Unit standard ID:	Unit standard title:
252025	Monitor, assess and manage risk
252036	Apply mathematical analysis to economic and financial information
252040	Manage the finances of a unit

LEARNER GUIDE

Finance and Risk Management

CIN: 11500 Version: 002 Date: 2020/07/07

Table of Contents

Dear Learner

This Learner Guide contains all the information to acquire all the knowledge and skills leading to the unit standard:

Unit standard ID:	Unit standard title:
252025	Monitor, assess and manage risk
252036	Apply mathematical analysis to economic and financial information
252040	Manage the finances of a unit

You will be assessed during the course of your study. This is called formative assessment. You will also be assessed on completion of this unit standard. This is called summative assessment. Before your assessment, your assessor will discuss the unit standard with you.

It is your responsibility to complete all the exercises in the Learner POE Guide. The facilitator will explain the requirements of each exercise with you. You will also be expected to sign a learner contract in your Learner POE Guide. This contract explains responsibility and accountability by both parties.

On the document "Alignment to NQF", you will find information on which qualification this unit standard is linked to if you would like to build towards more credits against this qualification.

Please contact our offices if you would like information with regards to career advising and mentoring services.

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Enjoy the learning experience!!

Key to Icons

	Important Information
	Quotes
	Personal Reflection
	Individual Formative Exercise
	Summative Exercise
	Note-pad: Supplementary Information

Alignment to NQF

Element of programme	
1. Name of programme	Finance and Risk Management
2. Purpose of the programme	The purpose of this learning program is to capacitate learners in all the knowledge, skills and attitudes required to : Identify potential risks and assess the impact thereof in a unit. Develop contingency plans for managing risk. Test and revise contingency plans. The managers to be able to demonstrate understanding of key concepts of managerial finance, to interpret financial statement, to draft forecasts and budgets and to supervise the financial management of a unit.
3. Duration of the programme	7 days facilitation 220 National Hours
4. NQF level	5
5. NQF credits	22
6. Specific outcomes	US 252025: SO1: Demonstrate an understanding of potential risks to a unit. SO2: Identify potential risks and assess the impact thereof in a unit. SO3: Develop contingency plans for managing risk SO4: Test and revise contingency plans US 252036: SO1: Use mathematical techniques to collect and organise data SO2: Apply mathematical techniques to calculate and represent financial and economic data

	SO3: Apply mathematical analysis to indicate economic relationships US 252040 SO1: Demonstrate an understanding of the key concepts of managerial finance. SO2: Interpret financial statements. SO3: Describe and prepare financial forecasts SO4: Draft budgets according to the operational plan of the unit. SO5: Supervise financial management of a unit against given requirements.
7. Assessment criteria	US 252025: AC 1.1: The concept of risk is explained with reference to accepted theory and practice AC 1.2: The factors that could constitute risks to a unit are identified and explained. AC 1.3: The role of organisational policies and procedures are explained in relation to risk management AC 2.1 Potential risk factors for critical processes in a unit are identified and documented. AC 2.2 Possible scenarios that could constitute a risk are identified and documented. AC 2.3 The possibility of each scenario occurring is evaluated and recorded for future use. AC 2.4 An analysis is performed and documented to rate the impact of each scenario on a unit. AC 2.5 Priorities resulting from the impact analysis are determined and documented for implementation in the event of the risk materialising. AC 3.1 Contingency plans are developed and documented in accordance with the entity's policies and procedures.

	AC 3.2 Contingency plans are communicated to relevant stakeholders in accordance with the entity's risk management procedures. AC 3.3 Contingency plans are distributed and stored in accordance with the entity's risk management procedures. AC 4.1 Contingency plans are tested in accordance with the entity's risk management procedures. AC 4.2 Recommendations on improvements to the contingency plans are documented in relation to the findings of the testing. AC 4.3 Contingency plans are revised to incorporate recommendations from the testing in accordance with the entity's policies and procedures. US 252036 AC1.1: Appropriate methods are selected to collect, record and organise financial data AC1.2: Financial and demographic relevant to a unit are collected AC1.3: Financial and demographic relevant to a unit are recorded in a usable format AC2.1: Averages and standard deviations are calculated using data collected AC2.2: Lines of best fit are calculated using the data collected AC2.3: Calculations related to the time value of money are performed for different transactions AC2.4: Data collected, and calculations are represented in a graphical format AC3.1: Economic relationships are indicated through graphical representation techniques AC3.2: Graphical representations and numerical summaries are consistent with data, are clear, appropriate to the situation AC3.3: Projections are made on the basis of mathematical analysis US 252040 AC1.1: The accounting cycle is explained by means of a diagram.

	AC 1.2: The role of budgeting and forecasting in the strategic planning process is explained with reference to the manager's specific organisational context. AC 1.3: The accounting conventions applied in the financial management of a unit are explained with examples. AC 1.4: The financial reports published by the manager's entity are explained with examples. AC 2.1: Financial Statements are anaylsed, using data sources identified and evaluated for authenticity and accuracy. AC 2.2: The ratios are applied to measure the profitability and liquidity of an entity. AC 2.3: The ratios are applied to measure the working capital and asset utilisation of an entity. AC 2.4: The ratios are applied to measure the return of an entity AC 2.5: Recommendations are made regarding the profitability of, liquidity, working capital, and return and resource utilisation by the entity using the results obtained from the application of the rations. AC3.1: The types and formats of financial statements are identified with examples. AC3.2: Sources of financial forecasts are identified as per the entity's standard practice. AC3.3: Factors in preparing financial forecasts are outlined in line with entity's standard operating procedures. AC3.4: Relevant factors are incorporated in the preparation of financial forecasts. AC3.5: Financial forecasts are analysed to determine viability against the entity's requirements. AC4.1: Budget plans are linked to operational objectives AC4.2: Operational objectives are established in line with the unit's strategic plan. AC4.3: The budget is formulated according to standard operating procedures.

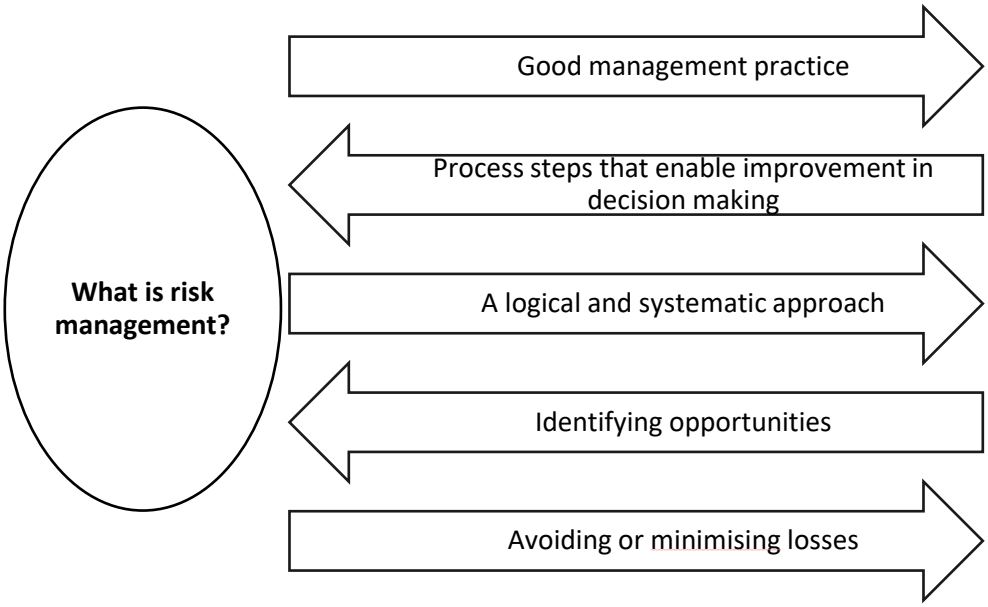
	AC4.4: Drafted budget is reviewed, reflected on and modified to ensure alignment to the operational plan of the unit. AC5.1: Monitoring systems are agreed and adhered to, according to standard operating procedures. AC5.2: Expenditure reports are monitored for the year for each team within the unit against given criteria. AC5.3: Corrective actions are implemented where necessary in accordance with the entity's policies and procedures.
8. Critical cross-field outcomes	UNIT STANDARD CCFO IDENTIFYING The learner is able to identify and solve problems when determining potential risks and ensuring that relevant and effective plans are developed. UNIT STANDARD CCFO WORKING The learner is able to work effectively with others, ensuring all parties understand their own and other`s responsibility in relation to the implementation of measures to address risks facing a unit. UNIT STANDARD CCFO ORGANISING The learner is able to organise and manage his/her own activities to allow sufficient time for planning and implementing measures to address risks. UNIT STANDARD CCFO COLLECTING The learner is able to collect, analyse, organise and critically evaluate information when analysing potential risks in the entity. UNIT STANDARD CCFO COMMUNICATING The learner is able to communicate effectively both verbally and in writing when recording and communicating information and recommendations relating to managing risk in a unit.

	UNIT STANDARD CCFO SCIENCE The learner is able to communicate effectively both verbally and in writing when recording and communicating information and recommendations relating to managing risk in a unit. UNIT STANDARD CCFO DEMONSTRATING The learner is able to use science and technology effectively when distributing and storing continuity plans and ensuring that complete and accurate information is stored on computer systems. UNIT STANDARD CCFO CONTRIBUTING The learner is able to understand the relationships between different risk factors and their impact on the achievement of a unit's objectives.
9. Learning assumed to be in place	• It is assumed that learners are competent in: • Communication at NQF Level 4. • Mathematical Literacy at NQF Level 4. • Computer Literacy at NQF Level 4.
10. Essential embedded knowledge	Relevant acts and regulations, including the Occupational Health and Safety Act. Types of risk, including occupational health, safety and environmental risks, financial risks, fraud and theft of intellectual property. Contingency strategies, including mitigation, avoidance, elimination and acceptance. Methods and techniques for conducting risk assessment.
11. Range statement	The learner is required to apply the learning in respect of this/her own area of responsibility. Unit refers to the division, department or business unit in which the learner is responsible for managing and leading staff. Entity includes, but is not limited to, a company, business unit, public institution, small business, Non-Profit Organisation or Non-Governmental Organisation. Environmental risk factors include systems, location and changes in the environment.

	Risks include financial risk, occupational health, safety and environmental risks. Company policies include policies relating to Occupational Health, Safety and Environment. Strategies include mitigation, avoidance, elimination and acceptance. Contingency plans include tasks, responsibilities, time frames, resources and emergency procedures.
12. Recognition of Prior Learning (RPL)	RPL can be applied in two instances: Assessments of persons who wish to be accredited with the learning achievements Assessments of learners to establish their potential to enter onto the learning program
13. Learning Materials	Learner Guide, Assessor Guide, Learner POE Workbook, Facilitator Guide, Unit Standard Guide
14. Links of the programme to registered unit standards, skills programmes, or qualifications	Registered qualification: Title: National Certificate: Generic Management ID: 59201 NQF: 5 Credits: 164

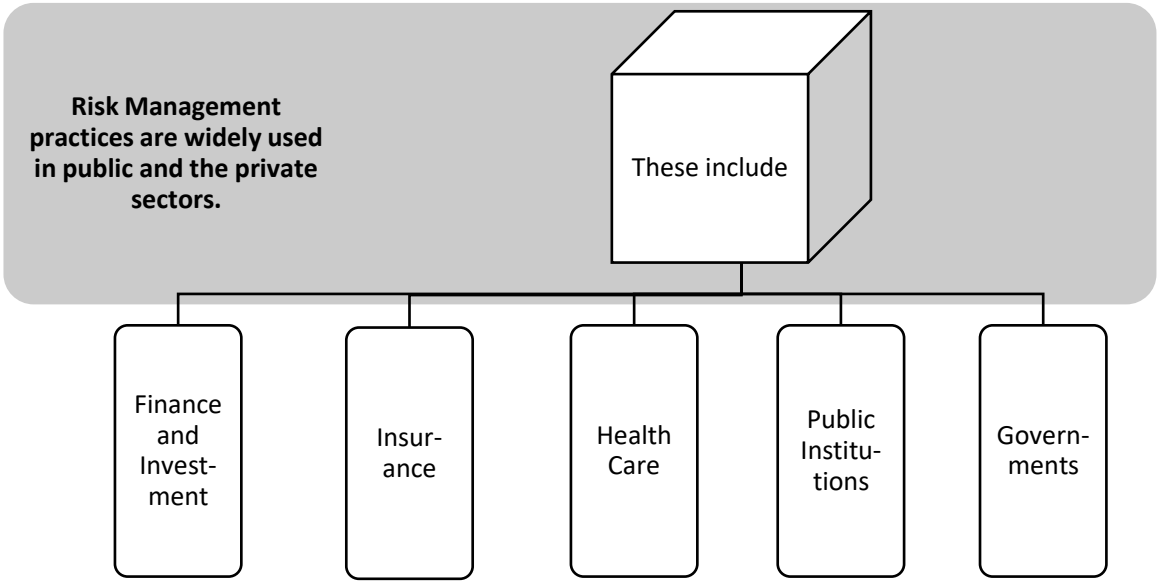
PART 1:

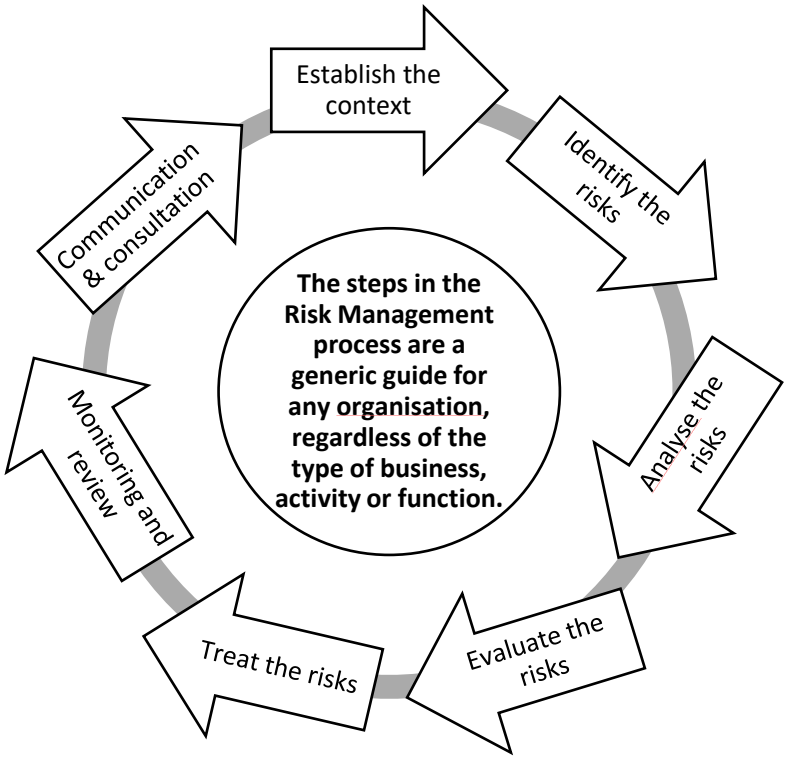
INTRODUCTION TO THE CONCEPT OF RISK MANAGEMENT



Risk Management is the name given to a logical and systematic method of identifying, analysing, treating and monitoring the risks involved in any activity or process.

