve success.
- k) Though integrative thinking skills may be developed, some people possess innate integrative thinking skills. Major impediment to developing the skill is the fact that over-simplification and narrow thinking occur naturally to many people. Education does not help many, as it often encourages narrow thinking. Therefore, most people trained in integrative thinking do not keep the skill on a long-term basis.

### **11.3.4 Implementation of integrative thinking in an organisation**

The following considerations will facilitate the adoption of integrative thinking in an organisation:

- a. Understanding what value means in the context of the organisation and how its business model creates value;
- b. Developing a clear explanation of the positive and negative impacts of trends shaping the company's current and future operating environment across the different types of capital;
- c. Identifying non-financial metrics that are significant to the success of the business, gathering reliable data, conducting meaningful analysis, and reporting this information to the board as prominently as the key financial metrics;
- d. Relating non-financial metrics to the long-term financial success of the business. Explaining why the non-financial factors being measured is important;
- e. Demonstrating to the board linkages between strategy, strategic objectives, performance, risk, and incentives across financial and non-financial information; and
- f. Being holistic in terms of what to report and focussing on the interconnectivity of different elements.

## 11.4 Persuasion

### 11.4.1 Introduction

Britannica.com defines persuasion as “the process by which a person's attitudes or behaviour are, without duress, influenced by communications from other people. One's attitudes and behaviour are also affected by other factors (for example, verbal threats, physical coercion, one's physiological states)”.

In business, persuasion is “a process aimed at changing a person's (or a group's) attitude or behaviour toward some event, idea, object, or other person(s), by using written, spoken words or visual tools to convey information, feelings, or reasoning, or a combination thereof” (Business Dictionary). It is the ability to influence others, present effective arguments and prompt others to act. It is a valuable asset that can be beneficial in various organisations. An employee with strong persuasion skills can influence others to perform well and succeed. A persuasive employee is also able to expedite and facilitate group decision-making. When used well, persuasion is a valuable soft skill that can have significant impact in any organisation.

Below are some examples of the uses of persuasion:

- (a) Sales pitches;
- (b) Electioneering campaigns;
- (c) Debates in parliament;
- (d) Advertisements; and
- (e) Advocacy in trials.

### 11.4.2 Philosophy of persuasion

Aristotle, the Greek philosopher, advanced the following four reasons and bases for the study of persuasion:

- (a) To establish truth and justice;
- (b) It is an excellent tool for teaching;
- (c) A good rhetorician needs to know how to argue both sides to understand the whole problem and all the options; and
- (d) There is no better way to defend oneself than through persuasion.

Aristotle's rhetorical proofs

Aristotle presented the following arguments in support of the thesis of persuasion:

- (a) Ethos (credibility): Effort to convince the audience of one's credibility or character;
- (b) Logos (reason): Effort to convince the audience by using logic and reason; and
- (c) Pathos (emotion): This refers to the effort required to persuade the audience by making an appeal to their feelings.

#### **11.4.3 Morality of persuasion**

Many philosophers including Socrates, Thomas Hobbes, Immanuel Kant and Aristotle criticised the morality of persuasion. Their criticism of the use of persuasion include:

- (a) That rhetoric is based on appearance, rather than the substance of a matter;<sup>4</sup>
- (b) That rhetoric may be used to create controversy;<sup>5</sup>
- (c) That persuasion may lead to reaching decisions that may be radically different from those the audience would have made, if they have full judgement; and
- (d) Judgements may be based on emotion rather than reasoning.

#### **11.4.4 Theories of persuasion**

There are different approaches to the study of persuasion. The theories of persuasion include the following:

##### **Philosophical theories**

There are two types of theories under this category to explain persuasion, viz:

- (a) Dispositional attribution: This is also called internal attribution. It enunciates that persuasion is attributable to personality traits, capabilities, emotions and dispositions; and  
Situational attribution: This is also called external attribution. This theory attributes persuasion to external factors such as the context of the situation and the environment.

#### **11.4.5 Behaviour change theories**

These are planned behaviour theories. They emphasise internal validity, rather than external validity. They adopt some techniques which are aggregated in a mutually exclusive, comprehensively exhaustive (MECE) list which include the following:

- Positive and negative consequences;
- Offering/removing incentives;
- Prompts/cues; and
- Offering/removing threats/punishments.

#### **11.4.6 Elaboration likelihood model**

Persuasion has traditionally been associated with two routes.

Central route: Individuals evaluate the pros and cons of information presented to them on the face of it and how well it supports their values.

Peripheral route: Change is facilitated by the attractiveness of the source of the communication and it is achieved by bypassing the deliberation process.

#### **11.4.7 Inoculation theory**

In this theory, a party introduces a weak form of an argument to make the audience less receptive to a stronger version of the argument presented by an opposing party. It derives its name from the similarity of the approach to the process adopted in inoculation against viruses in immunology, whereby a weak form of the virus (attenuated virus) is introduced into the organism to enable the organism develop immunity against the stronger form of the virus.

#### **11.4.8 Functional theories**

They attempt to explain individuals' divergent attitudes towards people, objects and issues in different situations. The four functions are:

- (a) Adjustment function: This function motivates individuals to behaviours that attract rewards and moves them away from those inviting sanctions;
- (b) Ego defensive function: This function enables individuals to protect their ego from threat from their own impulses or negative thoughts;
- (c) Value expressive function: This function enables individuals to present an image of themselves which is in consonance with their self-belief and image; and
- (d) Knowledge function: This is a sense of having knowledge and control over one's life.

#### **11.4.9 Social judgement theory**

This theory proposes that when confronted with a persuasive argument, people relate it to their initial attitude or anchor point (their previous attitude). The decision on acceptance of the argument depends where the argument falls on the latitude of acceptance, latitude of non-commitment or latitude of rejection.

#### **11.4.10 Persuasion methods**

These are often referred to as persuasion strategies or persuasion tactics. They include:

- Use of force: The person, organisation or nation that possesses greater power than another can use its might to persuade a lesser person, organisation or nation to adopt its position by threat or use of force; and
- Weapons of influence: These are the tools that can be used to influence individuals. They include:
  - Reciprocity;
  - Commitment and consistency;
  - Social proof;
  - Likeness;
  - Scarcity; and
  - Authority.

#### **11.4.11 Persuasion channels**

Persuasion can be achieved through the following means:

- (a) By appealing to reason, through:
  - i. Logic;
  - ii. Rhetoric; and
  - iii. Scientific proof and method.
- (b) By appealing to emotion:
  - i. Cosmetic advertisement;
  - ii. Imaginative presentation;
  - iii. Sympathy;
  - iv. Propaganda;
  - v. Psychological manipulation;

- vi. Seduction; and
  - vii. Tradition.
- (c) Other techniques of persuasion include:
- i. Subtle advertisement;
  - ii. Power;
  - iii. Deception; and
  - iv. Hypnosis.
- (d) Coercive techniques include:
- i. Coercive persuasion;
  - ii. Force;
  - iii. Mind control;
  - iv. Brainwashing; and
  - v. Torture.

#### **11.4.12 Aids to persuasion**

These are skills and attributes that help in persuading an audience, they include:

- (a) **Communication skill:** Since the goal of persuasion is to influence others to think or act in a certain way, good communication skills are the foundation on which to build other persuasive skills.
- (b) **Emotional intelligence:** Emotional intelligence helps a person to understand the feelings of others and respond appropriately. It can therefore help a person to use appropriate persuasive methods that suit particular situations or person.
- (c) **Active listening:** Active listening involves being attentive and respectful in conversation with others. It is about giving the other person time to speak and share his/her thoughts which will make them feel valued and can contribute to building trust. It will assist in understanding the motivations of the person which in turn will help in forming more effective persuasive arguments.
- (d) **Logic and reasoning:** A logical mindset and good reasoning skills help in forming convincing persuasive arguments. This is done through the use of logic and reasoning skills. Before a person can be persuaded by another person to believe in an idea or commit to an action, the person needs to understand why doing so would be a logical choice. To show them this, you will need to reason with them using facts that support your view.
- (e) **Interpersonal skills:** Interpersonal skills are based on a person's ability to conduct positive interactions and maintain meaningful relationships with other people. Persuasion is not possible, if a person is not comfortable with instigating conversations or engaging in workplace rapport. Part of being persuasive is being genuine, natural and at least a little charismatic. People are more likely to agree with someone they like, so improving interpersonal relationships is one of the best ways one can become more skilled in persuasion.
- (f) **Negotiation:** Generally, a person being persuaded will not be willing to cooperate unless the person believes he will benefit from the deal. Therefore, negotiation is often a crucial part of successful persuasion. It may therefore be necessary for one to understand the person's needs,

find a way to meet those needs and negotiate an arrangement that pleases both sides.

## 11.5 Negotiation Skills

### 11.5.1 Definitions

Negotiation is a process aimed at settling disputes or disagreements with a view of reaching agreements between two or more parties. It usually involves making compromises by which parties make concessions to the benefit of all involved in the process. It is aimed at avoiding rancour and blow-outs.

**Stolz defines negotiation as the process of evolving communication to get from opposition to consensus, manage conflict and reach agreement.**

Negotiation is a dialogue between two or more people or parties intended to reach a beneficial outcome over one or more issues where a conflict exists with respect to at least one of these issues.

Negotiation is an interaction and process between entities who aspire to agree on matters of mutual interest, while optimising their individual utilities. This beneficial outcome can be for all of the parties involved, or just for one or some of them.

Negotiation involves a back-and-forth communication designed to reach agreement while leaving the other side intact and positive (Mylona).

### 11.5.2 Environments of negotiation

Negotiations take place in various environments, including:

- (a) Organisations
  - i. Divisions, departments and units
  - ii. Management and unions
  - iii. Staffs, etc.
- (b) Communities
  - i. Governments and communities
  - ii. Government and labour unions
  - iii. Between litigants
  - iv. Family members
  - v. Higher institutions
  - vi. Hostage situations
  - vii. Religious institutions, etc.

### 11.5.3 Types of negotiation

There are two types of negotiation based on the possible outcomes of the negotiation. These are:

#### (a) **Distributive negotiation**

This is also called positional, hard-bargaining or win-lose negotiation because one party's gain is a loss to the other party, as there is a fixed prize in the negotiation. It is a zero-sum game situation. Parties to the negotiation therefore seek to minimise their losses by taking hard-line positions during the negotiation process.

Examples of distributive negotiation include:

- i. Negotiation between buyer and seller of a property;
- ii. Negotiation of a disputed property amongst individuals; and
- iii. Negotiation of disputed lands between communities.

## **(b) Integrative negotiation**

This type of negotiation is also called principled negotiation, interest-based negotiation, merit-based or win-win negotiation.

All parties in the negotiation derive some benefits from the exercise. Compromises are usually made to achieve this situation. There are trade-offs by the parties. It is not a zero-sum game situation. The parties usually share a common interest.

Negotiators would normally endeavour to move the environment of the negotiation from a winner-takes-all to a win-win situation to facilitate attainment of compromise, otherwise, the perceived loser will not cooperate. To achieve this, the negotiator must spare no effort in identifying and articulating the benefits accruing to each of the parties in the negotiation process to encourage them to agree to the proposal.

Examples include:

- i. Allocation of resources or revenue of government between various units of a country or jurisdiction; and
- ii. Budget debate at the National and State Assemblies.

From the foregoing, it is easy to appreciate the importance of negotiation in society and the need for negotiation skills.

### **11.5.4 Common forms of negotiation within organisations**

#### **(a) Management negotiations**

One of the major responsibilities of management is to negotiate with various stakeholder groups of the company. This form of negotiation takes many forms because of involvement of different groups. These negotiations include those with the following groups, identifying issues that require negotiation:

- Shareholder groups;
- Support for policies;
- Benefits to shareholders;
- Customer groups
- Prices;
- Product quality;
- Sales terms;
- Governments and regulatory authorities;
- Taxes;
- Corporate social responsibility;
- Social Infrastructure;
- Incentives;
- Suppliers and creditors;
- Terms of credit;
- Debtors;
- Terms of payment;
- Staff and their unions;
- Work environment, and collective bargaining of conditions of service;
- Salaries;
- Prospective staff;
- Remuneration;
- Placement;
- Host communities;
- Corporate social responsibility; and
- Access to natural resources, like water and raw materials.

### **(b) Internal negotiations**

Within organisations, workers or groups of workers may often need to negotiate various issues, like:

- i. Allocation of work within groups and teams;
- ii. Roles within teams;
- iii. Allocation to teams; and
- iv. Bases of sharing group bonuses.

### **11.5.5. Skills required for effective negotiation**

These are skills required to facilitate achievement of compromise or consensus between two or more parties. These are usually various skills that the facilitator may deploy to diffuse tense situations and encourage agreement and compromise. They are required by negotiators for success. The skills required vary with the environment of negotiation and the parties involved. It takes the creativity and experience of the negotiator to determine what skills will be required.

Some of the skills relating to negotiation are discussed in more details elsewhere in this chapter. They include:

#### **(a) Effective communication**

Communication skills include:

- i. Active listening skill;
- ii. Clear language;
- iii. Nonverbal cues; and
- iv. Feedback.

#### **(b) Persuasion**

This is the ability to influence others to support your position and agree that your proposals are beneficial to all parties.

#### **(c) Planning and organising**

Planning and organising skills are essential to reaching agreement and compromise in negotiation. It is important to prepare a conducive environment and consider the long-term impact of the proposals on each of the parties. These skills will also assist in developing implementation programme for the agreement.

#### **(d) Strategising**

Negotiators usually prepare different options and scenarios and rank them in order of preference after considering all possible outcomes. This way, there are alternatives to negotiate.

### **11.5.6 Essentials of effective negotiation**

#### **Measurement**

Effectiveness of a negotiation process can only be evaluated by measuring the final agreement against the planned outcome. The evaluation score depends on who is making the assessment, the negotiator or any of the interested parties as their objectives are different.

Considerations for successful negotiation include the following:

- (a) Clear identification of the issues and final goal:  
It is essential to clearly identify all the issues involved and articulate the objective of the negotiation process, as this motivates action towards its accomplishment. The goal should be acceptable to the parties. This will also enable the negotiator or other stakeholders to

- access the extent of success attained at the end of the exercise;
- (b) Establish the limits of acceptable compromise: The negotiator should establish the limits of compromise that could be agreed to during the negotiation process;
  - (c) Identify unacceptable terms: Establish those terms of the negotiation that are unacceptable, hence cannot be compromised;
  - (d) Articulate your best alternative to negotiated agreement (BATNA): The negotiator has to determine the BATNA. This involves considering the worst-case scenario if the negotiation fails, what is the next best alternative;
  - (e) Consensus building: The negotiator must build consensus and cooperation amongst the parties to reduce tension and facilitate attainment of set goal. It is essential to find common ground amongst the parties;
  - (f) Eliciting compromise: The negotiator must develop a process of encouraging the parties to compromise and thus create semblance of a win-win situation for all of them;
  - (g) Placing a time restriction on the process: Placing a time restriction on the process will put pressure on all parties to compromise and reach agreement. To achieve this objective, the allotted time should be realistic for the goal set. Attention of all parties should be drawn to the time limit when the negotiator notices distractions;
  - (h) Generation of many options for consideration: The negotiator must be ready with alternative courses of action, in case the process runs into a hitch. This will avoid premature abortion of the process and give the process a better chance of success.
  - (i) Display of confidence throughout the process: The negotiator must continue to display confidence throughout the process so as to, continue to earn the trust and respect of all parties. During stormy sessions, the negotiator should endeavour to restore calm and continue the process;
  - (j) Ability to remove one's personality from the process: The negotiator should not personalise any disagreements or objections during the process.
  - (k) Assess the opposition: The negotiator must assess the strengths and weaknesses of the opposition to decide what will be acceptable to them. There is also a need to assess emotions and sentiments of the opposition. These factors affect those options that will be attractive to them;
  - (l) Understanding one's weaknesses: The negotiator must identify personal weaknesses and take steps to mitigate their impact on the process; and
  - (m) Regular practice of the negotiation process: Familiarity with the process and tools  
of negotiation engenders confidence in the negotiator, an essential

ingredient for success. This will enable the negotiators to hone their negotiation skills.