Risk Management is a methodology that helps managers make best use of their available resources.


Risk Management practices are widely used in public and the private sectors.
These include
Finance and Invest-ment
Insur-ance
Health Care
Public Institu-tions
Govern-ments


Establish the context
Identify the risks
Analyse the risks
Evaluate the risks
Treat the risks
Monitoring and review
Communication & consultation
The steps in the Risk Management process are a generic guide for any organisation, regardless of the type of business, activity or function.

Learning Unit 1: The Risks to a Specific Unit

Unit Standard	
252025	Monitor, assess and manage risk
Specific Outcomes	
SO1: Demonstrate an understanding of potential risks to a unit.	
Learning Outcomes	
• What is "risk"? • The different types of risks • What is "risk management"? • The theories and practices of risk management • What contributes to risks in a work unit?	

WHAT IS "RISK"?

Definition

Risk

Hazard: a source of danger; a possibility of incurring loss or misfortune

Risk Management

Risk is defined in ISO 31000 as the effect of uncertainty on objectives (whether positive or negative). Risk management can therefore be considered the identification, assessment, and prioritization of risks followed by coordinated and economical application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events or to maximize the realization of opportunities.

Risk can be managed by transferring the risk to another party, avoiding the risk, reducing the negative effect of the risk, or accepting some or all of the consequences of a particular risk.

THE DIFFERENT TYPES OF RISKS

The main categories of risk for a business to consider are:			
strategic, for example a new competitor entering the market	**compliance**, for example responding to the introduction of new health and safety legislation	**financial**, for example non-payment by a customer or increased interest charges on a business loan	**operational**, for example the breakdown or theft of key equipment

These categories are not rigid, and some parts of your business may fall into more than one category. The risks attached to data protection, for example, could be considered when reviewing both your operations and your business' compliance.

What Contributes To Risks In A Work Unit?

It is important to classify risks into appropriate categories. Most work units are responsible for specific projects. Each project will have its associated risks. Risks associated with projects can be classified into following 12 categories:

1. Operational Risk: Risks of loss due to improper process implementation, failed system or some external events risks. Examples can be Failure to address priority conflicts, insufficient resources or No proper subject training etc.
2. Schedule Risk: Project schedule get slip when project tasks and schedule release risks are not addressed properly. Schedule risks mainly effect on project and finally on company economy and may lead to project failure
3. Budget Risk: Wrong budget estimation or Project scope expansion leads to Budget / Cost Risk. This risk may lead to either a delay in the delivery of the project or sometimes even an incomplete closure of the project.
4. Business Risk: Non-availability of contracts or purchase order at the start of the project or delay in receiving proper inputs from the customer or business analyst may lead to business risks.
5. Technical Environment Risk: These are the risks related to the environment under which both the client and the customer work. For example, constantly changing development or production or testing environment can lead to this risk.
6. Information Security Risk: The risks related to the security of information like confidentiality or integrity of customer's personal / business data. The Access rights / privileges failure will lead to leakage of confidential data.
7. Programmatic Risks: The external risks beyond the operational limits. These are outside the control of the program. These external events can be Running out of fund or Changing customer product strategy and priority or Government rule changes etc.

8. Infrastructure Risk: Improper planning of infrastructure / resources may lead to failure of a project. So, it is important to do proper planning of infrastructure for the efficient development of a project.
9. Quality and Process Risk: This risk occurs due to incorrect application of processes and deviation guidelines. A possible reason for this is that employees allocated to the project are not trained in the quality processes and procedures adopted by the organisation
10. Resource Risk: This risk depends on factors like Schedule, Staff, Budget and Facilities. Improper management of any of these factors leads to resource risk.
11. Supplier Risk: This type of risk may occur when some third-party supplier is involved in the development of the project. This risk occurs due to the uncertain or inadequate capability of the supplier.
12. Technology Risk: It is related to the complete change in technology or introduction of a new technology.

Occupational Health, Safety And Environmental Risks

Occupational health and safety are a cross-disciplinary area concerned with protecting the safety, health and welfare of people engaged in work or employment. The goal of all occupational health and safety programs is to foster a safe work environment. As a secondary effect, it may also protect co-workers, family members, employers, customers, suppliers, nearby communities, and other members of the public who are impacted by the workplace environment.

The reasons for establishing good occupational health and safety standards are frequently identified as:

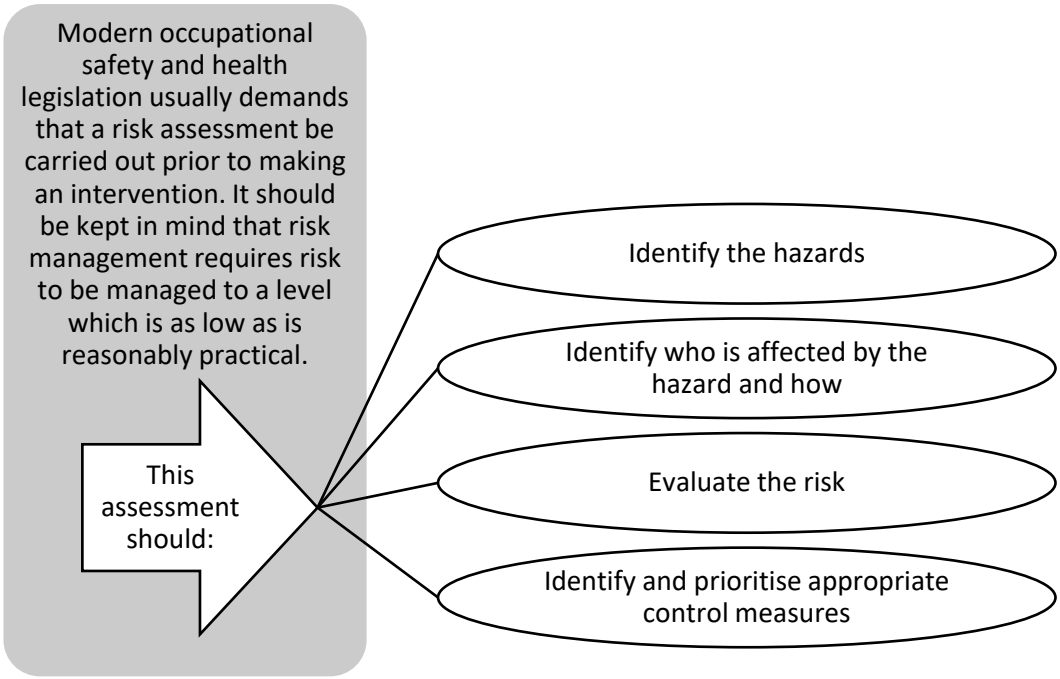
- Moral - An employee should not have to risk injury or death at work, nor should others associate with the work environment.
- Economic - many governments realise that poor occupational health and safety performance results in cost to the State (e.g. through payments to the incapacitated, costs for medical treatment, and the loss of the "employability" of the worker). Employing organisations also sustain costs in the event of an incident at work (such as legal fees, fines, compensatory damages, investigation time, lost production, lost goodwill from the workforce, from customers and from the wider community).
- Legal - Occupational requirements may be reinforced in civil law and/or criminal law; it is accepted that without the extra "encouragement" of potential regulatory action or litigation, many organisations would not act upon their implied moral obligations.

Generally speaking:

- A hazard is something that can cause harm if not controlled.
- The outcome is the harm that results from an uncontrolled hazard.
- A risk is a combination of the probability that a particular outcome will occur, and the severity of the harm involved.

“Hazard”, “risk”, and “outcome” are used in other fields to describe e.g. environmental damage, or damage to equipment. However, in the context of occupational health and safety, “harm” generally describes the direct or indirect degradation, temporary or permanent, of the physical, mental, or social well-being of workers. For example, repetitively carrying out manual handling of heavy objects is a hazard. The outcome could be a musculoskeletal disorder (MSD) or an acute back or joint injury. The risk can be expressed numerically (e.g. a 0.5 or 50/50 chance of the outcome occurring during a year), in relative terms (e.g. "high/medium/low"), or with a multi-dimensional classification scheme (e.g. situation-specific risks).

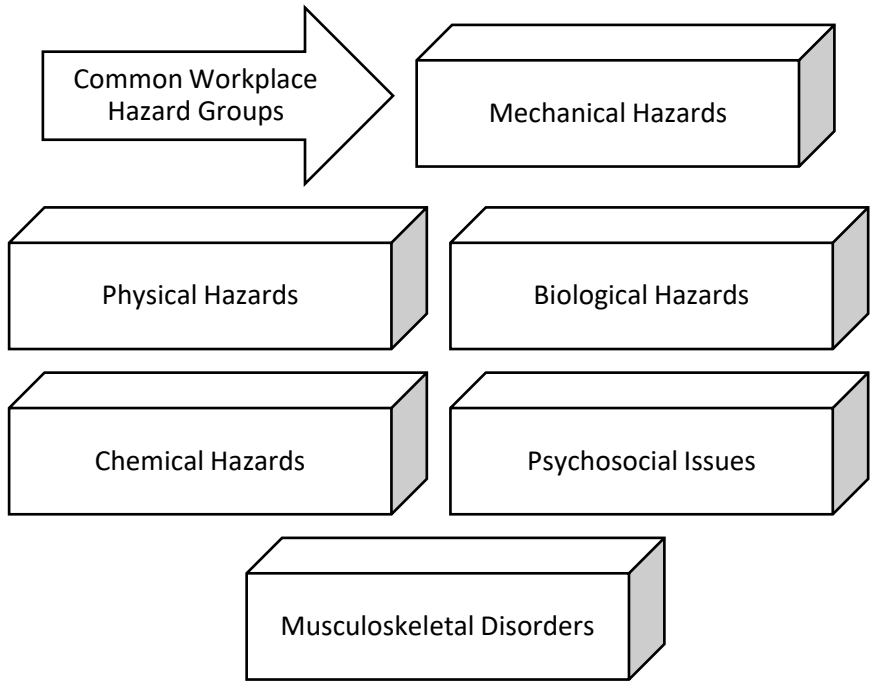
Hazard analysis or hazard assessment is a process in which individual hazards of the workplace are identified, assessed and controlled/eliminated as close to source (location of the hazard) as reasonable and possible. As technology, resources, social expectation or regulatory requirements change, hazard analysis focuses controls more closely toward the source of the hazard. Thus, hazard control is a dynamic program of prevention. Hazard-based programs also have the advantage of not assigning or implying there are "acceptable risks" in the workplace. A hazard-based program may not be able to eliminate all risks, but neither does it accept "satisfactory" -- but still risky—outcomes. And as those who calculate and manage the risk are usually managers while those exposed to the risks are a different group, workers, a hazard-based approach can by-pass conflict inherent in a risk-based approach.

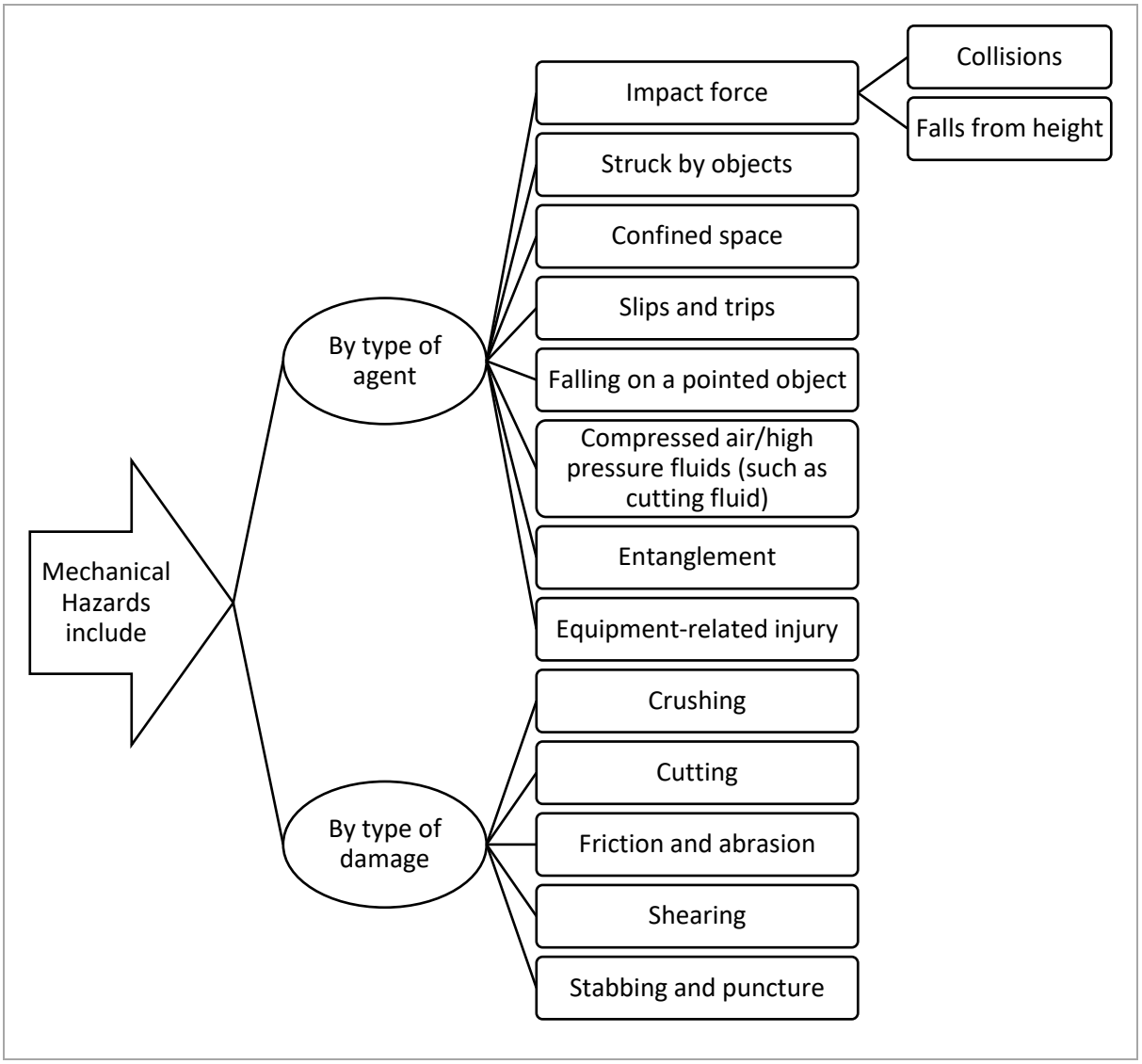


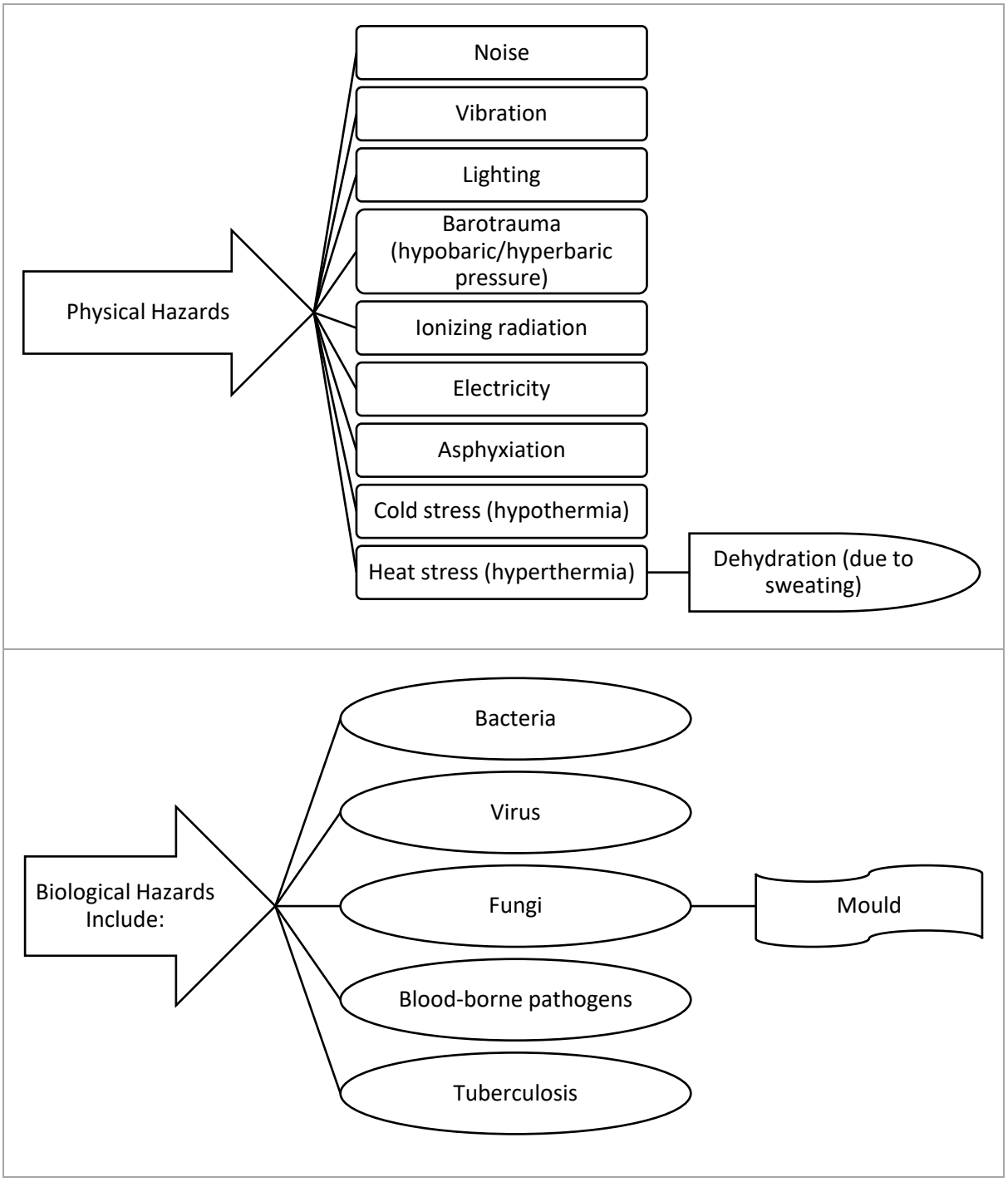
The calculation of risk is based on the likelihood or probability of the harm being realised and the severity of the consequences. This can be expressed mathematically as a quantitative assessment (by assigning low, medium and high likelihood and severity with integers and multiplying them to obtain a risk factor, or qualitatively as a description of the circumstances by which the harm could arise.

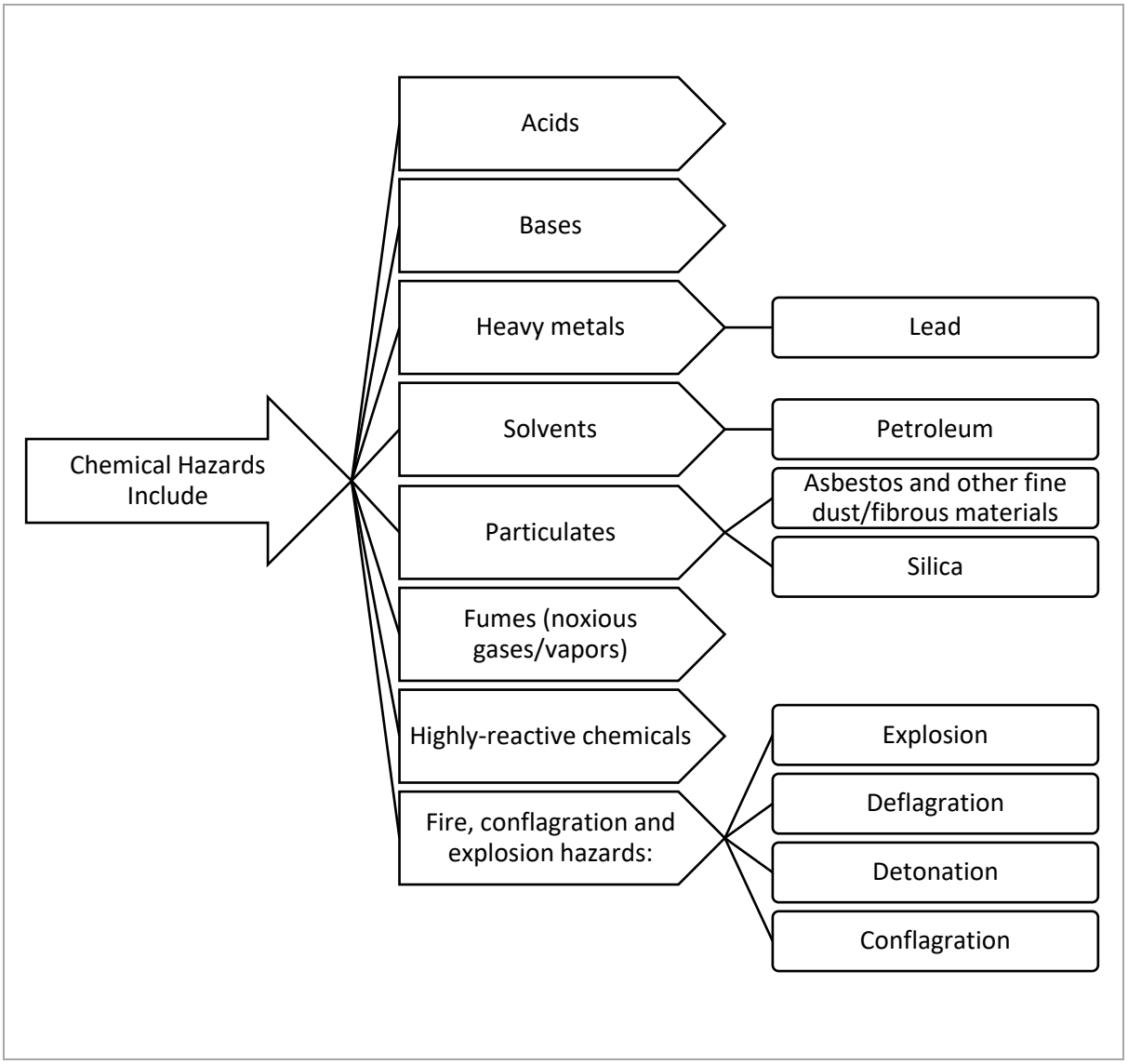
The assessment should be recorded and reviewed periodically and whenever there is a significant change to work practices. The assessment should include practical recommendations to control the risk. Once recommended controls are implemented, the risk should be re-calculated to determine of it has been lowered to an acceptable level. Generally speaking, newly introduced controls should lower risk by one level, i.e. from high to medium or from medium to low.

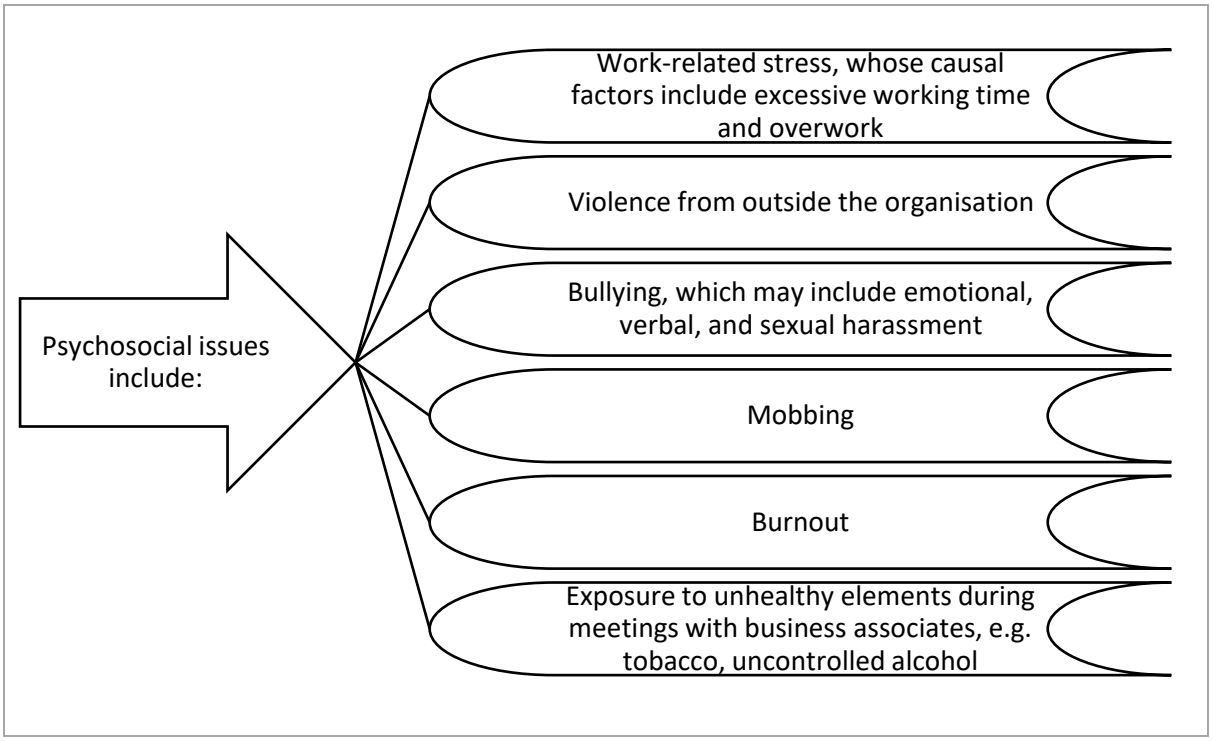
Information




Mechanical Hazards include
By type of agent
By type of damage
Impact force
Collisions
Falls from height
Struck by objects
Confined space
Slips and trips
Falling on a pointed object
Compressed air/high pressure fluids (such as cutting fluid)
Entanglement
Equipment-related injury
Crushing
Cutting
Friction and abrasion
Shearing
Stabbing and puncture