### **11.5.7 Challenges to negotiating in an organisation**

Corporate environments are rapidly changing, hence corporate strategies and other responses are frequently changing to catch up and even predict these changes to retain their competitive advantage. Professional accountants must keep developing their core skills, but also their soft skills to enhance their performance.

In the post pandemic corporate environment, the modes of operation have changed significantly, thus heightening the rate of change. For example, negotiation meetings can hold on virtual platforms, through emails and other electronic media, which may not give opportunity for evaluation of non-verbal cues, which are critical in negotiation.

Other challenges to negotiations within organisations include:

- (a) Group influence;
- (b) Biases from previous exercises;
- (c) Perception of the negotiator as an interested party;
- (d) Misconception from poor communication;
- (e) Lack of trust;
- (f) Cultural differences;
- (g) Gender differences;
- (h) Religious differences;
- (i) Structural impediments; and
- (j) Spoilers.

### **11.5.8 Mediation and Arbitration**

Mediation and arbitration are types negotiation.

Mediation is a form of negotiation with the negotiator as a third-party catalyst who helps the conflicting parties negotiate when they cannot do so by themselves.

Negotiation can be contrasted with arbitration, where the decision lies with the third party, which the conflicting parties are committed to accept.

## **11.6 Cognitive flexibility**

### **Definitions**

According to Marianne Stenger<sup>1</sup>, cognitive flexibility refers to ability to disengage from one task and respond to another or think about multiple concepts at the same time. Someone who is cognitively flexible will be able to learn more quickly, solve problems more creatively, and adapt and respond to new situations more effectively, which is why it is important in both the educational settings and in the workplace.

Cognitive flexibility has been described as the mental ability to switch between thinking about two different concepts, and to think about multiple concepts simultaneously. Cognitive flexibility is usually described as one of the executive functions.

Two subcategories of cognitive flexibility are task switching and cognitive shifting, depending on whether the change happens unconsciously or consciously, respectively.

Cognitive flexibility varies during the lifespan of an individual. In addition, certain conditions such as obsessive–compulsive disorder are associated with reduced cognitive flexibility. Since cognitive flexibility is a vital component of learning deficits in this area might have other implications.

Cognitive flexibility is an intrinsic property of a cognitive system often associated with the mental ability to adjust its activity and content, switch between different task rules and corresponding behavioural responses, maintain multiple concepts simultaneously and shift internal attention between them.

### **11.6.1 Importance of cognitive flexibility**

According to a 2016 report from the World Economic Forum that looked at the future of jobs across nine different industries in 15 of the world's largest economies, employers will soon be placing more emphasis on cognitive abilities like creativity and adaptability.

Building cognitive flexibility is a great way to develop professionally and keep up with the ever-changing work environment of the future.

One of the best ways to become more cognitively flexible is to expose oneself to new experiences and ways of doing things. Below are some ways to develop cognitive flexibility:

#### **(a) Altering daily routine**

A simple way to build cognitive flexibility is by periodically changing regular routines and doing things differently. This may include regular routines such as modes and routes of transportation, daily chores and **exercise routines**.

Simple changes such as changing one's sitting position and switching hands in performing some chores can help to build and strengthen new neural pathways;

#### **(b) Seeking new experiences**

Learning new things or going through new experiences stimulates the brain to develop new synaptic connections. New and interesting experiences have also been shown to trigger the release of dopamine, which not only increases motivation but also enhances memory and learning.

This includes activities such as:

- i. Travelling to new places;
- ii. Learning new languages;
- iii. Learning to play new musical instruments; or
- iv. Engaging in new sports;

#### **(c) Practising creative thinking**

Another way to build cognitive flexibility is to endeavour to think in unconventional and creative ways or practice divergent thinking. Robert Steinberg showed that when students were taught to think in both creative and practical ways, their grades improved, and they were also able to transfer the knowledge they gained to entirely different areas of learning.

Divergent thinking usually occurs in a spontaneous and free-flowing manner and involves thinking in terms of unlimited possibilities rather than a limited set of choices;

#### **(d) Embracing ‘desirable difficulties’**

Research shows that introducing ‘desirable difficulties’ lead to deeper learning. Desirable difficulties are those unfamiliar challenges, which when overcome, have positive effects on the individual. By endeavouring not always to choose the easiest way of doing things, minds are sharpened. This research shows that successfully going through some changing experiences enhance cognitive flexibility;

#### **(e) Developing new networks**

Meeting people from different cultures and walks of life whose perspectives and viewpoints are different helps one to be less rigid in ways of thinking and be more receptive to other viewpoints, thus, enhancing cognitive flexibility.

A study showed that students exposed to diverse environments and cultures are more likely to reach an advanced stage of moral reasoning;

#### **(f) Transferring learning**

Learning to transfer knowledge in one context into a new context is an essential element of developing cognitive flexibility. This ensures the formation of new connections between previously unconnected networks of knowledge and thinking more creatively.

Without the ability to transfer skills and knowledge to new contexts, learning will not have good impact. A study found that though street children were able to perform complex mathematical computations when selling their wares, but they were not able to solve equivalent problems that were presented to them in a school context.

Research also shows that explaining a new concept in one’s own words helps identify any incorrect assumptions, and also helps to generalise a concept for future application. New concepts learnt should be applied to real-life situations to be fully internalised;

#### **(g) Moral challenge**

Research shows that, through seeking new experiences that test morals and expose one to a variety of beliefs, values, and expectations one can demonstrate better understanding of culturally different perspectives and, as such show cognitive flexibility.

Cognitive flexibility ensures that when one disagrees with another’s point of view, the person will be able to rationalise the opposing point of view.

This ability will facilitate the following:

- i. Communication with people;
- ii. Resolve conflicts; and
- iii. Adaptation of thinking to various situations.

### **11.6.2 Cognitive flexibility theory and its application**

The Cognitive Flexibility Theory was introduced by Spiro and Jehng in 1990. They stated that cognitive flexibility is the ability to restructure knowledge so as to adapt and make use of it in different settings and situations. They also proposed that the way the knowledge is represented as well as the mental processes that are stimulated by this knowledge play a key role.

The theory relies on knowledge transfer and skills that extend beyond the learning environment. In other words, learners must be able to apply knowledge in the real world.

The cognitive flexibility theory relies upon the idea that learners must not only be able to manipulate how knowledge and content are being **represented**, but also the processes for operating those representations.

The main principles of the cognitive flexibility theory are:

**a. Knowledge is “context-dependent”.**

Knowledge cannot be perceived out of context. It is the context that allows learners to see any possible relationships between various components of the subject matter presented. In addition, learning activities in any educational setting should be able to provide several different representations of the same instructional objectives in different contexts. Cognitive flexibility theory postulates that, by doing so, learners have the opportunity to better understand the specific concept or idea because its practical application is clear to them. This is very important, especially for adult learners who usually want to know not **only** “what”, that is new information, but also “why” they learn something, as well as “how to apply” it in real-life settings

The Cognitive Flexibility Theory claims that learners’ multiple exposures to the same concept in different contexts facilitates the learning process. Furthermore, offering many different ways to represent the same concepts is of extreme value to learners. Repetition would facilitate the process of mastering the content, as increased exposure and practice would have positive effects on the learning process;

**b. Knowledge cannot be oversimplified**

Instructional materials to be used must not oversimplify a topic neither in terms of content, nor in terms of structure. Simply stated, knowledge cannot be reduced to its basics. The content should be challenging enough in order to engage the audience in the learning process. Oversimplification of concepts gives adult learners a sense that they already know the material and therefore, they may consider the specific course as a waste of time. In terms of structure, problems should be presented to students in more complex and involving structures, rather than linear or simplified ones. Therefore, it is better for instructional designers to provide learners with opportunities to make their own connections between concepts and principles that are being explored, even if these concepts may be of high complexity;

**c. Knowledge is constructed**

The instruction that takes place should be “case-based”, wherein there is an emphasis on the construction of knowledge rather than on how it is transmitted to learners. The cognitive flexibility theory follows a constructivist approach to learning, according to which learners are actively engaged in the learning process and they are responsible for their own learning. This principle is particularly applicable when students are allowed to learn through multiple case studies and real-life interactive scenarios that expose them to how a particular concept or idea can be applied in different practical settings; and

**d. Knowledge is interconnected**

In order for the learner to grasp what is being taught, the knowledge sources that are used should be “interconnected”, rather than separated and “compartmentalised”. In other words, this means that knowledge should never be isolated from what learners already know; far from previous experience. A quick and easy tip to do so is by presenting a brief summary of prerequisite knowledge before presenting new information. This may serve two ways: first, it reminds learners what they may already know, but they may not remember; and second, this summary may make some learners realise that it might be better for them to acquire prerequisite knowledge first, before attending the course.

The foundation of the cognitive flexibility theory is that learners are better able to acquire and retain knowledge if they are encouraged to develop their own representation of it.

**11.6.3 Contributing factors to cognitive flexibility**

Studies have shown that cognitive flexibility relates to some other factors and cognitions. They include the following:

**a. Executive functioning**

Researchers have generally agreed that cognitive flexibility is a component of executive functioning, higher-order cognition involving the ability to control one's thinking.

Executive functioning includes other aspects of cognition, such as:

- i. Inhibition;
- ii. Memory;
- iii. Emotional stability;
- iv. Planning; and
- v. Organisation.

Cognitive flexibility is highly related to several abilities, including:

- i. Inhibition;
- ii. Planning; and
- iii. Working memory.

Thus, when an individual is better able to suppress aspects of a stimulus to focus on more important aspects (i.e., inhibit colour of object to focus on kind of object), they are also more cognitively flexible;

**b. Multiple classification**

Researchers have posited that cognitive flexibility is also a component of multiple classification. In multiple classification tasks, participants must classify objects in several different ways at once, thereby thinking flexibly about them. Similarly, in order to be cognitively flexible, they must overcome centration, which is the tendency for young children to solely focus on one aspect of an object or situation. Thus, research suggests, if an individual is centrated in their thinking, then they will be more cognitively inflexible;

**c. Fluid intelligence**

Research has suggested that cognitive flexibility is related to other cognitive abilities, such as fluid intelligence, reading fluency, and reading comprehension. Fluid intelligence, described as the ability to solve problems in new situations, enables fluid reasoning ability. When one is able to reason fluidly, they are in turn more likely to be cognitively flexible. Furthermore, those who are able to be cognitively flexible have been shown to have the ability to switch between and/or simultaneously think about sounds and meanings, which increases their reading fluency and comprehension; and

**d. Ability to cope with situations**

Cognitive flexibility has also been shown to be related to one's ability to cope with particular situations. For example, when individuals are better able to shift their thinking from situation to situation they will focus less on stressors within these situations.

#### **11.6.4 Measurement/assessment of cognitive flexibility**

The following tests and tasks are used to assess cognitive flexibility:

**a. A-not-B task**

Children are shown an object hidden at location A within their reach and are then prompted to search for the object at location A, where they find it. This activity is repeated several times, with the hidden object at location A. Then, in the critical trial and while the child is watching, the object is hidden in location B, a second location within easy reach of child. Researchers have agreed that the A-not-B task is a simple task that effectively measures cognitive flexibility during infancy;

**b. Dimensional change card sorting task**

In the dimensional change card sorting task (DCCS), children are initially asked to sort cards by a single dimension (such as colour), and are subsequently required to alter their strategy to sort cards based on a second dimension (such as shape);

**c. Multiple classification card sorting task**

In the multiple classification card sorting task, children are shown cards and asked to sort them based on two different dimensions (e.g., by colour, such as yellow and blue,

and object type, such as animals and food) simultaneously into four piles within a matrix (e.g., yellow animals, yellow foods, blue animals and blue foods). This task appears to be more difficult as research has shown that seven-year-old children were incapable of sorting cards based on the two dimensions simultaneously. These children focused on the two dimensions separately, whereas at the age of eleven, children were capable of sorting cards based on these two dimensions simultaneously. This demonstrates an increase in cognitive flexibility between the ages of seven and eleven;

#### **d. Wisconsin card sorting test**

The Wisconsin card sorting test (WCST) is used to determine an individual's competence in abstract reasoning, and the ability to change problem-solving strategies when needed.

In this test, some cards are presented to the participants. The figures on the cards differ with respect to colour, quantity, and shape. The participants are then given a pile of additional cards and are asked to match each one to one of the previous cards. Typically, children between ages nine and eleven demonstrate the cognitive flexibility needed for this test<sup>7</sup>; and

#### **e. Stroop Test**

The Stroop test is also known as the colour-word naming test. In this measure, there are three types of cards in the deck. The "colour card" displays patches of different colours, which participants are asked to identify as quickly as possible. The "word card," displays the names of colours printed in black and white ink, which participants are again asked to name as quickly as possible. The final card type is the "colour-word card", which displays the names of the colours printed in an ink of a conflicting colour (e.g., the word RED would be printed in yellow), and requires participants to name the ink colours while ignoring the conflicting colour names. The basic score on each card is the total time (in seconds) that the participant takes to respond verbally.<sup>11</sup> Typically, naming the colour of the word takes longer and results in more errors when the colour of the ink does not match the name of the colour. In this situation, adults tend to take longer to respond than children because adults are more sensitive to the actual colour of the word and thus are more likely to be influenced by it when naming the conflicting colour word printed.

## **11.7 Multiple capitals**

### **11.7.1 Introduction**

The study of the concept of multiple capitals is essential to future ready accountants as integrated reporting takes centre stage in the near future. Integrated reporting is assuming greater importance as many investors, particularly, institutional investors observe the inadequacies of the financial reporting framework in accounting for the resources employed by an entity to achieve the reported performance. It is stated that organisations utilise more capitals than financial capital (accounted for by the current financial reporting framework), giving rise to the demand for integrated reporting.

The pervasive global climate change has accentuated the need for integrated reporting, as unchecked depletion of capitals other than financial capital may lead to going concern challenges for an organisation. It is therefore essential for a professional to study the concept of multiple capitals and how each capital impacts the process of adding value, which is at the core of the profitability and sustainability of the operations of an entity.

To ensure that prospective accountants appreciate the link between these capitals and the process of creating value to generate the bottom line and ensure the sustainability of the entity, there is a need to have an overview of integrated reporting framework.