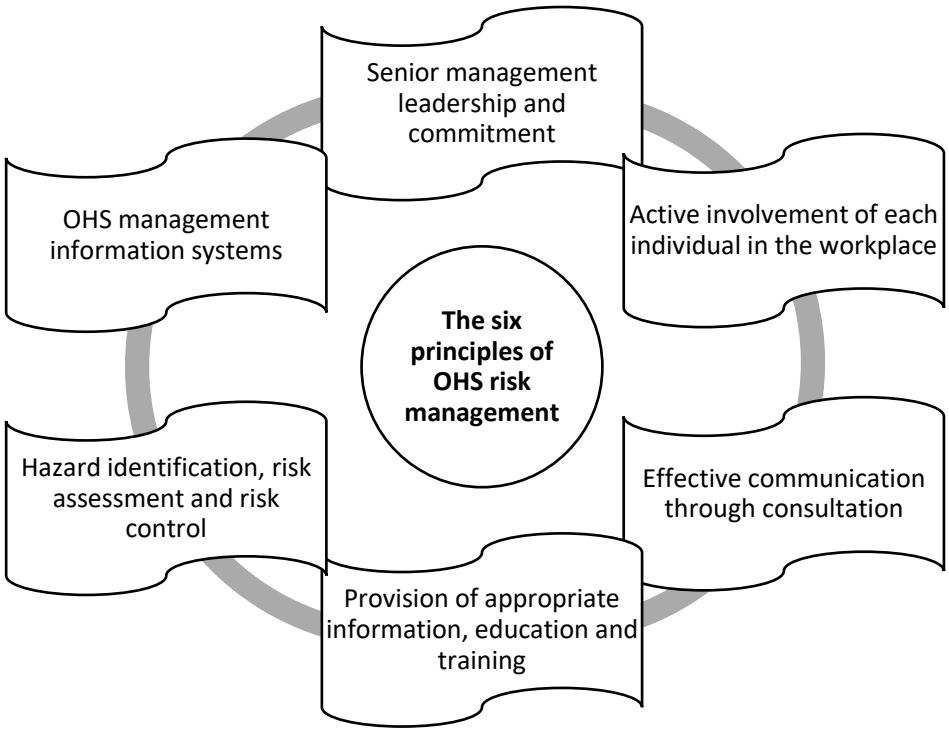

Physical Hazards
Noise
Vibration
Lighting
Barotrauma (hypobaric/hyperbaric pressure)
Ionizing radiation
Electricity
Asphyxiation
Cold stress (hypothermia)
Heat stress (hyperthermia)
Dehydration (due to sweating)
Biological Hazards Include:
Bacteria
Virus
Fungi
Mould
Blood-borne pathogens
Tuberculosis


Chemical Hazards Include
Acids
Bases
Heavy metals
Lead
Solvents
Petroleum
Particulates
Asbestos and other fine dust/fibrous materials
Silica
Fumes (noxious gases/vapors)
Highly-reactive chemicals
Explosion
Fire, conflagration and explosion hazards:
Deflagration
Detonation
Conflagration



How Acts Such As The Occupational Health And Safety (Ohs) Act Link With Risk Management

An effective way to create and maintain a healthy and safe work environment is for organisations to integrate OHS risk management into their daily operations.



Financial Risks

Financial risk is normally any risk associated with any form of financing. Risk is probability of unfavourable conditions. In financial sector it is the probability of actual return being less than expected return. There will be uncertainty in every business; the level of uncertainty present is called risk.

Investment Related

Depending on the nature of the investment, the type of 'investment' risk will vary. High risk investments have greater potential rewards, but also have greater potential consequences.

A common concern with any investment is that the initial amount invested may be lost (also known as "capital"). This risk is therefore often referred to as capital risk. If the invested assets are being held in another currency, there is a risk that currency movements alone may affect the value. This is referred to as currency risk.

Many forms of investment may not be readily saleable on the open market (e.g. commercial property) or the market has a small capacity and may therefore take time to sell. Assets that are easily sold are termed liquid: therefore, this type of risk is termed liquidity risk.

Business Related

The risk that a company or project will not have adequate cash flow to meet financial obligations; thus, causing the business to file for liquidation.

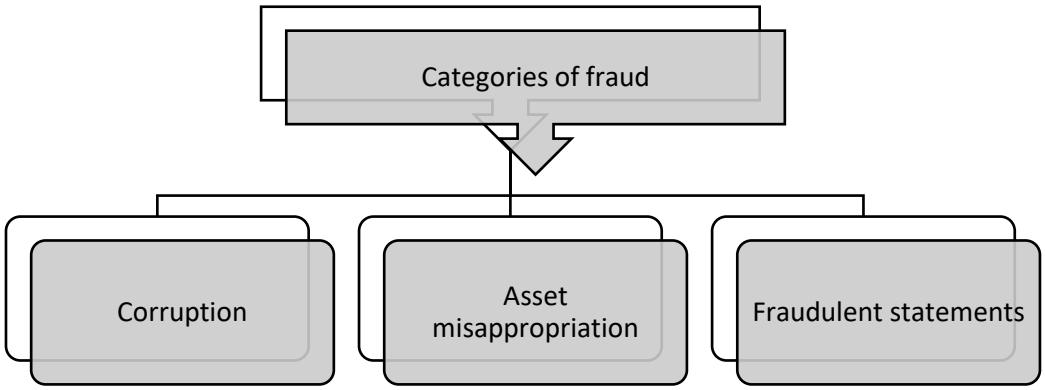
Financial risk is the additional risk a shareholder bears when a company uses debt in addition to equity financing. Companies that issue more debt instruments would have higher financial risk than companies financed mostly or entirely by equity.

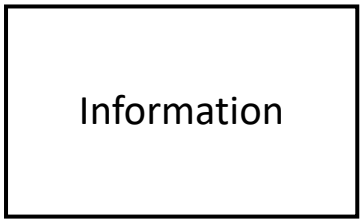
Whilst higher risk normally implies higher overall rewards, this is not always the case. For example, a high-risk bond client may be required to pay a higher interest rate on their bond repayments in order to be accepted as a bank's customer. However, this higher mortgage rate will in itself increase the risk to the bank that the customer cannot meet their interest payments, further increasing the risk.

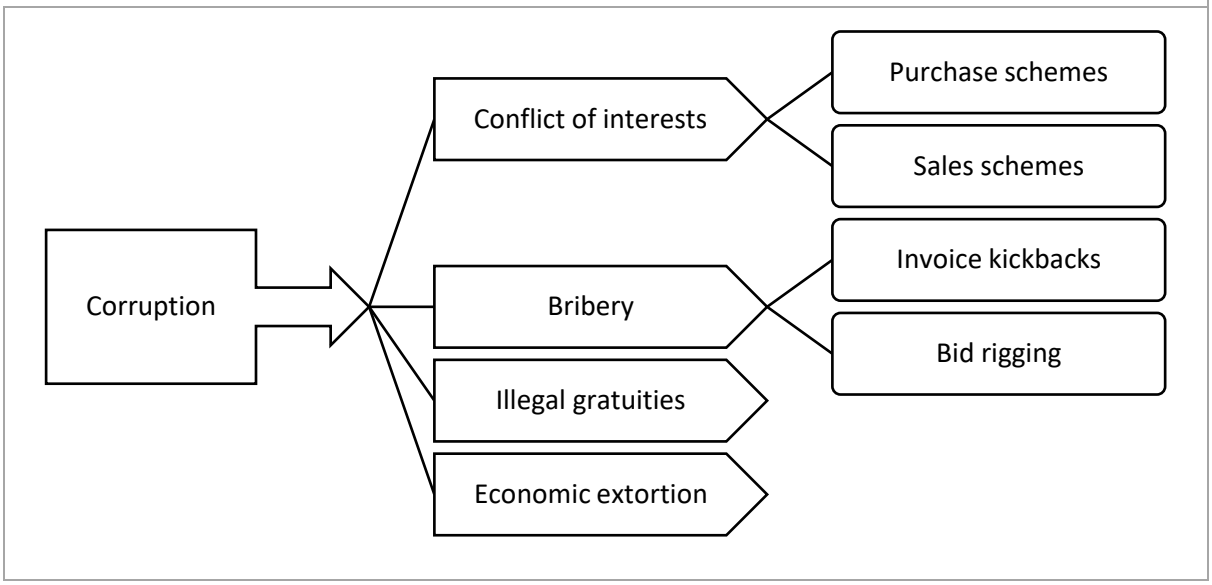
This circular risk problem can lead to markets not existing for high risk borrowers. The 2007/8 sub-prime crisis may have some links to this argument. Higher interest rates for high risk borrowers make the borrowers even less likely to be able to pay back the loan, further increasing the default risk.

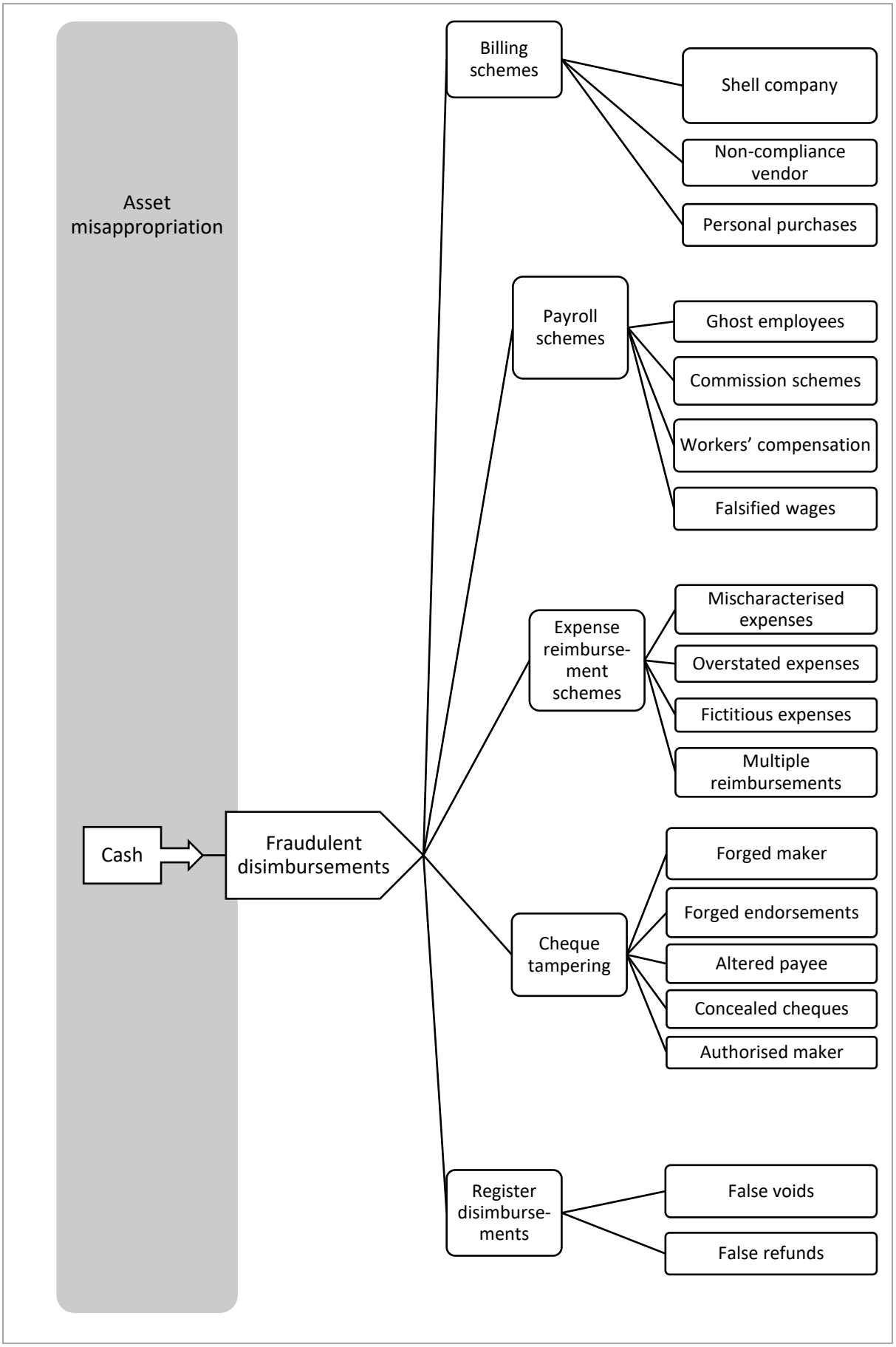
Fraud

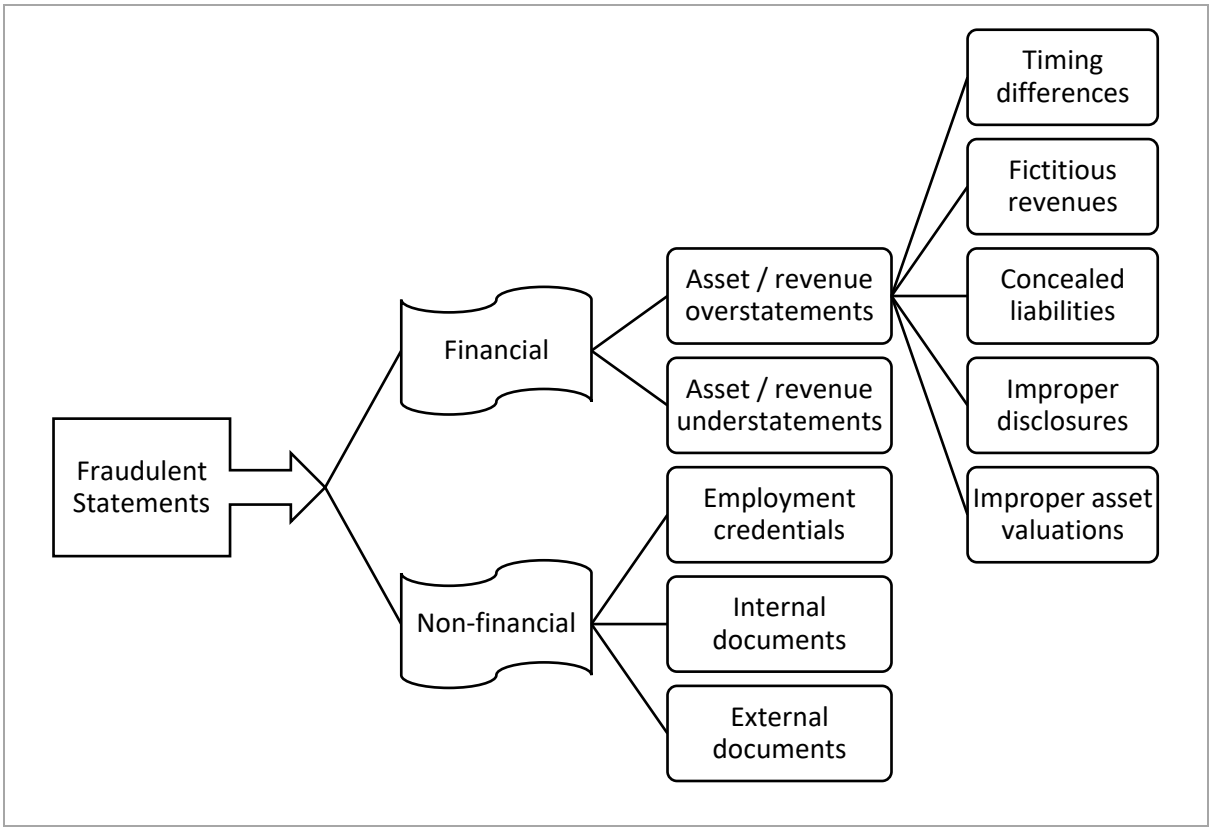
Fraud is the unlawful, intentional making of misrepresentation which causes actual prejudice to another or holds potential prejudice to another.