### 11.7.2 Definition integrated reporting

(a). Integrated reporting is a process founded on integrated thinking that results in a periodic integrated report by an organisation about value creation over time and related communications regarding aspects of value creation.

(b) An integrated report is a concise communication about how an organisation's strategy, governance, performance and prospects, in the context of its external environment, lead to the creation of value in the short, medium and long term.

### 11.7.3 Overview of the integrated reporting framework

This framework was developed by the International Integrated Reporting Council (IIRC).

#### (a) Objective

The purpose of the framework is to establish guiding principles and content elements that govern the overall content of an integrated report, and to explain the fundamental concepts that underpin them. The framework is written primarily in the context of private sector, for-profit companies of any size, but it can also be applied, adapted as necessary, by public sector and not-for-profit organisations.

The framework identifies information to be included in an integrated report use in assessing an organisation's ability to create value. However, it does not set benchmarks for such things as the quality of an organisation's strategy or the level of its performance. In the framework, reference to the creation of value includes instances when value is preserved and when it is eroded and relates to value creation over time.

#### (b) Fundamental concepts

There are three fundamental concepts underpinning the framework, these are:

- i. Value creation, preservation or erosion for the organisation and for others;
- ii. The capitals, which are identified in the framework as financial, manufactured, intellectual, human, social and relationship, and natural capital; and
- iii. Process through which value is created, preserved or eroded.

#### (c) Purpose and content of an integrated report <IR>

The <IR> framework sets out the purpose of an integrated report as follows:

The primary purpose of an integrated report is to explain to providers of financial capital how an organisation creates, preserves or erodes value over time. It therefore, contains relevant information, both financial and otherwise. An integrated report benefits all stakeholders interested in an organisation's ability to create value over time, including employees, customers, suppliers, business partners, local communities, legislators, regulators and policy-makers.

#### (d) Guiding principles

These underpin the preparation of an integrated report, informing the contents of the report and how information is presented. They include:

- (a) Strategic focus and future orientation;
- (b) Connectivity of information;
- (c) Stakeholder relationships;
- (d) Materiality;
- (e) Conciseness;
- (f) Reliability and completeness; and
- (g) Consistency and comparability.

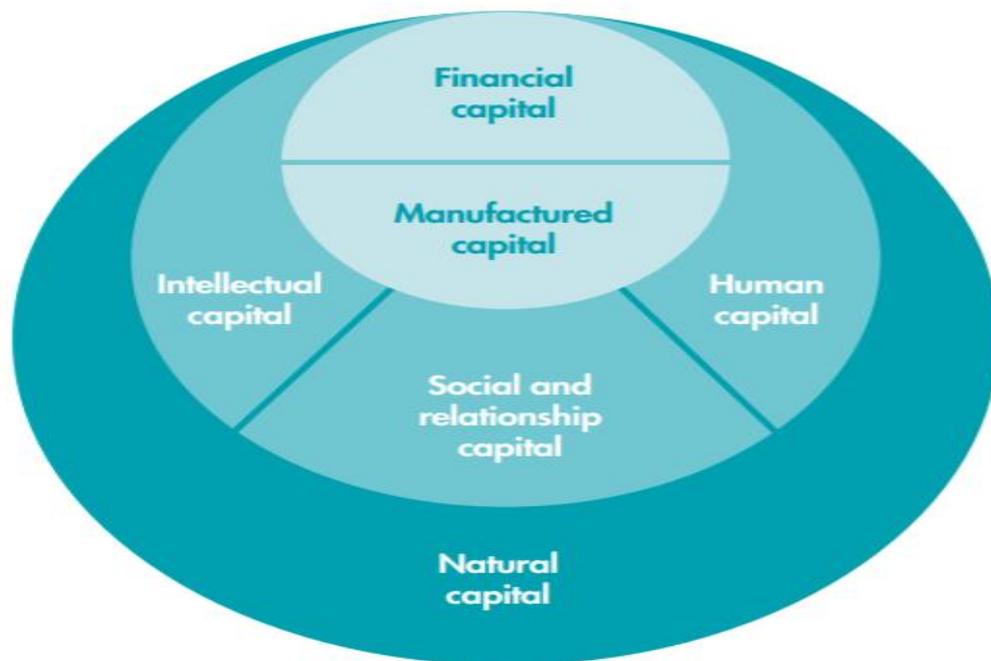
The main contents of integrated report has been discussed in the previous chapter.

#### 11.7.4 The six capitals

The IIRC defined six different types of capitals that represent stocks of value that are increased, decreased, or transformed through the activities and outputs of an organisation. The diagram below is one way to depict the capitals and it is not intended to imply a hierarchy. Rather, organisations will rely on and deploy multiple capitals to create value for themselves and others.

Financial and manufactured capitals are those reported on most frequently by organisations. Other capitals, covering intellectual, social and relationship, and human capitals are linked to the activities of humans. Natural capital represents the exogenous environment in which the remaining capitals sit. Natural capital is obviously most relevant to the business models of extractive industries, which draw directly on natural resources, but is also relevant to other organisations that rely on renewable and non-renewable resources and processes to provide goods or services.

Not all capitals are equally relevant or applicable to all organisations. While most organisations interact with all capitals to some extent, these interactions might be relatively minor or so indirect that they are not sufficiently important to be included in integrated thinking and, ultimately, in an integrated report.



The Capitals-Integrated Reporting Source <https://www.integratedreporting.org>

The six capitals model provides a basis for understanding sustainability in terms of the economic concept of wealth creation or 'capital'. A sustainable organisation will maintain and where possible enhance these stocks of capital assets, rather than deplete or degrade them.

#### 11.7.5 The use of the six capitals model

The six capitals model can be used to allow organisations to develop a vision of what sustainability will be for its own operations, products and services. The vision is developed by considering what an organisation needs to do in order to maximise the value of each capital. However, an organisation needs to consider the impact of its activities on each of the capitals in an integrated way in order to avoid 'trade-offs'. Using the model in this way for decision-making can lead to more sustainable outcomes.

Sustainable development is the best way to manage these capital assets in the long-term. It is a dynamic process through which organisations can begin to achieve a balance between their environmental, social and economic activities. The best way to achieve a sustainable future is through system change.

The six capitals are discussed below:

**(a) Natural Capital**

This is any stock or flow of energy and material that produces goods and services.

It includes:

- i. Resources - renewable and non-renewable materials;
- ii. Sinks - that absorb, neutralise or recycle wastes; and
- iii. Processes - such as climate regulation.

Natural capital is the basis not only of production, but also for sustenance of life itself;

**(b) Human Capital**

**This** consists of people's health, knowledge, skills and motivation. These are required for productivity at work. Enhancing human capital through education and training is central to a flourishing economy;

**(c) Intellectual capital**

This is the result of mental processes that form a set of intangible objects that can be used in economic activity and bring income to its owner, that is. the organisation. It is the sum of everything everybody in a company knows that gives it a competitive edge. The term is used to account for the value of intangible assets not listed explicitly on a company's statement of financial position (balance sheets);

**(d) Social Capital**

This concerns the institutions that help us maintain and develop human capital in partnership with others; e.g., families, communities, businesses, trade unions, schools, and voluntary organisations;

**(e) Manufactured Capital**

This comprises material goods or fixed assets which contribute to the production process rather than being the output itself – e.g., tools, machines and buildings; and

**(f) Financial Capital**

This capital plays an important role in our economy, enabling the other types of capital to be owned and traded. But unlike the other types, it has no real value itself but is representative of the natural, human, intellectual, social or manufactured capital, e.g., shares, bonds or banknotes.

The world is facing a sustainability crisis because we are consuming our stocks of natural, intellectual, human and social capital faster than they are being produced. Unless the rate of this consumption is controlled, we cannot sustain these vital stocks in the long-term.

It is possible to maintain and even increase stocks of these capital assets, in an attempt to generate income without reducing the capital itself. However, for this to happen, it is the responsibility of every organisation, business or otherwise, to manage these capital assets in a sustainable manner.

**11.7.6 Features of a sustainable society**

These 12-feature model helps organisations evaluate the sustainability of their projects.

The features fit into the separate six capitals. If an organisation invests appropriately in all capital stocks, and achieve the flow of benefits, they will represent the outcome

of a successful capital investment strategy for sustainable development; that is, a sustainable society.

**(a) Natural capital**

The following considerations are necessary in the use of natural capital:

- i. In their extraction and use, ensure that substances taken from the earth do not exceed the environment's capacity to disperse, absorb, recycle or otherwise neutralise their harmful effects (to humans and/or the environment);
- ii. In their manufacture and use, ensure that artificial substances do not exceed the environment's capacity to disperse, absorb, recycle or otherwise neutralise their harmful effects (to humans and/or the environment); and
- iii. Ensure that the capacity of the environment to provide ecological system integrity, biological diversity and productivity is protected or enhanced.

**(b) Human capital**

The following are considerations in the use of human capital, ensure that:

- i. At all ages, individuals enjoy a high standard of health;
- ii. Individuals are adept at relationships and social participation, and throughout life set and achieve high personal standards of their development and learning; and
- iii. There is access to varied and satisfying opportunities for work, personal creativity, and recreation.

**(c) Social capital**

The following are considerations in the use of social capital, ensure that:

- i. There are trusted and accessible systems of governance and justice;
- ii. Communities and society at large share key positive values and a sense of purpose;
- iii. The structures and institutions of society promote stewardship of natural resources and development of people; and
- iv. Homes, communities and society at large provide safe, supportive living and working environments.

**(d) Manufactured capital**

Ensure that all infrastructures, technologies and processes make minimum use of natural resources and maximum use of human innovation and skills; and

**(e) Financial capital**

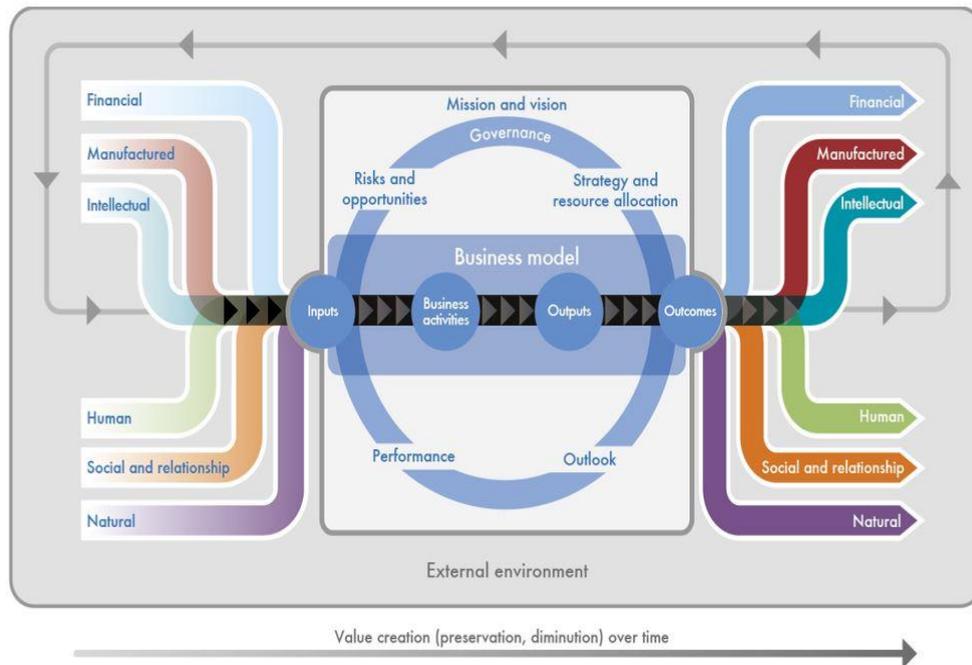
Ensure that financial capital accurately represents the value of natural, human, intellectual, social and manufactured capital.

**11.7.7 The role of the six capitals in integrated reporting**

The following are some means by which the six capitals contribute to integrated reporting:

- a. The primary purpose of an integrated report is to explain to financial capital providers how an organisation creates value over time. The best way to do so is through a combination of quantitative and qualitative information, which is where the six capitals come in;
- b. The capitals are stocks of value that are affected or transformed by the activities and outputs of an organisation. The framework categorises them as financial, manufactured, intellectual, human, social and relationship, and natural. Across these six categories, all the forms of capital an organisation uses or affects should be considered; and
- c. An organisation's business model draws on various capital inputs and shows how its activities transform them into outputs.

Below is a graphic depiction of the contributions of the six capitals into the value-creation process:



Source: <https://integratedreporting.org/wpcontent/uploads/2021/01/InternationalIntegratedReportingFramework.pdf>

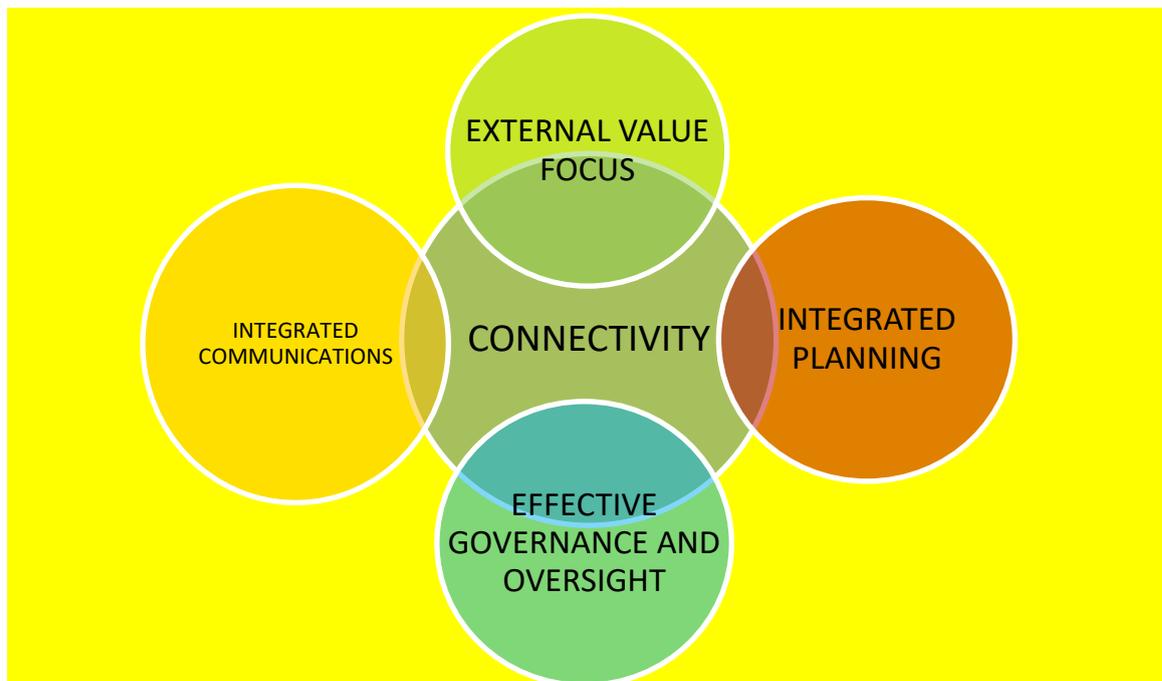
### 11.7.8 The contribution of the finance functions to integrated thinking

The Chief Finance Officer (CFO), as head of the finance functions, is a critical part in the chain of actors, including the governing body, Chief Executive Officer, audit committee, auditor; etc., all of whom share the responsibility for ensuring sustainable value creation, as well as relevant organisational reporting. The advantages the training, expertise, and experience the professional accountants bring to the CFO role are not always recognised, especially professional accountants' combination of ethical and technical mindsets with business acumen and organisational awareness.