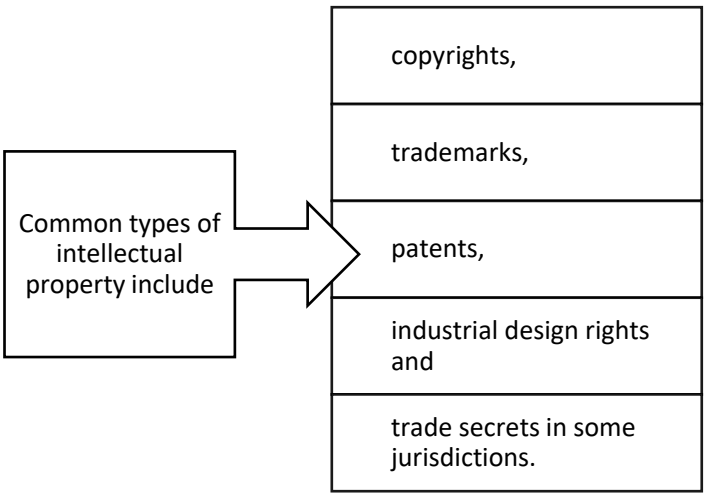



Asset misappropriation
Cash
Fraudulent disimbursements
Billing schemes
Shell company
Non-compliance vendor
Personal purchases
Payroll schemes
Ghost employees
Commission schemes
Workers' compensation
Falsified wages
Expense reimburse-ment schemes
Mischaracterised expenses
Overstated expenses
Fictitious expenses
Multiple reimbursements
Cheque tampering
Forged maker
Forged endorsements
Altered payee
Concealed cheques
Authorised maker
Register disimburse-ments
False voids
False refunds



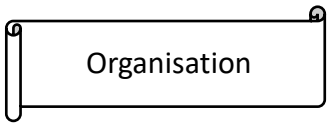
Theft of Intellectual Property

Intellectual property (IP) is a term referring to a number of distinct types of creations of the mind for which property rights are recognised--and the corresponding fields of law. Under intellectual property law, owners are granted certain exclusive rights to a variety of intangible assets, such as musical, literary, and artistic works; discoveries and inventions; and words, phrases, symbols, and designs.

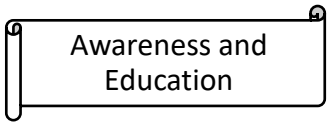


Intellectual property rights are the recognition of a property in an individual creation. The establishment of intellectual property rights represents a trade-off, to balance the interest of society in the creation of goods (by encouraging their production) with the problems of monopoly power. Since the trade-off and the relevant benefits and costs to society will depend on many factors that may be specific to each product and society, the optimum period of time during which the temporary monopoly rights should exist is unclear. When trade secrets—e.g., scientific or engineering secrets—are stolen, corporations lose their competitive edge, small entities cease to exist, and whole sectors of the economy weaken and fall behind in the global marketplace. People lose their livelihood and their children's futures.

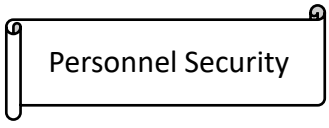
The threats of economic espionage, intellectual property theft, counterfeiting and piracy are global, dangerous and increasingly common. It is within your power to decide for yourself if your enterprise is going to be a hard target or soft target. It is important to invest in protective measures commensurate to the value of the asset being protected. Here are some recommendations for a comprehensive program.



Security reports within an organisation are important. Consider appointing a chief security officer, who reports to either the chief executive office or the chief financial officer. This person should hold the reins of personnel security, physical security and information security, and should not be a stranger to the board room.

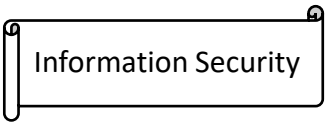


Educate your workforce on an ongoing basis about the threats of economic espionage, intellectual property theft, counterfeiting and piracy. Help them understand your expectation that they will protect the enterprise's intellectual property and, by extension, their own livelihood. Provide general education for the entire workforce, and specialized education for executives, managers, technical personnel, etc.

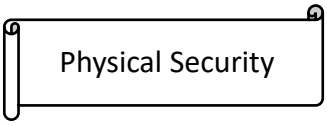


Implement a "Personnel Security" program that includes both background investigations and termination procedures. You need policies that establish checks and balances, and you need to enforce them. Know the people you are going to hire. Don't lose touch with them

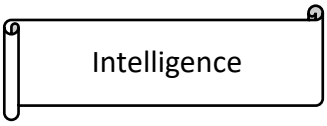
while they work for you. Consciously manage the termination process if and when they leave the enterprise.



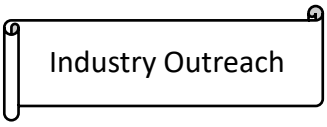
Recruit certified information security professionals. Adopt best practices and establish a baseline. Utilize appropriate information security technologies, such as firewalls, intrusion detection, encryption, strong authentication devices, etc. Pay attention to data retention and data destruction as well as data access.



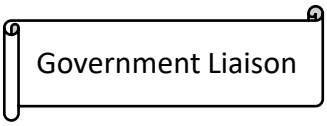
It is pointless to invest in information security, or commit to background investigations, if agents of an unscrupulous competitor or a foreign government can simply walk away with what they covet.



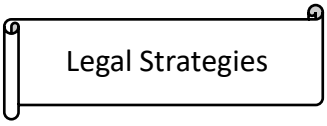
You need both business and security intelligence. Know your competition, your partners and your customers. Research the market environment. Keep abreast of the latest trends in hacking, organized crime, financial fraud and state-sponsored economic espionage. You can outsource this expertise. But someone must be looking at both streams of intelligence, with the particulars of your enterprise in mind.



Actively participate in industry working groups appropriate to your sector and environment. Talk with your peers about the types of attacks or threats they are encountering.



Use threat information from law enforcement, foreign ministries, elected officials, regulatory and trade organisations in South Africa, and in other countries where you conduct business.

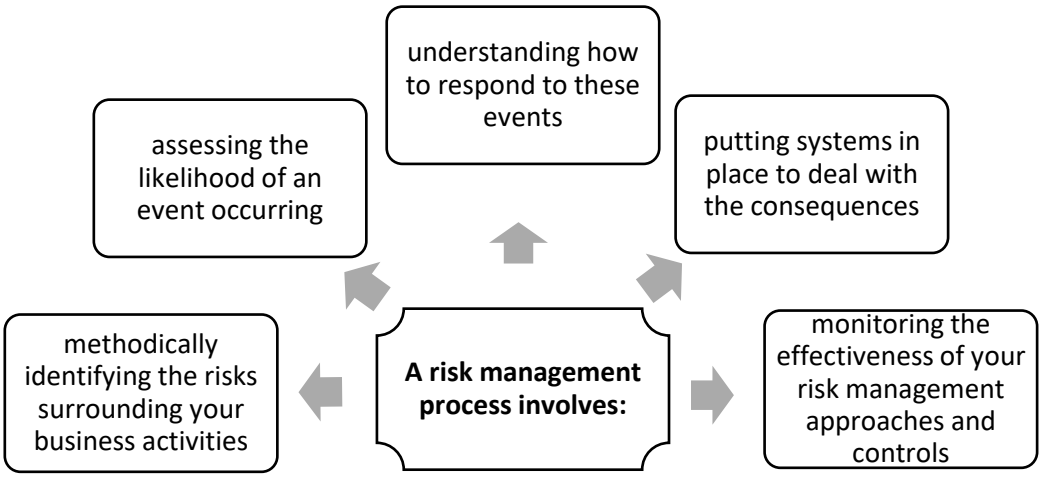


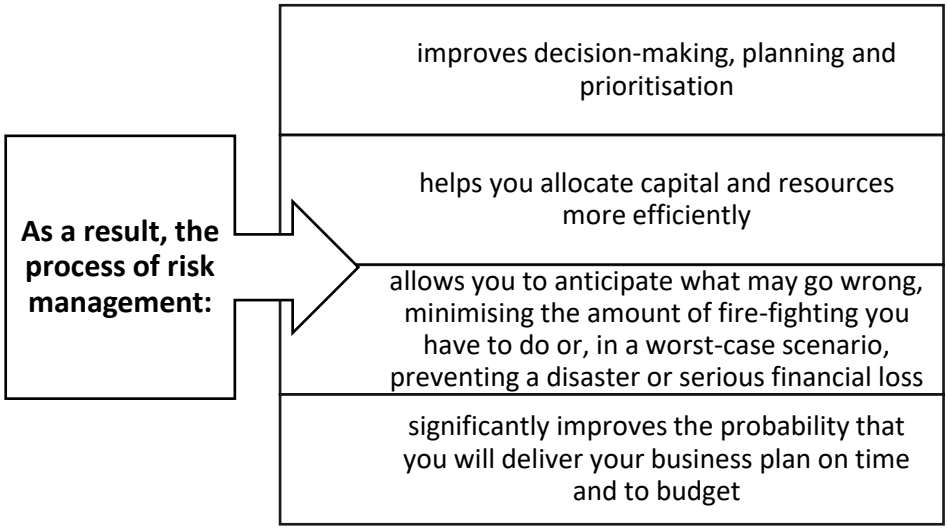
Realise that even when right is on your side, a market may be lost to you, and protecting a portion of the market is sometimes a viable survival strategy. Litigation is not the solution; it is confirmation that intellectual property theft has occurred. Work to protect your intellectual property and avoid the costs associated with litigation. Don't let a small legal mind make decisions about big legal issues. Get expert legal advice on intellectual property issues.

WHAT IS "RISK MANAGEMENT"?

Businesses face many risks; therefore, risk management should be a central part of any business' strategic management.

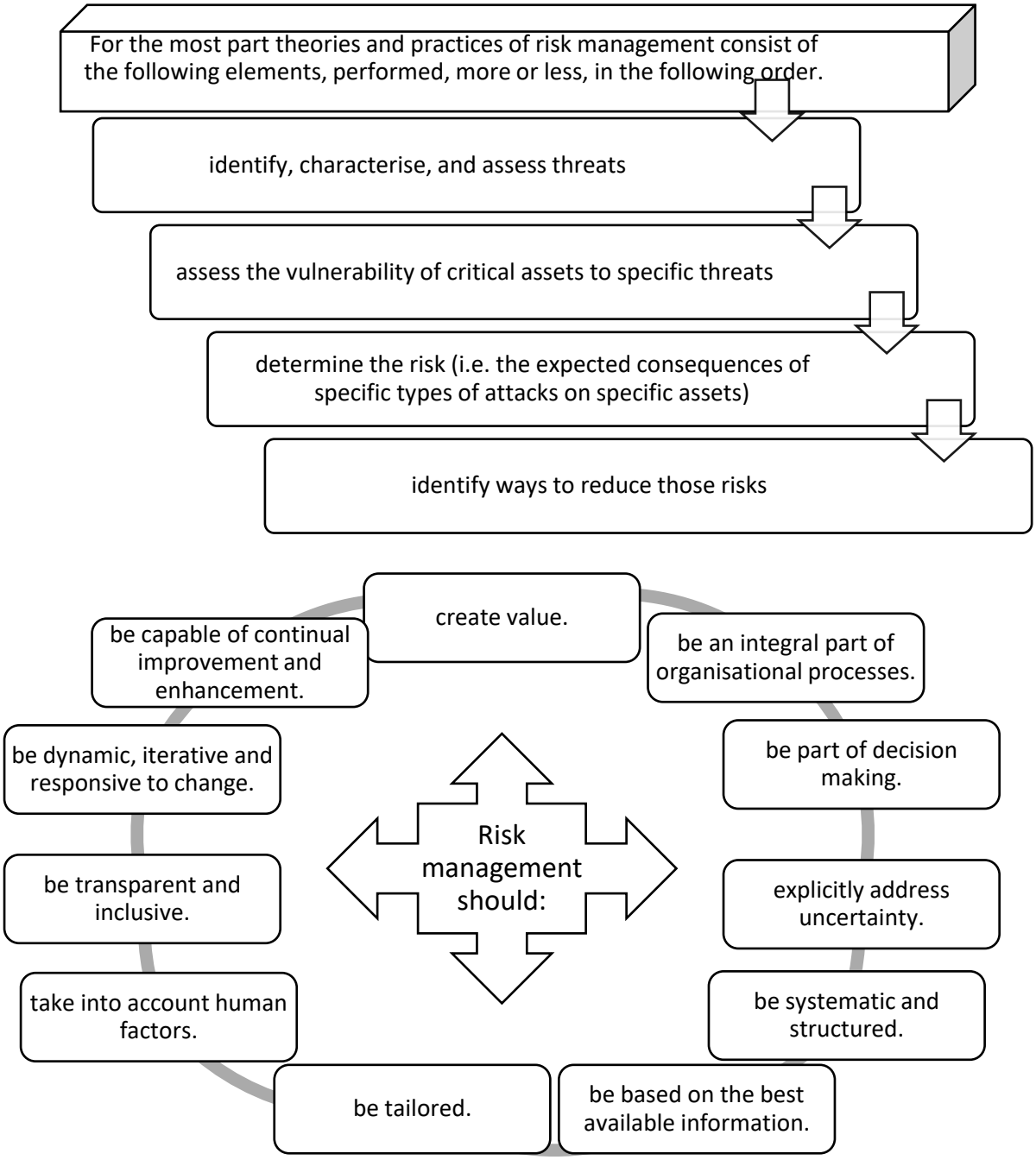
Risk management helps you to identify and address the risks facing your business and in doing so increase the likelihood of successfully achieving your businesses objectives.



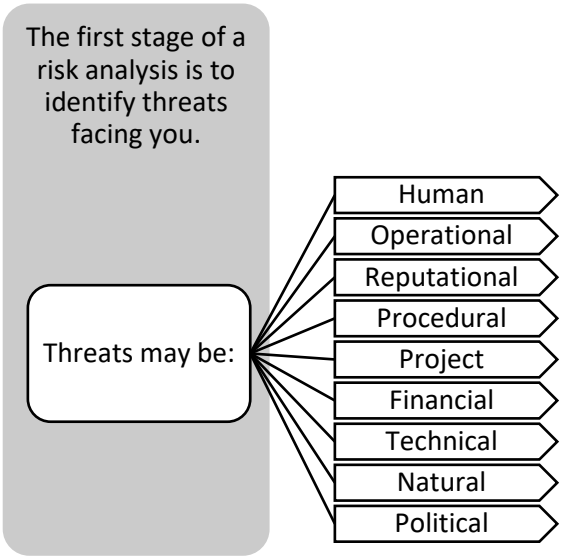


Risk management becomes even more important if your business decides to try something **new**, for example launch a new product or enter new markets. Competitors following you into these markets, or breakthroughs in technology which make your product redundant, are two risks you may want to consider in cases such as these.

PRACTICES OF RISK MANAGEMENT



Step 1: Identify Risk



- **Human** - from individuals or organisations, illness, death, etc.
- **Operational** - from disruption to supplies and operations, loss of access to essential assets, failures in distribution, etc.
- **Reputational** - from loss of business partner or employee confidence, or damage to reputation in the market.
- **Procedural** - from failures of accountability, internal systems and controls, organisation, fraud, etc.
- **Project** - risks of cost over-runs, jobs taking too long, of insufficient product or service quality, etc.
- **Financial** - from business failure, stock market, interest rates, unemployment, etc.
- **Technical** - from advances in technology, technical failure, etc.
- **Natural** - threats from weather, natural disaster, accident, disease, etc.
- **Political** - from changes in tax regimes, public opinion, government policy, foreign influence, etc.

This analysis of threat is important because it is so easy to overlook important threats. One way of trying to capture them all is to use a number of different approaches:

- Firstly, run through a list such as the one above, to see if any apply
- Secondly, think through the systems, organisations or structures you operate, and analyse risks to any part of those
- See if you can see any vulnerabilities within these systems or structures

- Ask other people, who might have different perspectives.

Step 2: Estimate Risk

Once you have identified the threats you face, the next step is to work out the likelihood of the threat being realised and to assess its impact.

One approach to this is to make your best estimate of the probability of the event occurring, and to multiply this by the amount it will cost you to set things right if it happens. This gives you a value for the risk.

Step 3: Determine Ways to Reduce the Risk

Once you have worked out the value of risks you face, you can start to look at ways of managing them. When you are doing this, it is important to choose cost effective approaches - in most cases, there is no point in spending more to eliminating a risk than the cost of the event if it occurs. Often, it may be better to accept the risk than to use excessive resources to eliminate it.

Risk may be managed in a number of ways:

By using existing assets:	•Here existing resources can be used to counter risk. This may involve improvements to existing methods and systems, changes in responsibilities, improvements to accountability and internal controls, etc.
By contingency planning:	•You may decide to accept a risk, but choose to develop a plan to minimize its effects if it happens. A good contingency plan will allow you to take action immediately, with the minimum of project control if you find yourself in a crisis management situation. Contingency plans also form a key part of Business Continuity Planning (BCP) or Business Continuity Management (BCM).
By investing in new resources:	•Your risk analysis should give you the basis for deciding whether to bring in additional resources to counter the risk. This can also include insuring the risk: Here you pay someone else to carry part of the risk - this is particularly important where the risk is so great as to threaten your or your organisation's solvency.

Step 4: Review

Once you have carried out a risk analysis and management exercise, it may be worth carrying out regular reviews. These might involve formal reviews of the risk analysis or may involve testing systems and plans appropriately.

Individual Formative Exercise 1 A: Brainstorm activity

Time Frame: 60 min

Learning Unit 2: Identifying Potential Risks and Their Impacts

Unit Standard	
252025	Monitor, assess and manage risk
Specific Outcomes	
SO2: Identify potential risks and assess the impact thereof in a unit.	
Learning Outcomes	
• Identifying and documenting potential risk factors for critical processes • Identifying and documenting scenarios that could contribute towards risk (Impact analysis)	

IDENTIFYING AND DOCUMENTING POTENTIAL RISK FACTORS FOR CRITICAL PROCESSES

Risk evaluation allows you to determine the significance of risks to the business and decide to accept the specific risk or take action to prevent or minimise it.

To evaluate risks, it is worthwhile ranking these risks once you have identified them. This can be done by considering the consequence and probability of each risk. Many businesses find that assessing consequence and probability as high, medium or low is adequate for their needs. These can then be compared with your business plan - to determine which risks may affect your objectives - and evaluated in the light of legal requirements, costs and investor concerns. In some cases, the cost of mitigating a potential risk may be so high that doing nothing makes more business sense.

There are some tools you can use to help evaluate risks. You can plot on a risk map the significance and likelihood of the risk occurring. Each risk is rated on a scale of one to ten. If a risk is rated ten this means it is of major importance to the company. One is the least significant. The map allows you to visualise risks in relation to each other, gauge their extent and plan what type of controls should be implemented to mitigate the risks.

Prioritising risks, however, you do this, allows you to direct time and money toward the most important risks. You can put systems and controls in place to deal with the consequences of an event. This could involve defining a decision process and escalation procedures that your company would follow if an event occurred.

Risk management involves putting processes, methods and tools in place to deal with the consequences of events you have identified as significant threats for your business. This could be something as simple as setting aside financial reserves to ease cash flow problems if they arise or ensuring effective computer backup and IT support procedures for dealing with a systems failure.

Programmes which deal with threats identified during risk assessment are often referred to as business continuity plans. These set out what you should do if a certain event happens, for example, if a fire destroys your office. You can't avoid all risk, but business continuity plans can minimise the disruption to your business.

Risk assessments will change as your business grows or as a result of internal or external changes. This means that the processes you have put in place to manage your business risks should be regularly reviewed. Such reviews will identify improvements to the processes and equally they can indicate when a process is no longer necessary.

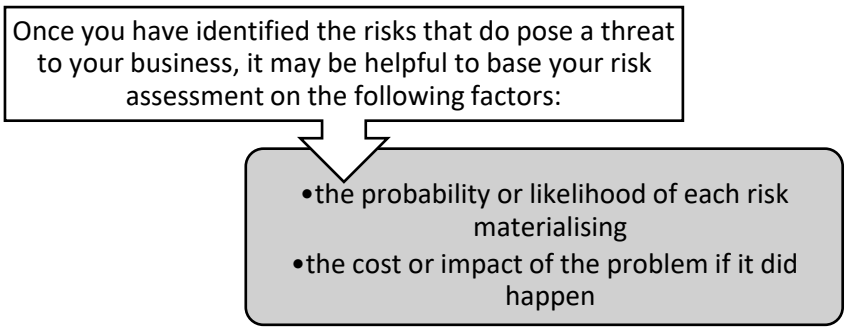
Step 1 - Analysing How Likely It Is That A "Risk Scenario" Will Occur

Risk analysis is the systematic study of uncertainties and risks we encounter in business, engineering, public policy, and many other areas. Risk analysts seek to identify the risks faced by an institution or business unit, understand how and when they arise, and estimate the impact (financial or otherwise) of adverse outcomes. Risk managers start with risk analysis, then seek to take actions that will mitigate or hedge these risks.

One way to learn how to deal with uncertainty is to perform an experiment. But often, it is too dangerous or expensive to perform an experiment in the "real world" -- so we resort to a model, such as a scale model of an airplane in a wind tunnel. With a model, we can simulate what would happen in the real world, and perform many experiments -- for example, subjecting our model airplane to various air currents and forces -- and learn how it behaves. We can introduce uncertainty into our experiments using devices such as a coin toss, dice roll, or roulette wheel. A single experiment that involves a coin toss may not tell us very much, but if we perform a simulation that consists of *many* experiments or trials, and collect statistics about the results, we can learn quite a lot.

Impact assessment is the process of identifying the future consequences of a current or proposed action. It is used to ensure that projects, programmes and policies are economically viable, socially equitable and environmentally sustainable.

Care should be taken when assessing the risks your business may face. You do not want to spend time and money avoiding or reducing those risks that pose little or no threat to your business.



Quantitative risk analysis is the practice of creating a mathematical model of a project or process that explicitly includes uncertain parameters that we cannot control, and also *decision variables* or parameters that we *can* control. A quantitative risk model calculates the impact of the uncertain parameters and the decisions we make on outcomes that we care about -- such as profit and loss, investment returns, environmental consequences, and the like. Such a model can help business

decision makers and public policy makers understand the impact of uncertainty and the consequences of different decisions.

A quantitative assessment of your risks would be the numerical product of these two factors. For example, if a risk has a high probability and a high cost/impact, then it will get a high-risk assessment.

Unfortunately, quantitative measures of risk like this are only meaningful when you have good data. You may not have the necessary historical data to work out probability, and cost estimates on IT-related risks change so quickly that accurate financial data is rarely available.

Therefore, a more practical approach is to use a qualitative assessment. In this case, you use your judgement to decide whether the probability of occurrence is high, medium or low. You do this similarly for cost/impact. You might then take action on risks that are high probability/medium cost, medium/high or high/high, and leave the rest.

Step 2 - Rating the Impact Of Each Scenario

	Composite Risk Index = **Impact of Risk event x Probability of Occurrence**	

The impact of the risk event is assessed on a scale of 0 to 5, where 0 and 5 represent the minimum and maximum possible impact of an occurrence of a risk (usually in terms of financial losses).

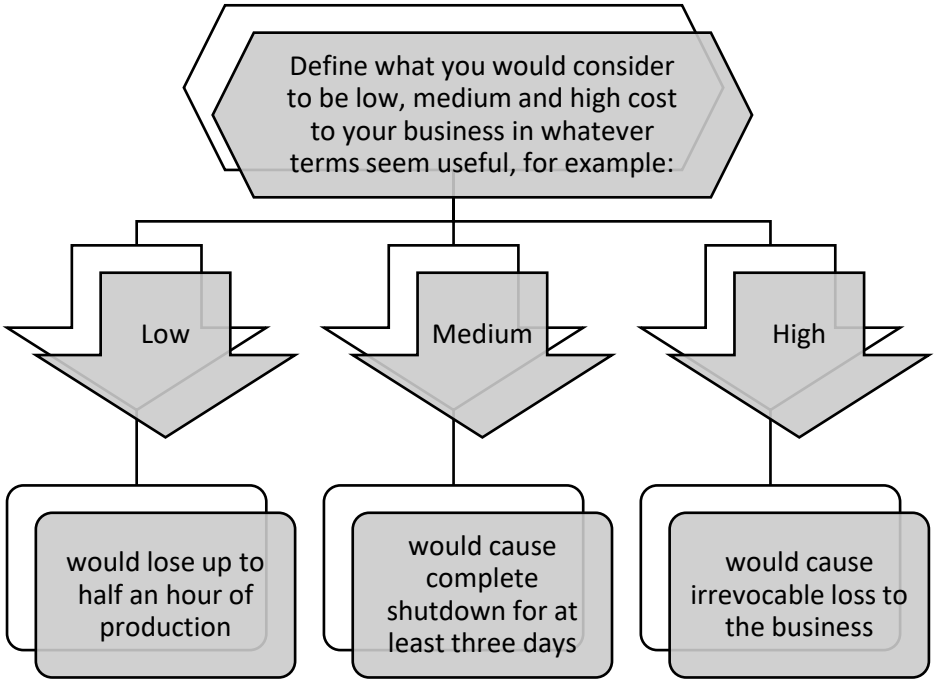
The probability of occurrence is likewise assessed on a scale from 0 to 5, where 0 represents a zero probability of the risk event actually occurring while 5 represents a 100% probability of occurrence.

The Composite Index thus can take values ranging from 0 through 25, and this range is usually arbitrarily divided into three sub-ranges. The overall risk assessment is then Low, Medium or High, depending on the sub-range containing the calculated value of the Composite Index. For instance, the three sub-ranges could be defined as 0 to 8, 9 to 16 and 17 to 25.

Note that the probability of risk occurrence is difficult to estimate since the past data on frequencies are not readily available, as mentioned above. Likewise, the impact of the risk is not easy to estimate since it is often difficult to estimate the potential financial loss in the event of risk occurrence.