CFOs and their finance functions play a central role in supporting integrated thinking in the following areas:

#### a. Connectivity

A connected approach supports the other four key areas of integrated thinking: an external value integrated focus, integrated planning, effective governance and oversight, and integrated communications. Integrated thinking depends on greater connectivity throughout the organisation. This is represented diagrammatically below:



With their broader view of an organisation, the CFO and the finance function can ensure that all aspects involving people, processes, and systems are better connected. Greater connectivity between management and reporting processes, and between different organisational functions, involves developing an integrated planning approach that brings together people with different expertise and professional backgrounds, and with different perspectives of the organisation.

#### **b. External value focus**

Resilient and agile organisations typically have internal processes and information that provide a relentless focus on creating sustainable value in the context of the external environment. Identifying and understanding relevant matters for decision making involves bringing together information and analysis from various sources including:

- i. Analysing the impact of mega trends and changes in the business environment; Understanding the impact their products and services have on society and on markets; and
- ii. Understanding what impacts the organisation's reputation and public perception, and the overall customer experience have on the organisation.

#### **c. Integrating planning**

The insights gained from an external value focus form the basis of integrated planning, which should incorporate a comprehensive process of identifying and managing significant matters affecting value creation over the short, medium, and long term. Integrated planning allows the board and management to be aware of the significant risks and opportunities the organisation needs to manage proactively as part of their decision making. Ultimately, relevant matters potentially impacting value need to be built into setting organisational objectives and targets, managing risk and opportunity, undertaking project and investment appraisals, aligning performance to objectives with relevant performance measures, and information collection systems and key metrics for internal processes.

Executing integrated thinking involves creating integrated planning

processes that help to define and connect how the six capitals are relevant to the organisation and the multiple and complex connections between them, and for those moving to integrated reporting, the eight content elements in the international integrated reporting framework.

The CFO and finance function traditionally has the definitive input on the impact of decisions on the financial statements. Value creation based on today's financial statements often leads to short-term thinking focused only on achieving near-term shareholder value in the capital markets. Integrated thinking requires decision-support information reflecting causal resource and process relationships, not just interpretation according to financial reporting standards.

#### **d. Budgeting**

Restructuring budgeting processes to reflect the integrated planning process and a broader set of capitals is critical since the budget process defines the practical application of planning, near-term strategy implementation, and expected performance. The budgeting process involves the development of action plans, targets, and performance measures.

As part of the budgeting process, the CFO and finance function need to be comfortable with measuring the relevant capitals and challenging the validity and usefulness of performance indicators used to represent those capitals. Their focus needs to be on measuring the extent to which the organisation has achieved its strategic objectives and its outcomes in terms of effects on the capitals. Quantitative indicators, such as KPIs and monetised metrics, need to be designed to provide information on how an organisation creates value and how it uses and affects various capitals.

In advising on and establishing relevant financial and non-financial performance metrics, CFOs and their finance teams need to ensure that the budgeting process is dynamic and provides individual managers with the flexibility to seize opportunities as they become apparent and make appropriate trade-offs among their portfolio of performance objectives. Within this process, financial targets should not derail achieving critical goals that are less financially measurable.

#### **e. Performance management**

Integrated thinking typically leads to new areas of performance needing measurement and monitoring. In these areas, it is important to consider how to obtain the necessary information and analysis, and present it in a manner that allows managers at all levels to use it to make effective decisions. Performance metrics and control structures need to be established for the new information so the level of performance can be highlighted to the appropriate levels of management for action.

#### **f. Effective governance and oversight**

Board commitment, backed by management ownership of integrated thinking facilitated by CFOs, establishes the basis for integrated reporting. The change in dialogue as integrated thinking becomes established should gradually instil confidence among investors and other stakeholders. The eventual adoption of integrated reporting leading to an integrated report should result in a leap in credibility among stakeholders arising from the governance and oversight applied to the reporting process and the demonstration that integrated reporting reflects information that is actively used and relevant to an organisation.

## **g. Integrated communications**

Integrated thinking requires strong governance and leadership to ensure an organisation is communicating effectively on the full range of issues impacting value creation across the broad range of the six capitals. This is a new perspective for many organisations, and the shift from a financial focus requires communication by leadership in ways that significantly influence the organisation's behaviour, and that flow naturally from an integrated planning approach. The CFO and finance organisation can play a significant role assisting the organisation's board and senior management's creation of a more integrated environment by reinforcing the relevance of the capitals in the performance management cycle.

Integrated communications extend to regulated reporting and disclosures, including management commentary providing context for financial statements and operational performance. Such reports should also demonstrate an organisation's capacity for integrated thinking to investors, creditors, and other stakeholders. Ultimately, integrated thinking and reporting should lead to a mindset and approach enabling greater connectivity within the organisation that is obvious in its external reporting.

## **h. Next steps for the profession and professional accountants**

Improved dialogue with all providers of capital and key stakeholders, should result in a stronger and more rewarding finance profession at the heart of the organisation. CFOs and finance functions can undertake various activities to bring about integrated thinking.

IFAC will continue to engage the profession on further developing and promoting integrated thinking and reporting via the Professional Accountancy Organisation (PAO) Integrated Reporting Network.

## **11.8 Leadership**

### **11.8.1 Introduction**

Leadership is a process by which a person influences others to accomplish an objective and directs the organisation in a way that makes it more cohesive, coherent, effective and efficient. The study of leadership is as old as human civilisation. History is replete with various concepts and principles of leadership, some of which have evolved over centuries. Organisations are established to achieve objectives. These objectives vary from organisation to organisation. Below are examples of objectives of organisations:

#### **(a) Business organisations**

- i. Manufacturing concern: To produce and sell goods
- ii. Retail outfit: To buy and sell products at a profit.
- iii. Financial institution: To provide financial intermediation for a margin.
- iv. Insurance companies: To assume risks from third parties for a premium.

#### **(b) Not-for-profit organisations**

- i. Government agency: To provide a service to the society or government.
- ii. Hospital: To provide healthcare services.
- iii. Military formation: To attain military objectives.
- iv. Political party: To seek power.
- v. Non-governmental organisations: To meet specific objectives of the founders.

From this list, it is obvious that different organisations are set up for different purposes or objective. Irrespective of the objective of an organisation, its promoters will provide resources to enable it to attain its set goals.

Organisations are usually run by managers and leaders to efficiently and effectively utilise the available resources to attain organisational objectives.

The concepts of leadership and management vary with organisations. However, we shall concentrate mainly on leadership in a business environment.

As pervasive and historical as the idea of leadership is, the concept and definition of leadership is only crystallising in recent times.

Leading writers on business management have contributed various definitions of leadership, some of these are:

**Peter Drucker:**

*"The only definition of a leader is someone who has followers."*

This definition is brief, but gives very little insight into leadership as it just uses the complement to define the concept. It gives no insight as to the elements or process of leadership.

**Warren Bennis:**

*"Leadership is the capacity to translate vision into reality."*

This definition captures the purpose of leadership, but gives no insight into its components or process.

**Bill Gates:**

*"As we look ahead into the next century, leaders will be those who empower others."*

This definition indicates an element of leadership, which is empowerment, but did not state the objective of the empowerment. It also left out other elements and process of leadership.

**John Maxwell:**

*"Leadership is influence - nothing more, nothing less."*

This definition stated the essence of leadership, but did not indicate the purpose of the influence, nor its process.

**Dwight D. Eisenhower:**

*"Leadership is the art of getting someone else to do something you want done because he wants to do it."*

This definition articulates leadership to:

- Be a process (art);
- Involve other people;
- Be for a purpose; and
- Motivate the people towards accomplishing the goal.

**Keith Davis:**

*"Leadership is the ability to persuade others to seek defined objectives enthusiastically. It is the human factor which binds a group together and motivates it towards goals."*

This definition has the following elements:

- Persuasion – influence;
- Defined objectives;
- Human factor, including group; and
- Motivation towards the goal.

**Kevin Kruse:**

Leadership is a process of social influence, which maximizes the efforts of others, towards the achievement of a goal.

This definition has the following components:

- A process;
- Employs social influence;
- Other people involved;
- Maximises the efforts of the other people; and
- A goal.

**11.8.2 Characteristics of Leadership**

Characteristics of leadership include:

- It is an interpersonal process (i.e. interaction of individuals) to accomplish some goals and objectives. Therefore, it is a group process, though championed by the leader. Hence, group dynamics come into play.
- It involves influencing people behaviour towards accomplishing the set objectives.
- It involves deployment of social skills, including some personality traits of the leader to achieve the set objectives.
- It is situational, i.e., there is no best leadership style that is best for every situation. The converse is also true, as more than one style may be effective for the same situation.

**11.8.3 Leadership factors**

According to U. S. Army (1893), there are four major factors in leadership, these are:

- (a) **Leader:** A leader must have an understanding of who he is, what he knows and what he can do, so as to be able to convince his followers that he is worthy of being followed;
- (b) **Followers:** A leader needs to have a good understanding of human nature, which includes needs, emotions, and motivations. This will enable the leader to know what motivates his followers and how to lead them;
- (c) **Communication:** A leader is involved in two-way communication which are mostly non – verbal. The way a leader communicates with his followers will either build or harm the relationship between him and his followers. A leader mostly communicates by example; and
- (d) **Situation:** A leader must be able to determine the best course of action to take under each situation. This is often referred to as situation leadership.

**11.8.4 Transformational Leadership**

Transformational leadership was enunciated by James MacGregor Burns and further developed by Bernard Bass. It highlights visionary thinking and bringing about radical change, instead of usual management processes designed to maintain and incrementally improve current level of performance.

Transformational leadership defines an effective leader as a person who does the following:

- (a) Envisioning an inspiring picture of the future;
- (b) Motivates and inspires people to buy into the vision;
- (c) Manages the process of realising the vision;
- (d) Coaches and builds a team, to effectively achieve the vision; and
- (e) Deploys the skills required to implement these processes.

### 11.8.5 Leadership principles

The U. S. Army (1983) gave the following leadership principles:

- (a) Know yourself and seek self-improvement - In order to know yourself, you have to understand your be, know, and do, attributes. Seeking self-improvement means continually strengthening your attributes. This can be accomplished through self-study, formal classes, reflection, and interacting with others;
- (b) Be technically proficient - As a leader, you must know your job and have a solid familiarity with your employees' tasks;
- (c) Seek responsibility and take responsibility for your actions - Search for ways to guide your organisation to new heights. And when things go wrong, as they often tend to do sooner or later — do not blame others. Analyse the situation, take corrective action, and move on to the next challenge;
- (d) Make sound and timely decisions - Use good problem solving, decision making, and planning tools;
- (e) Set the example - Be a good role model for your employees. They must not only hear what they are expected to do, but also see. We must become the change we want to see - Mahatma Gandhi;
- (f) Know your people and look out for their well-being - Know human nature and the importance of sincerely caring for your workers;
- (g) Keep your workers informed - Know how to communicate with not only them, but also seniors and other key people;
- (h) Develop a sense of responsibility in your workers - Help to develop good character traits that will help them carry out their professional responsibilities; and
- (i) Ensure that tasks are understood, supervised, and accomplished - Communication is the key to this responsibility.

### 11.8.6 The process of great leadership

Kouzes & Posner (1987), identified the following process for great leadership:

- (a) Challenge the process - First, find a process that you believe needs to be improved the most;
- (b) Inspire a shared vision - Next, share your vision in words that can be understood by your followers;
- (c) Enable others to act - Give them the tools and methods to solve the problem.
- (d) Model the way - When the process gets tough, get your hands dirty. A boss tells others what to do; a leader shows that it can be done; and
- (e) Encourage the heart - Share the glory with your followers' hearts, while keeping the pains within your own.

### 11.8.7 Process of transformational leadership

The process of transformational leadership involves the following steps:

#### (a) Envisioning the future

A vision is a clear, concise and beautiful representation of the future of an organisation. It motivates towards its attainment and sets standards against which performance is measured.

To accomplish the set objectives, the leader uses the following tools and techniques to align the organisation's internal resources with the external environment:

#### i. PESTEL Analysis

This analysis concentrates on the external environment of the business comprising the following elements:

- Political;
- Economical;

- Social;
- Technological
- Ecological (Environmental; and
- Legal.

ii. SWOT Analysis

This analysis involves evaluation of both the internal and external environments of the business:

It evaluates internal resources and competences to identify:

- Strength; and
- Weaknesses.

It assesses the external environment to identify:

- Opportunities; and
- Threats.

iii. SOAR analysis

This is similar to SWOT analysis, but varies in its components.

It comprises:

- Strengths;
- Opportunities;
- Aspirations; and
- Results.

It aims at aligning the internal strengths with the opportunities in the external environment and relating the aspirations with the results obtained.

These analyses are discussed in more detail in other chapters of this Study Text.

iv. Core competence analysis

This is a process of identifying and evaluating the core competences in an organisation which gives it competitive advantage over its competitors in the market.

v. Porter's five forces

The five forces which shape the nature and strength of competition in a market or industry, as identified by Michael Porter are:

- Threats from potential entrants;
- Threats from substitutes;
- Suppliers' bargaining power;
- Customers' bargaining power; and
- Competitive rivalry amongst the firms.

vi. Porter's Value Chain Analysis

Value is the benefit a consumer derives from a product or service. This framework is for analysing how value can be added to a product or service. It identifies the primary value chain and supporting services for a product. Most value is usually added to the product within the value chain.

vii. Unique selling proposition analysis

This is a process of identifying and evaluating the unique qualities of the company's products which give them competitive advantage over the products of the competitors in the marketplace.

From the results of these analyses, leaders are able to evaluate:

- The resources available in the organisation;
- The organisation's core competences;
- The trends in the external environment; and
- The strength of the competition within the market or industry.

## **(b) Innovation**

Innovation is a veritable skill employed by leaders to organise their businesses and implement their strategies to succeed in envisaged markets. At this stage, leaders must employ their creative and originality thinking to generate new ideas.

## **(c) Validation**

Leaders must evaluate the vision and the related assumptions about the environment and competition using:

- (i.) Risk assessment techniques;
- (ii.) Scenario analysis; and
- (iii.) Market research techniques

Leadership therefore requires inquisitive mind and social skills to create the vision.

After generating the vision, the leader must paint a vivid and motivating picture of it, to inspire other members of the group to aspire to its accomplishment. Inspiring stories must be built around the vision. The vision should also be fully understandable to all members of the group.

### **11.8.8 Motivating and Inspiring People**

A fascinating vision forms the basis for motivation towards the accomplishment of organisational purpose. There is a lot of excitement at the commencement of the process, thus, galvanising members towards attainment of the set objectives. However, as time goes on the effect wears off and the commitment to the process begins to wane. This is more so if the process requires significant changes to behaviour within the organisation.

At this stage and at subsequent stages in the process, the leader must find ways to create a link between group members' needs, goals and aspirations with the vision.

The leader stimulates interest in the vision by restating the vision in forms that emphasises the benefits of the vision to the customer. By repackaging the vision and reinforcing it with frequent restatement at every given opportunity, the leader motivates the people towards attainment of the vision.

#### **(a) Expectancy Theory**

The leader may use Victor Vroom's Expectancy Theory to link the personal goals and aspirations of group members with the attainment of the vision. This theory is based on these three premises:

- i. Effort-performance relationship: linkage of effort of people with the result attained by the group;
- ii. Performance-reward relationship: the expectation of reward for good performance; and
- iii. Rewards-personal goals relationship: link of rewards with satisfaction of personal needs.

The reward system will comprise of positive and negative incentives. Incentives are rewards or sanctions for good or poor performance, respectively.

#### **(b) Positive incentives**

Positive incentives are rewards for good performance and are aimed at encouraging even better performance in future.

These incentives or factors of motivation could be intrinsic or extrinsic.

#### **(c) Intrinsic incentives (factors)**

Intrinsic incentives (factors) are those that are not necessarily financial, but appeal to the self-esteem needs of the individual. They include:

- i. Recognition;

- ii. Public appreciation;
- iii. Promotion;
- iv. Status enhancement;
- v. Job enhancement; and
- vi. Job security.

These forms of incentive are usually more attractive to more senior officers, most of who have met their lower order needs on the Maslow's Needs Hierarchy.

**(d) Extrinsic incentives**

These are rewards in monetary terms. They enable the recipient to satisfy lower order needs and social needs, such as rent, children school fees, etc. They include:

- i. Wage plans;
- ii. Bonus schemes; and
- iii. Cash awards.

These financial incentives (extrinsic factors) are usually more attractive to relatively junior employees, most of who are yet to satisfy lower order needs (Abraham Maslow's Need Hierarchy).

**(e) Negative incentives**

These are punitive actions taken to discourage poor performance. They are usually aimed at correcting mistakes. They are also most often applied after positive incentives have failed to motivate towards good performance.

They include:

- i. Wage deduction;
- ii. Increment denial;
- iii. Promotion denial;
- iv. Demotion; and
- v. Suspension.

**(f) Expert power**

Expert power derives from the specialist skills that the leader has, that is not available in anyone else in the organisation. Expert power bestows influence and respect on the leader. It commands attention to the leader, hence, others are willing to listen to and follow the leader. The leader can therefore utilise this power to motivate and inspire the group towards the vision.

**(g) Other powers**

Where the leader has some other powers, such as ability to award bonuses, promote, allocate people to groups and assignments, they command respect and have a lot of influence.

These powers should be sparingly used, if the leader is not to become just another manager, whose powers derive mainly from the hierarchical authority and position.

**11.8.9 Anchoring the Vision**

After the introduction of the vision, the leader needs to ensure that it is established in the culture of the organisation, otherwise, its effects would soon fizzle out and the vision becomes blurred.

To anchor the vision, the leader needs management skills as well as different leadership skills. At this point, the leaders may have to deploy these skills themselves or delegate the driving of the process to a group of dedicated, tested and trusted managers. Along with this responsibility, appropriate authority must be delegated to these managers for effective performance.

Goals with key performance indicators (KPI's) that meet the following criteria should be set for these managers:

The goals must be

- (a) Specific;

- (b) Measurable;
- (c) Achievable;
- (d) Realistic; and
- (e) Time-bound.

Project management skills may also be adopted to implement this phase of the process.

To ensure effective implementation and monitoring of the process, the leaders may adopt change management and management by wandering around (MBWA) techniques.

#### **11.8.10 Building a team to entrench the vision**

Transformational leadership is a group activity. Visioning is also a collective activity in an organisation. Hence, to embed the vision in the organisational culture, the process leaders must build teams that will champion the cause of the vision and sustain its continued relevance.

Team building is therefore a prominent responsibility of transformational leaders. To accomplish this, they could adopt

Bruce Tuckman's team building model, comprising the following steps:

- (a) Forming;
- (b) Storming;
- (c) Norming; and
- (d) Performing.

In discharging this responsibility, leaders must:

- i. Identify leadership potentials in others;
- ii. Give and receive prompt feedbacks from others; and
- iii. Embark on coaching and training of group members to improve individual and group leadership skills.

This will enhance team efficiency, cohesion and loyalty.

#### **11.8.11 Skills for effective leadership**

The following skills are essential for effective leadership:

- (a) Effective Communication;
- (b) Proactivity;
- (c) Ability to Motivate;
- (d) Organisation;
- (e) Confidence;
- (f) Analytical;
- (g) Decision-making;
- (h) Creativity;
- (i) Delegation;
- (j) Flexibility;
- (k) Honesty;
- (l) Negotiation;
- (m) Positivity;
- (n) Industry expertise;
- (o) Trustworthiness;
- (p) Time management;
- (q) Problem-solving; and
- (r) Feedback.

Personality traits common amongst transformational leaders include:

- i. Integrity;
- ii. Effective communication skills;
- iii. Managerial competence;

- iv. Charisma;
- v. Decisiveness;
- vi. Trust in others; and
- vii. Loyalty.

#### 11.8.12 Difference between a leader and a manager

Many writers and even organisations use management and leadership as if they are synonyms. This has led to the dearth of definitions for leadership. Many organisations also designate some offices and officers as ‘Leaders’ without them performing any leadership role.

The table below summarises some differences between management and leadership to highlight the distinction.

Management	Leadership
Managers give directions.	Leaders ask questions and paint pictures of the future.
Managers have subordinates.	Leaders have followers.
Managers derive authority form hierarchical positions.	Leaders use influence, not derivable from hierarchical positions.
Managers use an authoritarian style.	Leaders have a motivational style.
Managers tell people what to do.	Leaders show people what to do.
Managers have good ideas.	Leaders implement good ideas.
Managers respond to change.	Leaders create change.
Managers attempt to be great.	Leaders make their followers great.
Managers exercise power over people.	Leaders derive their power from people.
Managers focus more on efficiency.	Leaders focus more on effectiveness.

*Adapted from: Mark Suster, One Thing That Great Leaders Understand*

Despite these distinctions between a manager and a leader, it must be appreciated that an organisation requires a blend of management and leaders skills to operate optimally. It is for this reason and to enhance good corporate governance that all public limited liability companies (Plc’s) are required to have boards different from management.

The boards provide leadership (i.e. direction) to the organisation, while, management is responsible for the day-to-day running of the company.

The board is usually headed by a chairman, while the management is headed by a Chief Executive Officer or Managing Director.

To emphasise the need for interaction, key members of management are also members of or present on the board.

### 11.9 Emotional intelligence

#### 11.9.1 Introduction

Emotional intelligence (EI) was first coined in a paper written by Michael Beldoch in 1964. The term ‘emotional quotient (EQ) was used in an article by Keith Beasley in 1987. In 1989, Stanley Greenspan proposed the trait model, thereafter, Peter Salovey and John Mayer independently put forward ability model of emotional intelligence. However, the term emotional intelligence was made popular by Daniel Goleman in his book, “*Emotional Intelligence – Why it can matter more than IQ*”. He also presented the mixed model of emotional intelligence.

Goleman described emotional intelligence as a person's ability to manage his feelings so that those feelings are expressed appropriately and effectively. According to Goleman, emotional intelligence is the largest single predictor of success in the workplace. It is the measure of an individual ‘s abilities to recognise and manage their emotions, and the emotions of other people, both individually and in groups.

### 11.9.2 Importance of emotional intelligence

Emotional Intelligence has been proven to be important to an organisation in the following ways:

- (a) Increases productivity in workplace;
- (b) Helps to reduce stress;
- (c) Moderates the impact of conflict-related situation;
- (d) Promotes relationships and understanding;
- (e) Fosters stability and continuity; and
- (f) Heightens self of awareness.

### 11.9.3 Components of emotional intelligence

According to Goleman emotional Intelligence has five components. These are:

- (a) **Self-awareness:** This is recognising and understanding our own moods and motivations and their effect on others, which involves the ability to monitor our own emotional state and identify our own emotions. This trait shows confidence, sense of humour (can laugh at self), awareness of your impression on others (can read the reactions of others to know how you are perceived). Self-awareness encompasses emotional awareness, accurate self-assessment and self-confidence; and
- (b) **Self-regulation:** Emotional intelligence helps us to be able to regulate and manage our emotions in an appropriate way. This is not the same thing with hiding our true feelings and locking our emotions. It is the ability to wait to express our emotion at the right time, place, and avenue.

Self-regulation includes:

- i. Self-control: This is the ability to recognise and control our emotions appropriately rather than masking or hiding our emotions;
  - ii. Trustworthiness: This is the ability to maintain our integrity, which means ensuring that what we do is consistent with our personal values. People who are trustworthy always act ethically;
  - iii. Conscientiousness: This is taking responsibility for our own personal performance, and making sure that it matches up to our ability and our values;
  - iv. Adaptability: This is the ability to change and adapt ourselves to the changing environment;
  - v. and
  - vi. Innovation: This is deliberate application of information, imagination and initiative in deriving greater or different values from resources, and includes all processes by which new ideas are generated and converted into useful products.
- (c) **Motivation:** This is defined as actions or strategies that will elicit a desired behaviour or response by a stakeholder (Alison Doyle).

Motivational process involves:

- i. Assessing the preferences and personality characteristics of the individual or group to be motivated;
- ii. Defining motivational strategies appropriate for that target;
- iii. Conveying expectations for performance to or achieving desired outcomes from the object of the motivation;
- iv. Communicating benefits, rewards, or sanctions, if expectations are (or are not) met.
- v. Providing feedback regarding progress or lack of progress towards desired outcomes;
- vi. Addressing problems or obstacles that are limiting success;
- vii. Providing rewards for desired outcomes; and
- viii. Issuing warnings prior to enacting sanctions.

- (d) **Empathy:** This is the awareness of the feelings and emotions of other people. Goleman identified five key elements of empathy, as follows:
- i. Understanding others;
  - ii. Developing others;
  - iii. Having a service orientation;
  - iv. Leveraging diversity; and
  - v. Political awareness.
- (e) **Social skills:** These are the skills used to communicate and interact with each other, both verbally and nonverbally, through gestures, body language and our personal appearance.
- i. Self-awareness:
  - ii. Self-regulation
  - iii. Motivation
  - iv. Empathy
  - v. Social skill

#### 11.9.4 Models of Emotional Intelligence

There are three models of emotional intelligence, these are:

- i. Ability;
- ii. Mixed; and
- iii. Trait.

Different instruments have been developed to assess the different constructs of these models.

##### (a) Ability model

###### Definitions

Peter Salovey and John Mayer defined emotional intelligence as "the ability to monitor one's own and other people's emotions, to discriminate between different emotions and label them appropriately, and to use emotional information to guide thinking and behaviour".

This definition proposed four emotional abilities:

- perceiving,
- using,
- understanding, and
- managing.

The model also states that these abilities are distinct, but, related.

Emotional intelligence also reflects abilities to join intelligence, empathy and emotions to enhance thought and understanding of interpersonal dynamics.

This model addresses how emotion affects thought and understanding. It views emotions as useful sources of information by which individuals understand and navigate their social environment. The model proposes that individuals vary in their ability to process information of an emotional nature and in their ability to relate emotional processing to a wider cognition. This ability is seen to manifest itself in certain adaptive behaviours.

##### i. Abilities

We shall now discuss the four abilities identified in the ability model.

- **Perceiving emotions** – This is the ability to perceive and interpret emotions in faces, pictures, voices, and cultural artifacts—including the ability to identify one's own emotions. Perceiving emotions represents a basic aspect of emotional intelligence, as it makes all other processing of emotional information possible.

- Using emotions – This is the ability to harness emotions to facilitate various reasoning activities, such as thinking and problem-solving. The emotionally intelligent person can utilise his or her changing moods to best fit the task at hand.
- Understanding emotions – This is the ability to comprehend emotional language and to appreciate complicated relationships among emotions.
- Managing emotions – This is the ability to regulate emotions in both ourselves and in others. Therefore, the emotionally intelligent person can harness emotions, even negative ones, and manage them to achieve intended goals.

## ii. Measurement

The ability emotional intelligence is measured using the following test instruments:

- Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) which is based on a series of emotion-based problem-solving items. By testing a person's abilities on each of the four branches of emotional intelligence, it generates scores for each of the branches as well as a total score. It is structured after the ability-based IQ tests.
- Diagnostic Analysis of Non-verbal Accuracy: This test displays faces of 12 males and 12 females expressing different emotions such as happiness, fear, anger in high and low levels. Participants are required to identify these stimuli.
- Japanese and Caucasian Brief Affect Recognition Test: This test requires participants to recognise 7 emotions on the faces of Japanese and Caucasian individuals.
- Levels of Emotional Awareness Scale: Participants are exposed to 26 social scenes and required to state the feelings displayed on a continuum of low to high.

## (b) Mixed model

### i. Definition

This model presented by Daniel Goleman<sup>4</sup> defines emotional intelligence as a wide array of competencies and skills that drive leadership performance.

It recognises 5 main emotional constructs, as follows:

- Self-awareness – the ability to know one's emotions, strengths, weaknesses, drives, values and goals and recognise their impact on others while using gut feelings to guide decisions;
- Self-regulation – ability to control or redirect one's disruptive emotions and impulses and adapting to changing circumstances or environments;
- Social skill – managing relationships to get along with others;
- Empathy – considering other people's feelings, especially when making decisions; and
- Motivation – being aware of what motivates them.

### ii. The model

- Identifies a set of emotional competencies within each of the constructs.
- Defines emotional competencies as learned capabilities that can be developed to achieve outstanding performance, rather than innate talents.
- States that individuals are born with a general emotional intelligence that determines their potential for learning emotional competencies.

### iii. Measurement

There are 2 main measurement tools based on the mixed model. These are:

- The Emotional Competence Inventory (ECI), which was created in 1999, and the Emotional and Social Competence Inventory (ESCI), a newer version of the ECI developed in 2007, provide a behavioural measure of the emotional and social competencies; and
- The Emotional Intelligence Appraisal which was created in 2001. It may be used as a self-report or 360-degree assessment.

**(c) Trait model**

**(i.) Definition**

Trait model defines Trait Emotional Intelligence as "a constellation of emotional self-perceptions located at the lower levels of personality".

Trait emotional intelligence refers to individuals' self-perception of their emotional abilities.

This definition identified two constructs, as follows:

- Behavioural dispositions; and
- Self-perceived abilities.

It is measured by self-report, as against the ability-based model which aims at measuring actual abilities, which have been difficult to measure scientifically. It is recommended to be taken within a personality framework. An alternative label for the same construct is trait emotional self-efficacy.

The trait emotional intelligence (EI) model is broad based and is inclusive of the mixed model discussed above. It presents emotional intelligence as a personality trait, with its implications.