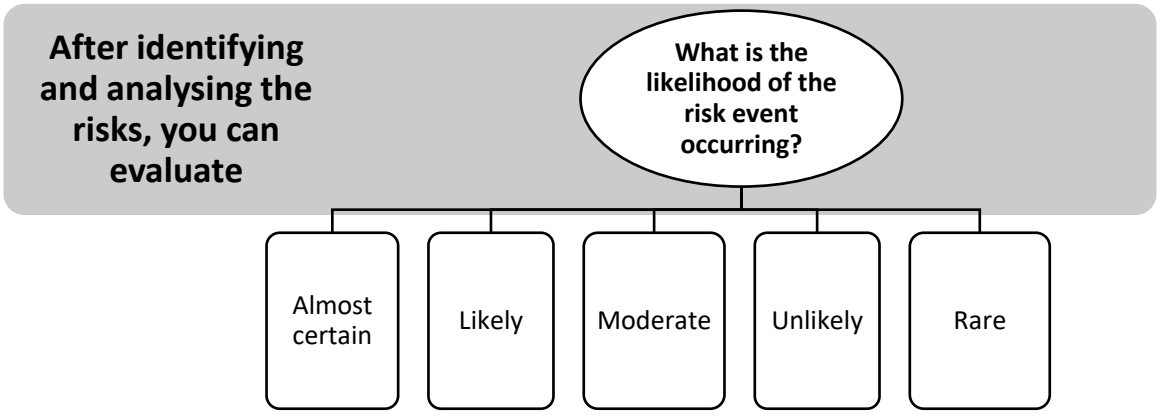
Further, both the above factors can change in magnitude depending on the adequacy of risk avoidance and prevention measures taken and due to changes in the external business environment. Hence it is

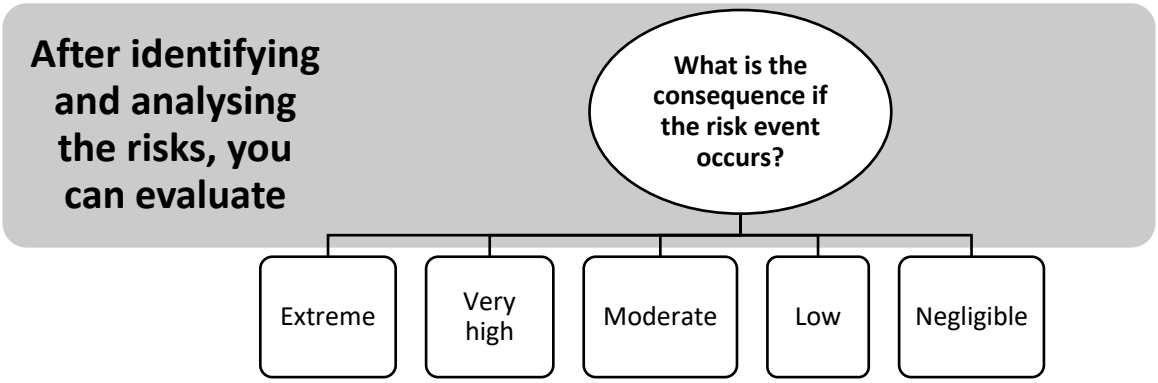
absolutely necessary to periodically re-assess risks and intensify/relax mitigation measures as necessary.



Use the same principles for probability. For example, you might classify as 'high probability' something that you expect to happen several times a year. You might classify as 'low probability' something that you expect to happen very infrequently.

Step 3 - Determining Priorities In The Event Of The Risk Materialising



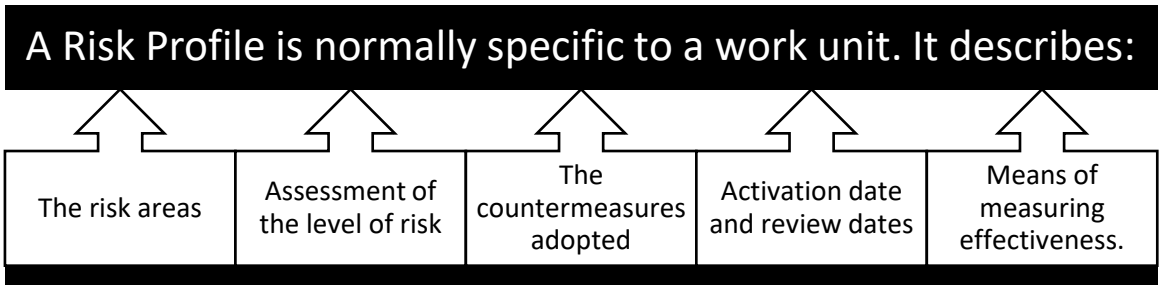


You need to describe or to quantify exactly what the 'Likelihood' and 'Consequence' terms means to you. This helps in ensuring a consistent approach in future risk assessment and review and monitoring. It promotes a common understanding within the business. After establishing 'Likelihood' and 'Consequence' you can use a table like this to set a level of risk.

	Extreme	Very high	Moderate	Low	Negligible
Almost certain	Severe	Severe	High	Major	Moderate
Likely	Severe	High	Major	Significant	Moderate
Moderate	High	Major	Significant	Moderate	Low
Unlikely	Major	Significant	Moderate	Low	Very low
Rare	Significant	Moderate	Low	Very low	Very Low

You must define what these risk levels mean to you. Low and very low-level risks can normally be accepted, subject to on-going monitoring. All other risks are included in the management plan. The plan catalogues the risks, the level of risk, and describes a treatment. The treatment is the action proposed, (and perhaps the resources allocated). A common method of treating risks is to develop risk profiling and targeting systems.

Risk Profiles are developed as a means of putting risk management into practice at the Operational level.



Individual Formative Exercise 2 A: Identify potential risks

Time Frame: 60 min

Learning Unit 3:

The Development of Contingency Plans for Managing Risks

Unit Standard	
252025	Monitor, assess and manage risk
Specific Outcomes	
SO3: Develop contingency plans for managing risk.	
Learning Outcomes	
• What are "Contingency plans"? • How contingency plans link up with organisational policies and procedures • Contingency strategies • How to develop a contingency plan • Communicating the contingency plan to the relevant stakeholders	

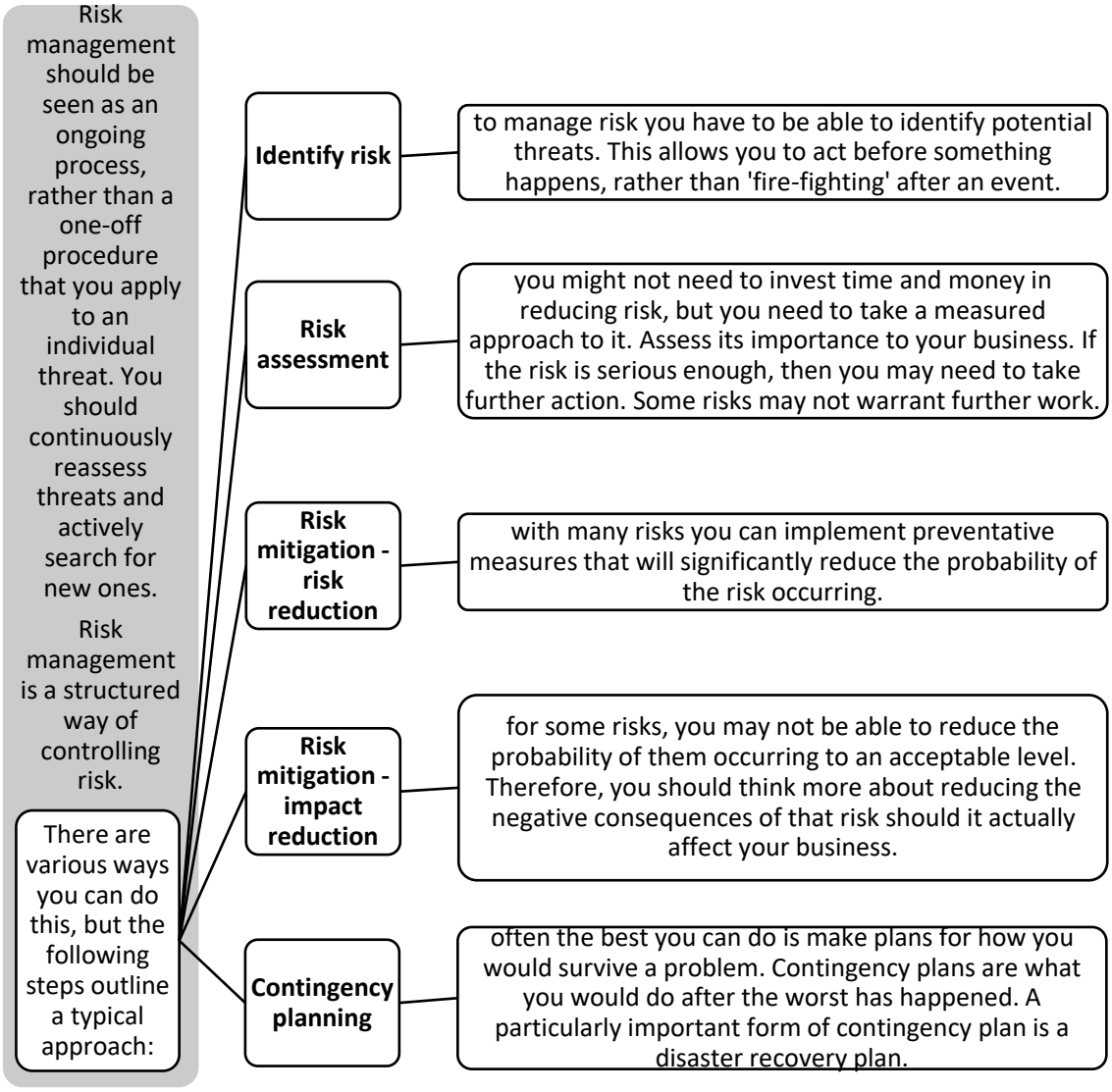
WHAT ARE "CONTINGENCY PLANS"?

A **contingency plan** is a plan devised for an outcome other than in the usual (expected) plan.

A contingency plan is devised to respond to a negative event that can tarnish a company's reputation or even financial livelihood.

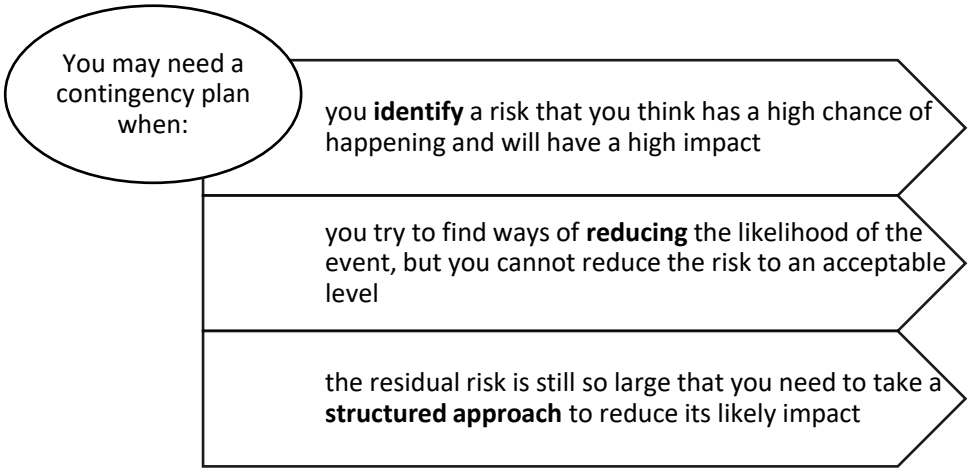
A contingency plan is a plan devised for an outcome other than in the usual plan. It is often used for risk management for an exceptional risk that, though unlikely, would have catastrophic consequences. The contingency plan is a proactive strategy, set up to account for those disruptive events, so you're prepared if and when they arrive.

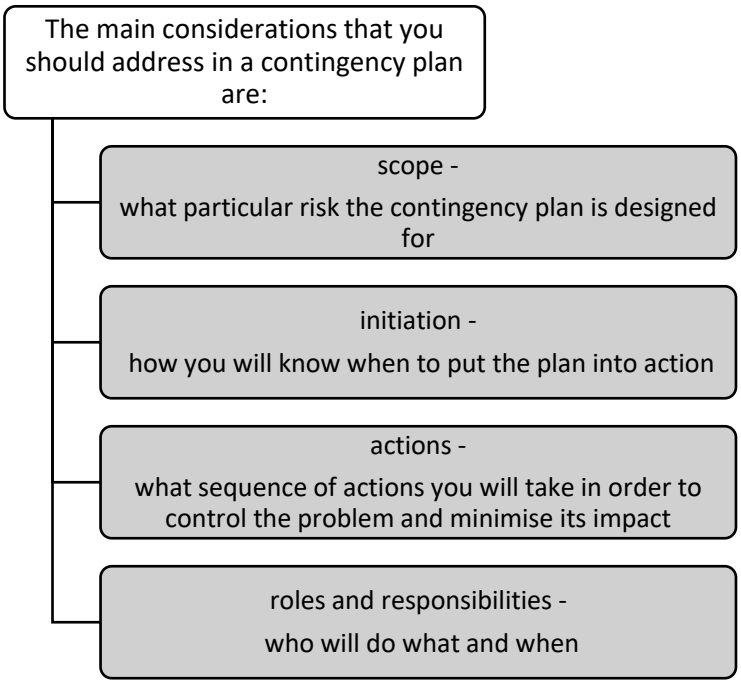
While any organization is going to plan for its product or service to work successfully in the marketplace, that marketplace is anything but stable. Unpredictability might be the enemy of business, but that doesn't mean that it doesn't exist. To execute a plan believing you can avoid unpredictability may be fatal to your organization's future.



A contingency plan is an impact-reduction measure. It should describe in detail what you and your staff will do if a particular problem occurs.

GOOD CONTINGENCY PLANS





Good contingency plans are usually based on the shared experience of managers working together.

1. Is your business impact tolerant?

If you can accept the results of an impact on your business, then you are tolerant of that impact. To reach a point of impact tolerance you must prepare by evaluating your risks, assessing their probability of occurring, analysing your business processes, implementing contingency plans, communicating and exercising these plans and keeping the plans current. The difference between impact tolerance and disaster is your preparedness.

2. Have you mitigated points of failure?

As you evaluate your business processes, you must evaluate each process, in detail, to identify possible points of failure. To ensure an acceptable level of continuity for your business, a decision must be made on plans and procedures to be implemented and put in place, to minimize or eliminate a process failure. If contingency procedures are in place they should be re-evaluated and tested regularly. Do not assume

you are ready. Plan ahead and include contingency planning procedures in your change control process. Your pre-event contingency planning and preparedness validation will determine how little your business and customers are impacted when a failure occurs.

3. Are you and your staff prepared for Business interruptions?

The Business Planning Process does not end with an implemented and documented Plan. The Plan must be kept current, tested regularly and communicated to all those affected. The communication of expectations, approved and documented in your Plan, should define the Roles and Responsibilities of all participants when the Plan is activated and de-activated. The time to prepare is before an interruption occurs.