**(ii.) Measurement**

There are many self-report measures of EI, including:

- The EQ-I – there are several of these emotion quotient tests. They are widely used in several jurisdictions, hence, presented in many languages.
- The TEIQue - The test has 15 subscales grouped under four factors: well-being, self-control, emotionality, and sociability. They are found reliable and follow normal distribution.

**11.9.5 The Big Five Personality Traits theory**

The theory states that personality can be categorised into five factors as follows:

- (a) Conscientiousness;
- (b) Agreeableness;
- (c) Neuroticism;
- (d) Openness; and
- (e) Extraversion.

This theory provides a basis for understanding and improving relationships with others. It helps to rationalise human behaviour. The theory may also be used to better understand oneself and thus facilitate relationships with others.

The Big Five Model, also known as the Five Factor Model, is the most widely accepted personality theory. Unlike other trait theories which factors can only take either of two values such as introvert or extrovert, the Big Five Model states that each personality trait is a spectrum. Individuals are therefore awarded scores on a continuum, based on the degree of manifestation of the traits.

**11.9.6 General effects of emotional intelligence**

A review published in the journal of *Annual Psychology*<sup>7</sup> found that higher emotional intelligence is positively correlated with the following:

- (a) Better social relations for children;

- (b) Better social relations for adults;
- (c) Highly emotionally intelligent individuals are perceived more positively by others;
- (d) Better family and intimate relationships;
- (e) Better academic achievement;
- (f) Better social relations during work performance and in negotiations;
- (g) Better psychological well-being;
- (h) Allows for self-understanding, leading to self-actualisation; and
- (i) A person with a good understanding of emotional quotient, EQ, can build more meaningful connections, boost self-confidence, have a positive attitude, and face challenges enthusiastically, leading to success in life. This is referred to as the EQ edge.

### 11.9.7 Criticism of Emotional Intelligence

Despite its usefulness, emotional intelligence has received some severe criticisms<sup>6</sup>. Below are some of them:

- (a) Predictive power: Researchers challenge that emotional intelligence measures have not been subjected to enough rigorous statistical tests to establish that high emotional intelligence score correlate with effective leadership and high academic performance as postulated by proponents of emotional intelligence as a good predictor of these performances;
- (b) Correlation with personality: EI measures by self-report approach are dimensions of personality trait, hence they correlate e.g., neuroticism and extraversion;
- (c) Socially desirable responding: Socially desirable responding (SDR), or "faking good", is defined as a response pattern in which test-takers systematically represent themselves with an excessive positive bias. This bias is manifest in the tests;
- (d) Emotional intelligence as behaviour rather than intelligence: That EI is only a measure of behaviour rather than an intelligence. That it does not fit the construct of an intelligence, but a skill;
- (e) Emotional intelligence as skill rather than moral quality: That Emotional intelligence may just be a skill rather than a moral quality or personality trait;
- (f) Emotional intelligence – a measure of conformity: that by adoption of consensus, the EI may just be a measure of conformity, rather than a factor; and
- (g) Emotional intelligence – a form of knowledge: That MSCEIT tests knowledge of emotions, which may not reflect his/her response in actual situations.

### 11.9.8 Uses of emotional intelligence

Emotional intelligence has been used to explain some phenomena. These include the following:

- (a) Bullying: Bullying is an abusive social interaction between peers which can include aggression, harassment, and violence. Bullying is typically repetitive and enacted by those who are in a position of power over the victim. A growing body of research illustrates a significant relationship between bullying and emotional intelligence;
- (b) Job performance: Though there are conflicting report of correlation between EI and job performance, recent findings have shown that EI contributes to performance in emotionally demanding job situations, leading to the concept of emotional exhaustion (burn out) contributing negatively to performance;
- (c) Leadership: Although EI plays a positive role in leadership effectiveness, what actually makes a leader effective is what he/she does with his role, rather than his interpersonal skills and abilities;
- (d) Health:

- (e) Recent studies have shown that people with higher emotional intelligence enjoyed better physical and mental health; and
- (f) Self-esteem and drug dependence: Researchers discovered that subjects with low emotional intelligence scores had low self-esteem and a high incidence of drug dependence.

### 11.9.9 Applications of emotional intelligence

Below are some applications of emotional intelligence:

- (a) Being considerate about feelings;
- (b) Pausing to think;
- (c) Ability to control one's thoughts;
- (d) Deriving benefit from criticism;
- (e) Being authentic;
- (f) Demonstration of empathy;
- (g) Praising others;
- (h) Giving helpful feedback;
- (i) Apologising when in error;
- (j) Ability to forgive and forget;
- (k) Ability to keep commitments;
- (l) Helping others; and
- (m) Ability to protect oneself from emotional sabotage.

According to Cooper and Sawaf (1997), in their book, Executive EQ, having high EQ has the following advantages:

- i. A high IQ can help an individual for getting hired in a reputed organisation, but with a high EQ a person will get promoted and be sustained in an organisation;
- ii. With a high IQ, a person can master daily routine work, but with a high EQ he/she can thrive during times of changes and uncertainty; and
- iii. With a high IQ, a person can be an efficient professional but with a high EQ the same can become a great leader.

## 11.10. Social thinking

### 11.10.1 Introduction

Social thinking or social cognition or 'thinking socially' is a mental process people go through to make sense of their own and others' thoughts, feelings, and intentions in context, whether co-existing, actively interacting, or figuring out what is happening from a distance (e.g., through media, literature, etc.). It commences at birth and continues all through life. Social thinking is based on the work of Michelle Garcia Winner who created the Center for Social Thinking. Social thinking is a methodology that is used to help children effectively interact with others, helping them figure out the best way to think when they are in social situations. Social thinking trains your brain to figure out what people around you might be thinking. It helps one to realize that each time one is around others, your behaviour will cause them to think a certain way about you. Social thinking teaches our brain to do and say the things that will make others feel positive thoughts about us, and make them feel good as well (ChildNEXUS, 2017).

Aristotle said that "man is a social animal", as a result, man likes to live in a society. Studylecturenotes, (n. d.), therefore, opines that man living in a society is affected by others and he affects others. These individuals living together develop their own opinions, thinking, ideas, imagination, attitudes, aspirations and out look towards society. These ideas are moulded in a scientific and systematic manner which gives far-reaching results and become a social thought. In social thoughts, firstly an individual is thinking about the past and present social problems and secondly the body of thought is developed in a systematic manner. According to Winner (n.d.), we are social thinkers every day, whether it is at home or at work. We should be aware that people around us have thoughts and feelings. It includes sharing a space with others effectively and understanding the perspective and intentions of others. Although it is abstract, the vocabulary and lessons are concrete and talk about how

the social world works. Also, fundamental to social thinking is the recognition that everyone has thoughts and feelings about one another's social behaviour, e.g., social skills (Goleman, 2006).

### 11.10.2 Importance of social thinking

Rhoads (n. d.) gives three reasons why social thinking is so important, as follows:

- (a) Using appropriate social skills tend to make people feel comfortable around us which helps us better co-exist and interact with those we share space with;
- (b) Most of us want to make connections and make friends with our family, peers, boss or colleagues; and
- (c) The core concepts of social thinking help us develop insights and socially based critical thinking in the workplace. For example, anytime a person is asked to:
  - i. work in a group;
  - ii. solve a problem;
  - iii. write an email;
  - iv. express their ideas;
  - v. answer questions;
  - vi. understand a video clip; and
  - vii. critically think about an issue, he is using his social thinking mind!

### 11.10.3 Concepts associated with social thinking

Winner and Crooke (2009) have identified the following concepts (vocabulary) in social thinking:

- (a) **Think with Your Eyes:** This is a statement used in lieu of saying "use good eye contact" or "look at me." This involves "thinking with their eyes", which means that eyes are not just for looking at another person during an interaction. The eyes are powerful tools to be used for gaining information in almost any situation. The concept of "thinking with your eyes" is also relevant in problem solving and perspective taking.
- (b) **Expected/Unexpected Behaviour:** Social and communicative expectations are contextually sensitive. In fact, for every situation there are a set of expected and unexpected behaviours that generate different types of thoughts. When a behaviour is expected for a situation, it encourages us to have good or okay or normal thoughts and feelings; when a behaviour is unexpected, we tend to have uncomfortable or weird thoughts and related feelings. How we think about someone over time affects our "social memory" of them. (Note: This is not the same as thinking a person is "weird." Instead, we have a weird thought based on the behaviour within that situation.)
- (c) **Smart Guess/Wacky Guess:** This concept has to do with "reading the situation" before deciding what actions to take based on the situation. Social inferencing is at the heart of determining what to say or do and occurs at a rapid-fire pace in everyday social communication as well as when comprehending text. The process of inferencing involves becoming aware of words and nonverbal cues to "take what you (think, know, see and hear) to make a guess."
- (d) **Social Fake:** This is a concept is about how we feel in reality as we engage in a social interaction with others. Most of the time, we are interested in getting to know one another, even though we are not always interested by exactly what they say. We simply tolerate other's conversational topic in order to maintain the social-emotional connection. How we make each other feel is more important than the exact words used to sustain the relationship.

Also, Winner and Crooke (2009) stated that social thinking includes constant infusion of "good social skills"? Social thinking precedes the use of good social skills, because we have to be aware of the people and the situation before we select which sets of social behaviours (social skills) to employ. While sharing space with others, we are

constantly aware of people (social thinking) and then monitor and modify our behaviour accordingly to encourage people to think about us the way we want them to perceive us. Majority of times we are socially thinking in the presence of others, we are not actually interacting with these people, rather we are co-existing.

#### 11.10.4 Social Thinking methodology

The social thinking methodology is a developmental, language-based and thinking-based (metacognitive) methodology that uses the following:

- (a) visual frameworks;
- (b) unique vocabulary;
- (c) strategies; and
- (d) activities to foster social competence.

The methodology has assessment and treatment components for both interventionists and social learners.

The methodology includes components of other well-known and evidence-based interventions such as:

##### (a) Social Stories

Carol Gray's definition of social story

A Social Story accurately describes a context, skill, achievement, or concept according to 10 defining criteria. These criteria guide Story research, development, and implementation to ensure an overall patient and supportive quality, and a format, "voice", content, and learning experience that is descriptive, meaningful, and physically, socially, and emotionally safe for the people with autism.

The objective is to share information, which is often through a description of the events occurring around the subject and also state the rationale.

##### (b) Hidden Curriculum

Philip .W. Jackson (Life in Classrooms, 1968) coined the phrase 'Hidden Curriculum'. Hidden curriculum is a concept that describes the often unarticulated and unacknowledged things students are taught in school and that may affect their learning experience. These are often unspoken and implied lessons unrelated to the academic courses they're taking — things learned from simply *being* in school. However, autistic people have to learn things expressly.

##### (c) 5-point scale.

The 5-point scale is a visual system that can help to organise a person's thinking when working through difficult moments, particularly those that require social understanding.

##### (d) Social Thinking shares ideals with:

- (i) Self-regulation - Control or supervision from within instead of by an external authority;
- (ii) Executive functioning - Executive function is a set of mental skills that include working memory, flexible thinking, and self-control. They are used for learning, working, and daily living;
- (iii) Central coherence issues - Central coherence is seeing how many component parts fit together to make a coherent whole. Central coherence difficulties could be related to attention, visual processing, or rigidity;
- (iv) Shifting attention - Regarding attention, a child may have difficulty shifting attention, that is, the ability to shift focus back and forth between stimuli; and
- (v) Perspective-taking - Perspective-taking is the act of perceiving a situation or understanding a concept from an alternative point of view, such as that of another individual.

### **11.10.5 Evidence-base for social thinking**

Social Thinking theorises that successful social thinkers are able to consider the points of view, emotions, thoughts, beliefs, prior knowledge and intentions of others (this is often called perspective-taking). Social Thinking™ also demonstrates the link between one's social learning abilities and his or her related ability (or disability) when processing and responding to school curriculum based in the use of the social mind (e.g., reading comprehension of literature, some aspects of written expression, etc.). Winner and colleagues argue that individuals who share a diagnostic label (e.g., autism spectrum disorder) nonetheless exhibit extremely different social learning traits, or social mind profiles, and should have unique treatment trajectories, such as those based in cognitive-behavioural therapy (CBT).

Social Thinking is a language and cognitive-based methodology that focuses on the dynamic and synergistic nature of social interpretation and social communication skills, both of which require social problem solving. The methodology is developmental, utilizing aspects of behavioural and cognitive behavioural principles, as well as stakeholder input as a way to translate evidence-based concepts into conceptual frameworks, strategy-based frameworks, curricula, activities, and motivational tools.

## **11.11 Business modelling**

### **11.11.1 Definitions**

A business model describes the rationale of how an organisation creates, delivers, and captures value, in economic, social, cultural or other contexts.

The process of business model construction and modification is also called business model innovation and it forms a part of business strategy.

The term business model is used for a broad range of informal and formal representations of the essence of a business, including its purpose, business process, target customers, offerings, strategies, infrastructure, organisational structures, sourcing, trading practices, and operational processes and policies including culture.

A business model can be defined as a representation of a business or solution that often includes a graphic component along with supporting text and relationships to other components. It includes the following:

- (a) Core values of the company;
- (b) Its purpose;
- (c) Its business and operational processes;
- (d) Its strategies;
- (e) Its key resources;
- (f) Major relationships; and
- (g) Its delivery channels.

With the help of modelling techniques, we can create a complete description of existing and proposed organisational structures, processes, and information used by the enterprise.

Business Model is structured like a blueprint for the final product to be developed. It gives structure and dynamics to planning. It also provides the foundation for the final product.

### **11.11.2 Purpose of business modelling**

Business modelling is used to design current and future states of an enterprise. This model is used by the Business Analyst (BA) and the stakeholders to ensure that they have an accurate understanding of the current state of the enterprise.

It is used to verify if, stakeholders have a clear understanding of the proposed plan for the solution or organisation.

Analysis of the requirements of a system is a part of business modelling process and it forms the core focus area. Functional requirements are gathered during the 'current state'. The current state represents the existing state of the organisation, before a proposed change. These requirements are provided by the stakeholders with respect to the following:

- (a) business processes;
- (b) data; and
- (c) business rules

which describe the desired functionality which will be designed in the 'future state'. The future state is the desired features or attributes or proposed state of the solution or organisation.

### **11.11.3 Gap analysis**

A gap analysis is the process of identifying the differences between the current state and the proposed state. The proposed state is a compilation of functions, features and attributes desired in the new organisation or product. Gap analysis enables the change agents to ensure that the proposed meets the needs of key stakeholders. It also enables the organisation to identify the additional resources required to attain the proposed state.

Techniques such as SWOT (strengths, weaknesses, opportunities and threats), SOAR (strengths, opportunities, aspirations and results) analyses and document analysis may be used in gap analyses.

If no gap exists between the current state and the proposed state, then there is no need for a change. But often there will be a gap, thus, requiring an intervention to move from the current state to the proposed state.

### **11.11.4 Assessment of Proposed System**

BA should evaluate the proposed system to ensure it meets the business needs and deliver enough value to justify the investment in the new system. If multiple options are available, the business analyst should evaluate the various options in terms of the following:

- a. Value to be delivered;
- b. Cost; and
- c. Availability of needed resources.

### **11.11.5 Roles of business analysts**

Business analysts can add value to an organisation through the following means:

- a. Offering professional assistance in identifying the optimal approach of modelling the system;
- b. Preparing formal and uniform description of business processes in a manner ensuring efficient automation in the system;
- c. Ensuring that the set requirements have been met by designers and developers;
- d. Preparing organisational data for prototyping;
- e. Preparing data for migration of lists and balances within the system; and
- f. Reviewing prototypes for compliance with set requirements.

### **11.11.6 Business modelling frameworks**

Frameworks establish rigorous approaches to specifying business value streams.

They show how a company does the following:

- (a) Selects its customers, defines;
- (b) Differentiates its offerings, defines;
- (c) The tasks it will perform itself and those it will outsource;
- (d) Configures its resource;
- (e) goes to market;
- (f) Greates utility for customers; and
- (g) Captures profits.

A business framework also involves internal factors such as:

- i. Market analysis;
- ii. Products/services promotion;
- iii. Development of trust;
- iv. Social influence; and
- v. Knowledge sharing

External factors, such as:

- (a) Competitors; and
- (b) Technological aspects.

Krumeich et al. (2012) identified the following business model frameworks:

- **Business reference model**  
Business reference model is a reference model, concentrating on the architectural aspects of the core business of an enterprise, service organisation or government agency;
- **Component business model**  
This is a technique developed by IBM to model and analyse an enterprise. It is a logical representation or map of business components or "building blocks" and can be depicted on a single page. It can be used to analyse the alignment of enterprise strategy with the organisation's capabilities and investments, identify redundant or overlapping business capabilities, etc.;
- **Industrialisation of services business model**  
This is a business model used in strategic management and services marketing. It treats service provision as an industrial process, subject to industrial optimisation procedures;
- **Business model canvas**  
This framework was developed by A. Osterwalder, Yves Pigneur, Alan Smith, and 470 practitioners from 45 countries. the business model canvas <sup>b</sup> is one of the most used frameworks for describing the elements of business models; and
- **Objectives, goals, strategies and measures (OGSM)**  
The OGSM was developed by Marc van Eck and Ellen van Zanten of Business Openers, which was incorporated into the 'Business plan on 1 page'. The foundation of Business plan on 1 page is the OGSM - objectives, goals, strategies and measures (dashboard and actions).

#### 11.11.7 Business model innovation

Business model innovation is defined as the conceptualisation and implementation of new business models.

This may take the following forms:

- (a) Developing of entirely new business models;
- (b) Diversifying into additional business models;
- (c) Acquiring new business models; or
- (d) Changing from one business model to another.

This change may affect the entire business model or only a part.

The concept of business model innovation facilitates the analysis and planning of transformations from one business model to another <sup>9</sup>. Successful business model innovation can increase an organisation's responsiveness to changes in its environment, thus, gaining competitive advantage.

#### 11.11.8 Basic forms of business model

Below are some basic forms of a business model which can be adapted for the specific use of an organisation.

Other examples of business models are:

- (a) Auction business model;
- (b) All-in-one business model;
- (c) Loyalty business models;
- (d) Monopolistic business model;
- (e) Multi-level marketing business model;
- (f) Network effects business model;
- (g) Online auction business model;
- (h) Premium business model;
- (i) Professional open-source model;
- (j) Pyramid scheme business model;
- (k) Network orchestrators companies; and
- (l) Virtual business model.

<b>Description</b>	<b>Operation</b>	<b>Example</b>
Brokerage	Providing a platform for buyers and sellers to interact, while charging the parties transactional fees.	Stockbroking firms
Bundling	Bringing together related goods and services to enjoy some synergy.	Fast food businesses offering combo packages e.g. Lunchtime Fix by Pizza Hut
Crowdsourcing	Providing a platform for large number of contributors to provide free contents and enjoying free access to other people's contents.	Wikipedia YouTube
Disintermediation	Direct selling, eliminating middlemen.	Dell, WebMD
Fractionalisation	Providing partial use of goods or services.	Time sharing on infrastructures
Freemium	Charging a fee on a premium service, while the basic service is free.	Yahoo Mail LinkedIn
Leasing	Renting out assets, rather than outright sale to earn higher income in the long	Vehicle or asset leasing
Low-touch	Reducing services to charge low prices	Discount stores
Negative operating cycle	Charging low prices by receiving advance payment for services before they are rendered	Amazon.com
Pay-as-you-go	Customers are charged based on consumption of service	Telephone network operators Electricity distribution companies
Razor/blades	Offering a high-margin product (razor) at below cost price to attract higher sales to the low-margin product (blade)	Printer and printer toner
Reverse razor/blades	Offering a low-margin product (blade) at below cost price to attract higher sales to the high-margin product (razor)	Kindle and media contents
Product to service	Selling the services a product provides rather than the product itself	Car rental companies

Standardisation	Reducing the price of a product by removing the personalised extras	No-frills airlines
Subscription	Charging a subscription to gain access to a service	DSTV, StarTimes, GoTv
User communities	Charging members of a network access fees and advertising	

Adapted from: *Seizing the white space*, Mark W. Johnson

## 11.12 Project management

### 11.12.1 Project initiation

#### Characteristics of a project

Work to develop and install a new IS/IT project is usually organised as a project. A project has number of characteristics:

- (i) The project should have a specific objective. This should be defined in terms of scope (what the system is expected to do), time schedule and cost. In the case of IT development work, a project is to design, develop and install a specific IS/IT system;
- (ii) A project team is assembled to carry out the work. Membership of this team may change during the course of the project, as some individuals complete their work and other individuals are brought in to do their part of the work. The management and composition of a project team are considered in more detail later; and
- (iii) A project should have a schedule and a time scale for completion. It has a starting time, which is when the project is formally initiated. It also comes to an end, when the IS/IT system has been designed, developed and installed. When the project ends, the project team is disbanded.

An Information System/Information Technology (IS/IT) project should also have the following characteristics:

- (iv) An IS/IT project should have a **sponsor**. The sponsor is the organisation or department financing the project;
- (v) An IS/IT project has a **customer**, who will be the user of the system. The customer may also be the sponsor, but is not necessarily the sponsor; and
- (vi) A project requires a **budget** for the design and development work. This should be used to plan future expenditure and also to apply control over actual spending (using a budgetary control reporting system). The cost budget might be divided into a budget for each stage of the development project.

### 11.12.2. The project management process

The key elements of project management after project initiation are planning and control. However, there are five stages of project management.

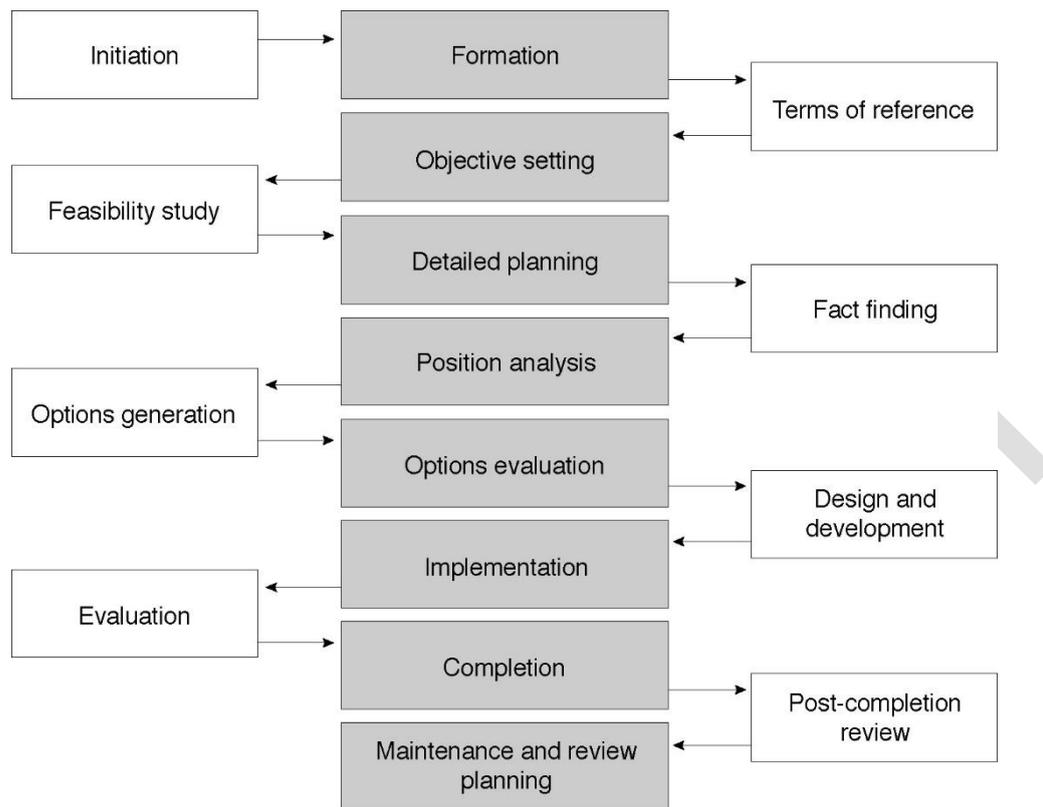
#### The 5 stages of project management

Stage	Description
1. Initiation	<p>The goals and objectives of the project should be established when the project begins. These can be set out in a <b>project initiation document (PID)</b>. The PID is used to develop and clarify the <b>terms of reference</b> for the project.</p> <p>The project might be initiated by the Board of Directors, the project sponsor or the steering committee.</p>
2. Planning	<p>The project must be planned. There must be plans for each stage of the project. The plans should specifying the resources required to complete each stage of the project, a schedule (sequence of events and time scale for completion), a detailed budget and performance</p>

	specifications for the system.
3. Executing	The plans must be put into action. Project management are responsible for directing the project activities.
4. Controlling	The project managers should monitor the progress of the project, to check whether it is on time for completion, within its cost budget and meeting the user's specifications. Where necessary, management should take corrective action when actual performance falls below or behind the plan. Some re-planning and re-scheduling might be required.
5. Completing	The project management must ensure at the end of the project that it has been completed fully and meets requirements. On completion, the responsibility of the project managers ends, and responsibility for running the system is handed over fully to the management for the computer user.

### 11.12.3 Phases of project development

The stages or phases of project development for a bespoke system are as follows.



### 11.12.4 Project initiation document and terms of reference

#### Definition: Project initiation document (PID)

A project initiation document (PID) is a document that formally establishes the IT project, and provides the authority for the project work to begin.

There are no widely-accepted 'rules' about what the PID should contain, although it ought to include the terms of reference for the project.

#### Terms of reference

##### Definition: Terms of reference

The terms of reference are a formal statement of what the project is expected to achieve.

Terms of reference will usually contain the following items:

A **statement of the business objectives** of the entity, and how the new IS/IT system is intended to contribute to those objectives. In other words, how does the new project fit into the overall plans and objectives of the entity?

A **statement of the specific objectives of the project** - The terms of reference should state what the new IS/IT system should achieve, and what it is expected to do;

A statement of the **scope of the project** - The project should have a stated scope. Who is expected to use the project when it is implemented, and who will not use it? For example, will it be specific to a particular department or region, or will it be used by the entire entity? Which operations will be affected by the new project?

A statement of any **constraints or restrictions** for the project. For example, it might be decided that the project should use in-house IT staff only, and that none of the work should be outsourced; and

A target **date for completion**

#### **11.12.5 Other parts of a project initiation document**

The PID may also make the following specifications:

The sponsor and the user (customer) for the project should be identified. The PID should state who has the ultimate authority to approve the project on completion, and who has the authority to resolve any arguments or disagreements that may arise during the course of the project;

The PID should also specify the resources that will be made available to the project, in terms of staff, technical resources and budgeted expenditure limit;

The project manager should be identified, and the size and composition of the project team may also be specified;

There may also be a policy statement on purchasing and procurement, specifying the type of equipment that must be used for the project. (This may be necessary, for example, if the entity has a policy of using compatible IT equipment for all its IT systems.); and

The PID may also include an outline project plan, although this may not be produced until later (by the project manager, after his or her appointment).

#### **11.12.6 The project manager**

##### **Definition: Project manager**

A project manager is appointed to lead the project team. He or she is responsible for achieving the objectives for the project, as specified in the terms of reference.

##### **Tasks of the project manager**

The tasks of the project manager are to:

Agree the scope of the project (as specified in the terms of reference for the project);

Produce a project plan, setting out the different stages of the project and times for completion of each stage, and also the resources required during each stage;

Initiate the work on the project, agreeing individual responsibilities with each member of the project team;

Liaise with the sponsor and the customer for the project, and discuss the progress of the work and any problems that have arisen;

Motivate the project team;

Monitor the progress of the work;

Ensure that the project meets certain quality standards;

Report on progress to the project steering committee, project sponsor and customer for the project;

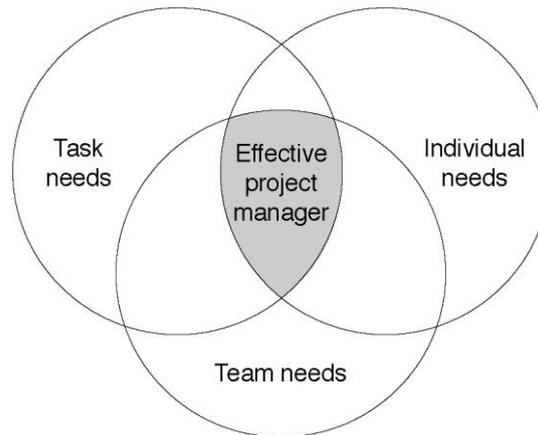
Deal with any slippage in the work that threatens a delay to completion;

Ensure that the new system is properly tested and meets its specifications; and

Deliver the completed IS/IT system at the completion of the project.

## The skills of the project manager

According to Adair an effective project manager must satisfy three overlapping needs:



These are (1) the needs to get the task done, (2) the need to create an effective project team and (3) the need to encourage every individual in the team to give commitment to the project. A successful manager gives sufficient attention to all three needs to ensure that the project is completed successfully.

Yeates and Cadle have suggested that a project manager requires the following **core skills**:

Leadership skills;

Understanding of technology (IT knowledge);

Skills in evaluating and decision making;

People management;

Communication skills;

A knowledge of systems design and maintenance requirements;

Planning skills;

Control skills;

Financial awareness;

Procurement skills;

Negotiation skills;

Skills in negotiating contracts; and

An awareness of legal issues.

### 11.12.7 The project team

#### Definition: Project team

The project team must include individuals with the necessary skills and expertise, collectively, to achieve the project objectives and deliver the completed IS/IT system.

A team is assembled for each project, although the composition of the team may change during the course of the project, as the work progresses and new skills are required for the next stages of the work.

For a project to design and develop a new IS/IT system in-house, the project team will include, for at least some of the time:

Systems analysts;

Programmers;

Data analysts; and

User department representative(s).

### **Systems analysts**

Some systems analysts may become involved in a project from the feasibility study stage, as part of the feasibility study group. They have IT expertise, but their specific skills are:

Analysing existing systems, to establish the user's requirements: they interview staff of the project customer and analyse and document the current system; and

Developing and designing new systems.

They must provide design specifications for the system that can be approved by the project sponsor, customer or project steering committee. They must also produce a specification for every part of the new system, sufficient to enable programmers to write the software on the basis of the specification provided.

After programming has been completed and the software has been tested, one or more systems analysts should be responsible for systems testing. This involves testing that all the different parts of the software fit together, and that the IS/IT system functions properly as a whole.

### **Programmers**

Programmers write the software for the new system, following the detailed specifications provided by the systems analysts.

### **Data analysts**

Data analysts are specialists in the construction of data files, particularly databases. Their task is to specify, design and build the database (or databases) for the IS/IT system. Most of their work is carried out after the systems analysts have designed the system, although they may assist the systems analysts during the design stage by producing entity-relationship models (described in a later chapter).

### **User department representative**

The user or customer for the new system may appoint a representative to the project team. The role of this representative should be to:

Ensure that the systems analysts have understood the user's requirements properly, by checking the details of the system design;

Learn the new system in detail so that the user department has someone with an in-depth knowledge of the system when it eventually 'goes live';

Organise training in the new system for user department staff, and write the user instruction guide; and

Organise the testing of the system by the user before the finished IS/IT system is accepted as complete and ready for implementation.

### **Project team management structure**

Project teams usually have a flat management structure. Typically, a project team may have a manager and no other person with seniority over anyone else. Everyone in the team, apart from the manager, is brought into the team to perform a task or function, regardless of his or her experience. There is a distinct absence of 'bosses' and 'juniors'.

This flat management structure is very different from the traditional structure of a large department, such as an IT department, which may have two, three or four grades of management for each IT specialism – for example, chief programmers, senior programmers, programmers and junior programmers.

A flat management structure is ideal for project work, for several reasons.

A project team is assembled to undertake a specific project and it is disbanded when the project is complete.

Individuals are brought into a project team to perform a specific task or function, and when they have finished the work for which they were needed, they can leave the project and move to another project.

The size and composition of a project team therefore varies throughout the project, and this makes it difficult to establish a management hierarchy.

Individuals are brought into a project team for their skills and the work they can do, not for their management seniority.

A flat management structure is well-suited to a flexible team structure, and allows an entity to move its staff from one project to another, without having to worry about who is more senior and who should be 'in charge' – other than the project manager.

This flexible structuring of project teams also makes it possible for individuals to move more easily between different projects, and carry out different tasks for different projects. For example, an individual who is the project manager on one project may be moved when the project is completed to another project, as programmer, systems analyst or data analyst.

This flexibility and ability to move individuals from one project to another to do specific tasks, regardless of their 'seniority' or expertise, can only work effectively if salaries are also flexible. Where a flat management structure is used for project work, it is usual to have wide salary bands for each type of employee – for example, a wide salary band for systems analysts. Individuals with a high level of skill and experience can therefore be paid much more than an inexperienced person for similar work.

#### **11.12.8 Project quality plan**

It is essential that quality is maintained throughout an IS/IT development project, so that a high-quality system will be achieved at the end of the project.

A project quality plan might be prepared, providing specifications for various aspects of the project, in order to ensure that the required project quality standards are achieved.

The project quality plan may contain the following items:

**Project overview** - This gives a broad description of the project and its objectives, and identifies the project user/customer. This section of the project quality plan should be consistent with the project initiation document (terms of reference);

**Project organisation** - This section of the quality plan specifies the management and organisation structure for the project, and the management responsibilities. It includes, for example, the names of:

- The members of the project steering committee;
- The project sponsor;
- The person to contact in each user or customer department;
- The project manager; and
- The project team members.

It should also specify the formal reporting procedures, the methods to be used for monitoring and controlling the project, and the decision-making responsibilities.

For example, the quality plan may specify that the progress on the project should be monitored by a project assurance team (with named members) which should meet regularly to consider progress reports from the project manager;

**Project requirements** - This section of the project quality plan specifies the requirements for the project, in terms of what must be delivered. The project work may be divided into phases, with each phase ending when a recognisable 'milestone' is achieved. Target dates will be set for reaching each milestone. (The new project may be introduced in stages.)

The project specifications should include performance specifications for the new system, security specifications, the required standards and any legal specifications.

The completed project will be tested against these specifications, to make sure that they have been met successfully;

**Project development** - This section of the quality plan specifies the methods to be used to develop the new system, and the testing requirements. The different phases of the development work should be identified, with target completion dates for each phase (e.g. detailed system analysis, detailed system design, programming, program testing, system testing, user testing and implementation);

**Quality assurance** - This section of the plan specifies how the work on the project should be reviewed as it progresses, to ensure that it is being performed to the required standards and specifications. The methods that will be used to carry out quality assurance checks should be specified. Quality assurance can be carried out by means of self-checking, by peer review by colleagues on the project team or by means of external reviews by a review team;

**Configuration management** - This section of the plan deals with systems and procedures for the control of software throughout the project. There are two main elements to configuration control over software:

**Change control** - This is concerned with requests for changes to the detailed specifications for the IS/IT system as the project progresses. When changes are requested, there should be a formal system for documenting the requests – including the reason why the change is needed and why it is desirable. There should be a system for approving requests for changes, and for ensuring that they are made correctly (with suitable changes to all system specifications and programming documentation, and suitable testing to make sure that the change has been made correctly);

**Version control** - During system development, programs may be altered many times, to correct errors and to implement approved changes. As a consequence, there may be many different versions of the same program, and only one of them is the 'current' version at any time. A system for labelling each version of every program must therefore be applied, so that there is no confusion about the different versions and the correct version is always used;

**Testing methods** - The testing methods to be used must be specified. These should include program testing, systems testing and user acceptance testing, to be carried out before the system development is complete;

**Documentation standards** - A section of the quality plan should specify the documentation that should be produced for the new system. For example, the requirements specification for a project might be drawn up using a standard format in order to ensure that nothing is omitted from the statement of requirements and that the requirements should be comprehensible;

**Procurement** - A section in the quality plan should specify quality standards for the procurement of hardware and any off-the-shelf software. For example, the quality plan should state that a specified **Invitation to Tender procedure** must be followed for the procurement of major hardware items such as computer equipment and communications link rentals;

The **work performance of sub-contractors** must also be subject to specified performance quality standards;

**Risk management** - The project quality plan should also specify requirements for risk management for the project. For example, the plan might specify that there should be a review of risks at each stage of the project (by the project team or project assurance team), and that significant risks should be recorded, together with details of the measures taken to eliminate or mitigate the risks.

### 11.12.9 Project planning: phases and tasks

#### (a) Splitting a project into phases

A task of the project manager is to plan the work for the project, obtain the resources (staff, equipment and so on) to carry out the work and schedule the work so that the project is completed on schedule, or at the earliest possible time.

In order to plan and schedule the work for the project, it is necessary to identify all the tasks that have to be completed.

A first step in the identification of tasks is to identify the main stages of the project. Each stage should have an identifiable beginning and an identifiable end (a 'milestone'). In a typical IS/IT development project the main stages of the project may include the following:

Stage	Starting point	Completion point (milestone)
<b>Project planning</b>	Project initiation document/ terms of reference	Project quality plan
<b>System analysis and design</b>	Project quality plan	Detailed system specification
<b>Programming</b>	Detailed system specification	Completion of system testing
<b>Database design</b>	Detailed system specification	Database design specifications and construction of database
<b>Implementation</b>	Completed system tests and database construction	Handover of system to the user/customer

#### (b) Breakdown of work into lower-level tasks

When the project has been divided into stages, each with its own identifiable beginning and end (milestone for achievement), the next step is to break down each stage into more detailed tasks, or 'lower level tasks'.

For example, the systems analysis and design phase might include, as lower-level tasks:

- (i) Systems analysis and the production of an outline system specification;
- (ii) Design of system input;
- (iii) Design of system output;
- (iv) Design requirements for individual programs (processing requirements); and
- (v) File design.

A large number of lower-level tasks may be identified, although the number of tasks should be restricted. This is because the project manager will need to plan each task, and monitor its progress. Identifying too many tasks could make the job of the project manager too complex.

For each task, the project manager needs to:

- (i) Estimate how much time will be needed to complete the task (measured, perhaps, in man-days or man-months); and
- (ii) Allocate each task to specific individuals or small groups.

### (c) **Work breakdown structure: Prince 2**

#### **Definition: Work breakdown structure (WBS)**

A work breakdown structure (WBS) is a tool or technique for breaking the total work on a project into smaller and smaller parts, such as:

- (i) the main stages of a project stages;
- (ii) the lower-level tasks within each stage; and
- (iii) work packages, which are items of work within each lower-level task.

Work for each small part of the project can then be allocated to an individual or team. This helps managers to plan the work for the project and allocate each item of work to individual members of the project team.

#### **Example: Prince 2**

In the UK, a WBS system in common use for project planning is Prince 2. Prince stands for 'Projects in Controlled Environments'. It was first developed in 1989 by the UK government.

Prince 2 provides 'product breakdown structure' (PBS) for a project development. The project, which is seen as consisting of a number of 'products', is broken down from the top-down into smaller and smaller work packages. This enables the project activities to be identified within the context of work packages. Work packages are allocated to individuals and teams. The project manager can then monitor the completion of each work package to control the project deliverables (including cost, time and quality).

#### **11.12.9 Dependencies between lower-level tasks**

A problem with the scheduling of tasks and allocation of tasks to individual project team members is to prepare realistic estimates of how long each task might take to complete. There will be some uncertainty in the estimates.

Another problem is that many tasks in a project are inter-dependent. This means that some tasks cannot be started until other tasks have been completed. For example, program software cannot be written until the system has been specified. Programs cannot be tested until they have been written. A system cannot be implemented by the user until the files in the old system have been converted into files for the new system.

Some tasks can be carried out at the same time, in parallel with each other. For example, programming and database design may happen side-by-side. New equipment for the IT system can be procured whilst the system is being programmed and tested.

In order to schedule a project efficiently, so that it is completed in the shortest time possible (or by a target completion date), the project manager needs to identify the inter-dependencies between certain tasks.

Having specified the tasks to be completed, the resources required for each task, the estimated time to complete each task and the inter-dependencies between them, the project manager can prepare a schedule for the project. It is common to use planning tools or techniques to prepare this schedule. The most common planning tools are:

**Network analysis** (also called critical path analysis); and

**Gantt charts.**

#### **11.12.10 Project monitoring and control**

The project manager has the primary responsibility for monitoring and control of projects during their development stage. However, the project manager is accountable to the project steering committee, or the project sponsor or the system user (the customer).

The project steering committee might appoint a **Project Assurance team**, to carry out an independent monitoring role. This team would discuss progress at regular intervals with the

project manager. It should also satisfy itself that each milestone for the project has been successfully reached.

#### **(a) Quality, time and cost**

The main aspects of a project that should be monitored and controlled are quality, completion times and cost.

(i) The quality of the work carried out for the project development can be monitored by comparing actual achievements against the requirements that are set out in the project quality plan.

(ii) The completion time for the project can be monitored by comparing the planned completion times for the critical path activities with the actual completion times.

(iii) Costs can be monitored by comparing actual expenditure with budgeted expenditure, on a regular basis (for example, in monthly budgetary control reports).

#### **(b) Monitoring completion times: slippage**

A CPA chart can be used by the project manager to:

(i) Check whether the time-critical activities are being completed on schedule;

(ii) Recognise by how much non-critical activities can be delayed without risking the completion time for the project as a whole;

(iii) Recognise when the completion time for an activity has over-run the schedule (and there is 'slippage' in the timetable for completion) and analyse what the consequences of the slippage will be for the completion time for the entire project; and

(iv) Allocate extra resources to time-critical activities if there is a risk of delay, or if the expected slippage is unacceptable.

#### **(c) Amending a CPA chart**

A CPA chart is a management tool to assist project managers with the control over the project completion time. If the chart gets out of date, because critical dates are missed, or because new estimates are prepared for the expected time to complete individual activities, the CPA chart can be updated and re-drawn.

It is important to remember that the CPA chart should have practical value. If it ceases to provide realistic information, it is no longer of any value to a project manager.

#### **(d) Project management software**

Project managers may use off-the-shelf project management software to help them to plan, monitor and control a project. The software enables project managers to use project management techniques with the assistance of a PC or laptop computer.

Example: Project management software

An example of project management software is Microsoft Project.

#### **Features of project management software**

Typically, project management software helps project managers to:

(i) Create a list of tasks for the project and their expected duration;

(ii) Construct a CPA chart or a Gantt chart;

(iii) Assign resources to each task;

(iv) Prepare a budget for the project;

(v) Track the progress of tasks (and update the CPA chart from time to time);

(vi) Record and monitor actual costs;

- (vii) Manage the documents for the project; and
- (viii) Prepare progress reports.

Software helps the project managers to amend plans more quickly, and prepare revised CPA charts and Gantt charts, and revised budgets.

It also helps managers to prepare better and more comprehensive project documentation.

### **The main functions/benefits of project management software**

The main functions of project management software can be summarised as follows:

- (i) To produce and edit CPA charts or Gantt charts easily. The project manager simply has to enter the activities, their interdependencies and their expected duration. The software will then construct the CPA chart or Gantt chart automatically. Charts can also be amended when project activities are changed. They can also be updated to the current position at any time during the project, for example when there has been slippage, so that the project manager can establish the current expected completion time for the project;
- (ii) To provide an accounting function for the project, by helping the project manager to prepare a budget, record actual expenditure and monitor actual costs against the budget; and
- (iii) To plan and monitor the use of resources on the project, particularly the number of staff working on the project. The project manager can enter the staff requirements for each activity, and the software will produce a detailed estimate of staff numbers required each day or week of the project. Where the resources required exceeds the resources available, the project manager can then use the software to look for ways of reducing staff requirements at peak times without affecting the overall project completion time, by:
  - delaying the start of non-critical activities; or
  - reducing the number of staff assigned to non-critical activities, and allowing these activities to take a longer time to complete.

### **(e) Managing the team**

As well as the technical team management responsibilities described above the team manager is also responsible for managing the team members. Responsibilities may include some or all of the below:

- (i) Selecting personnel and building the team;
- (ii) Delegating roles and responsibilities;
- (iii) Motivating team members;
- (iv) Communicating information amongst the team;
- (v) Rewarding the team; and
- (vi) Disciplining team members.

### **(f) Role of the accountant**

The numeracy and business skills of accountants are highly valued in project management. Project managers need to:

- (i) Understand the economics of different options and decisions;
- (ii) Be able to forecast costs and profit;
- (iii) Generate accurate network analyses and Gantt charts;
- (iv) Use spreadsheets effectively; and
- (v) Consider the impact of external factors as well as internal factors relevant to the project.

Accountants bring a wealth of business experience to projects and can be highly effective as either project managers or as advisors to project managers.

### 11.13. Chapter review

This chapter adequately covers the following soft skills:

- (a) Originality and initiative;
- (b) Creative thinking;
- (c) Integrated thinking;
- (d) Persuasion;
- (e) Negotiation skills;
- (f) Cognitive flexibility;
- (g) Multiple capitals;
- (h) Leadership;
- (i) Emotional intelligence;
- (j) Social thinking;
- (k) Business modeling; and
- (l) Project management.

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# Appendix

## APPENDIX

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Appendix