4. Is your Contingency Plan documented and approved?

Do not assume everyone knows "what to do" when a potentially disastrous event occurs. The actions to be taken to ensure that post-disaster business is continued, should be discussed, approved by management and documented for review. Documentation of the Plan provides a reference platform of clarity for staff, suppliers and customers.

5. Have you reviewed your Plan with staff, suppliers and customers?

The actions to be taken, defined in your Contingency Plans, identify the impact a potentially disastrous event may have on your business, staff, suppliers and customers. Reviewing appropriate portions of your Plan with each group will allow you to ensure acceptability and clarify expectations. It should be noted that all required components of recovery should be included in your Plan (workplace, technology and tools, staff, support, communications, etc.)

6. Is your Plan current and regularly tested?

If your Contingency Plan doesn't reflect the current business processes, levels of risk tolerance, mitigation procedures, recovery processes, team member roles and responsibilities, notification lists and other critical components for a successful and cost-effective recovery and mitigation of disaster, then your Plan is not current. If you have not

verified, by testing, that the steps documented in the Plan will work, as specified and expected and in the timeframe required then you cannot be assured that you will meet business and customer expectations. Regular testing of major portions of your plan should occur annually. If significant changes occur in your business or a significant process, another Impact Analysis should be completed and the required Plan changes implemented, documented and tested to insure they meet expectations. Testing should validate the recovery procedure and the minimum time to recover.

7. Does your Plan insure timely resumption of critical business functions?

The measure of time between failure and your recovery back to an acceptable level of business, can determine whether you will still be in business when you have completed your recovery. Many businesses have learned, too late, that customers move to other suppliers when services or products cannot be received as expected. You should include a proof-of-concept step in any remote site recovery agreement or Service Level Agreement (SLA), as well as with your plan validation, to ensure your Plan will satisfy your recovery time objectives and recovery expectations. You can best minimize the impact to your business by preparing your Contingency Plan and communicating with your customers before, during and after their expectations are impacted.

HOW CONTINGENCY PLANS LINK UP WITH ORGANISATIONAL POLICIES AND PROCEDURES

A Contingency plan is a plan devised for a specific situation when things could go wrong. Contingency plans are often devised by businesses that want to be prepared for anything that could happen. They are sometimes known as "Back-up plans", "Worst-case scenario plans", "Scrap Situation" or "Plan B".

Contingency plans include specific strategies and actions to deal with specific variances to assumptions resulting in a particular problem, emergency or state of affairs. They also include a monitoring process and "triggers" for initiating planned actions. They are required to help businesses or individuals to recover from serious incidents in the minimum time with minimum cost and disruption.

Business contingency plans need to include planning for marketing to gain stakeholder support and understanding. Stakeholders need to be kept informed of the reasons for any changes, the vision of the end result and the proposed plan for getting there. The level of stakeholders' importance and influence should be considered when determining the amount of marketing required, the timescales for implementation and completion, and the overall effectiveness of the plan. If time permits, input and consultation from the most influential stakeholders should be incorporated into the building of any contingency plan as without acceptance from these people any plan will at best encounter limited success.

Private industry is subjected to many non-business-related perils. Ironically, as technology advances, previously unknown or non-existent threats seem to continually evolve. These are in addition to the natural or man-made disasters normally considered. Disasters can strike at any time; and, the more an organisation is concentrated in a single location or geographic area, the greater the risk that a single disastrous event could cause serious business disruption or organisational decapitation.

Yet, even in the face of overwhelming daily evidence, executive managers continue to resist the need for disaster contingency planning. They rationalize that since they are not on a hurricane prone island, or sitting on an earthquake fault, they have no real need to prepare for a disaster. They firmly believe that their organisation's fiscal and strategic programs, policies and procedures are quite adequate; the current disaster response capability is adequate; and that nothing is broken, so why fix it?

The operative terms are "adequate" and "not broken." Too often, "adequate" is used to limit refinements or further exploration. In emergency planning, it stifles improvements. "Not broken," coupled with adequacy, tends to hinder internal initiative and limit outside observation or influence. Maintaining adequacy not only prevents progress, but also causes regression, which can lead to failure. Progress cannot be made without some forward motion.

Contingency planners base their plans upon a perceived threat in order to identify the resources required to counter that threat. These threats can generally be classified into four broad categories: Accident--radiation leaks, chemical contamination, loss of power, transportation incidents, toxic fumes, etc.; Natural--floods, fires, earthquakes, hurricanes, etc.; Internal--sabotage, theft, etc.; and Armed Conflict--terrorism, civil insurrection, armed conflict, etc.

Boiled down to a simple sentence--"A threat is any event that will deny you the use of your normal work area or the telecommunications connectivity to that area."

In all but the smallest organisations, adoption of a formal planning methodology is needed to ensure quality, consistency, and comprehensiveness of the completed contingency plans. A standard

methodology can also provide maximum assurance that the plans for interrelated departmental functions (Administration, Production, Communications, Finance, etc.) mesh properly to form a cohesive program.

The "ad hoc" approach to contingency planning should absolutely be avoided. A formal and disciplined planning methodology will ensure that plans address the total organisation, not just survival of the pieces. Additionally, the planner should avoid fragmented solutions such as building a contingency plan for the IT Department that will ensure survival and recovery of data (computer survival) but giving no thought to addressing the issues that ensures overall organisational survival.

A basic planning process will outline the requisite content for contingency plans including objectives, requirements, and a desired format. This process will also determine which type of disaster is most threatening to organisational survival, which key locations and critical functions must be protected, and it will establish time-lines (i.e., the maximum amount of time an organisation can be without a critical capability) for unacceptable loss of capabilities. Each determination should include a critical, holistic, functional assessment.

One of the vital talents that any contingency planner should acquire is the ability to think backward. Specifically, one must be able to visualise hours, days, and even weeks into an event, and then mentally work backwards, asking at each step of the way, --"how did I get here?" "what was needed?" and "what is required at this instant in time?" As planners refine this talent, they will be able to "freeze frame" specific phases of an event and analyse all the required actions and reactions that must take place to ensure a successful disaster recovery operation.

"No one plans to fail; they just simply fail to plan." Developing an organisation's disaster contingency plan is not a trivial undertaking. It is a painstaking process. Furthermore, once the plan has been developed, it must be reviewed and updated whenever the company adds new products, new facilities, new technology, or undergoes major internal changes. A disaster contingency plan is the corporate blueprint for response and recovery. It must be sufficiently complete to allow the lowest operating element to know precisely what to do and, if necessary, to move to an entirely new facility and resume operations--"business as usual." The plan follows the basic interrogatives--who, what, when, and how: who is involved; what resources are involved; when must the resources be used; and how are they to be used. The plan must basically outline people responsibilities, the use of equipment and other material resources, and detailed operating instructions; nothing can be assumed. The plan is the organisation's strategic battle plan for recovery. The follow-on contingency plans of the operating elements become the organisation's tactical battle plans for survival.

We are constantly bombarded with the need to produce "THE PLAN". The plan thus becomes the end means of corporate survival and recovery. What is rarely, if ever, mentioned is that the plan is an operational document that is designed to be implemented when needed and, as such, it must be based on something authoritative. What is missing in the rush to produce "THE PLAN" is the awareness that there is a crucial first step that should always be conducted.

No plan can be developed, or should even be attempted, without first performing an objective analysis of the organisation's needs and objectives. The contingency requirements, assumptions, and constraints must be clearly understood first before a pencil ever touches paper for the first draft plan outline. The assessment must be conducted with meaningful participation by both management and operational personnel. Participation by both groups is absolutely required. Although management establishes organisational policy and planning objectives, it is the operational personnel who must execute the plan.

The end product of the analysis will be a well-documented contingency plan. It is this document that details the specific threat, requirements, assumptions, constraints, and outlines a proposed general course of action. In "global" terms, it states what needs to be done and forms the foundation document for the follow-up plans that deal in specifics. Furthermore, care must be taken to ensure that it is not driven by a single solution. All possible solutions must be explored, analysed, and each compared to the other. Only after all other solutions have been eliminated, should the remaining solution be used as the basis for the concept.

To develop a contingency plan, three basic options--or some combination of the three--are available to the contingency planner. These options are to: complete the work in-house; obtain assistance from a specialized disaster software and/or storage vendor; or hire an outside (disinterested) contingency planning consultant to assist in plan development.

In-house: This option often appears to be the cheapest because no additional expenditures are required. However, there are hidden costs as employees are diverted from their normal work and, therefore, some of their normal work assignments may not get done. Furthermore, it usually takes longer to complete the plans which often prove to be inadequate. This is especially true if in-house personnel lack contingency planning expertise and experience. Moreover, because the planning effort can siphon off energy from day-to-day activities, supervisors tend not to offer their very best employees to participate.

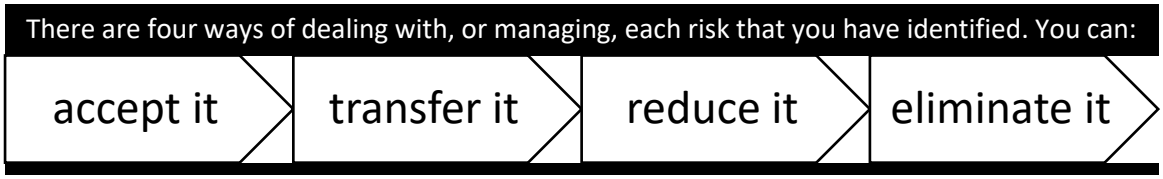
Specialized vendors: This approach varies in cost. However, it is often better to defer the use of their services until there are known needs and requirements. Although there are very good vendors in this

area, some are focused on providing a very limited service and are not concerned with synergistic organisational survival.

Outside (disinterested) consultant: On the surface, this option appears to be the most expensive. However, it is the most predictable option to ensure complete, tailored assistance. When weighted against internal employee costs of trying to get organized, false starts, and the internal strife in-house efforts cause, the actual expense of consultants may actually prove to be no more (and sometimes less) than the in-house option. Consultants can provide outstanding assistance in helping understand the total planning process.

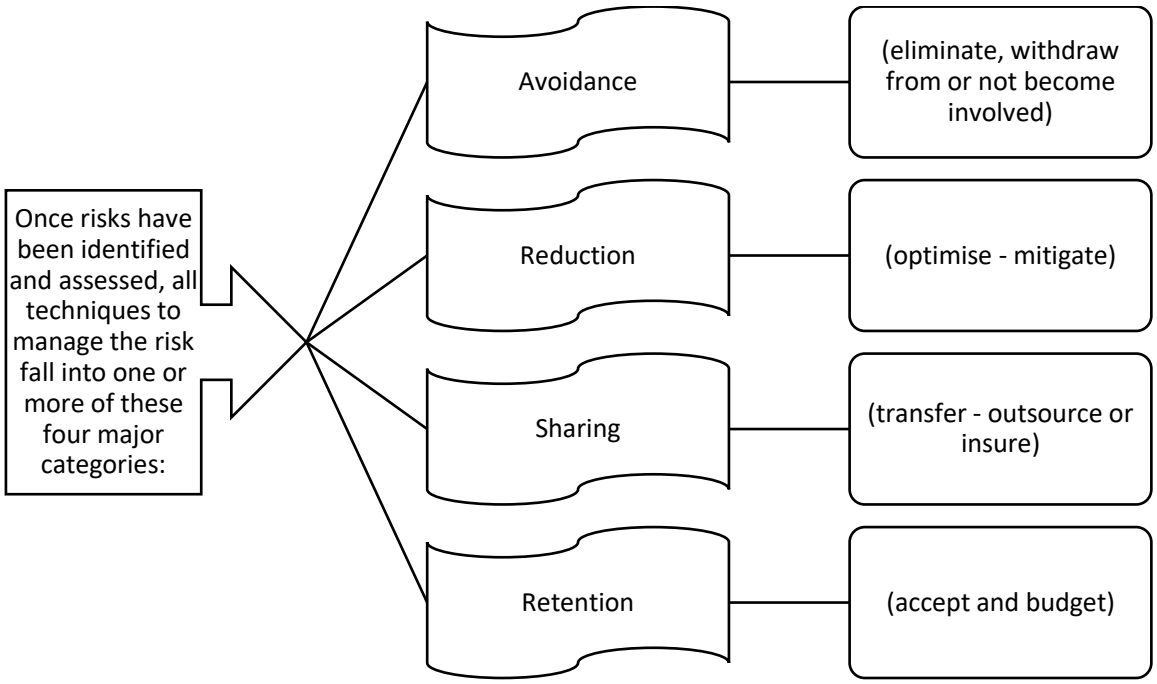
A combination: More often than not, a combination provides the best of all options. By selectively using only the outside assistance required for each step, combined with the use and training of in-house assets, the entire process is significantly accelerated. Furthermore, it ensures that expertise is available when needed, and that all additional specialized assistance is pre-identified as absolutely required to satisfy specific corporate contingency objectives. And, with adequate staff participation, this approach ensures that planning knowledge becomes embedded inside the company. However, to reach its full potential, this option requires the organisation's Contingency Planner to strategically, and relentlessly, manage the process.

RISK STRATEGIES



For example, you may decide to accept a risk because the cost of eliminating it completely is too high. You might decide to transfer the risk, which is typically done with insurance. Or you may be able to reduce the risk by introducing new safety measures or eliminate it completely by changing the way you produce your product or deliver your service.

When you have evaluated and agreed on the actions and procedures to reduce the risk, these measures need to be put in place.



Risk avoidance

This includes not performing an activity that could carry risk. An example would be not buying a property or business in order to not take on the [Legal liability] that comes with it. Another would be not flying in order to not take the risk that the airplane could be hijacked. Avoidance may seem the answer to all risks, but avoiding risks also means losing out on the potential gain that accepting (retaining) the risk may have allowed. Not entering a business to avoid the risk of loss also avoids the possibility of earning profits.

Risk reduction

Risk reduction or "optimisation" involves reducing the severity of the loss or the likelihood of the loss occurring. For example, sprinklers are designed to put out a fire to reduce the risk of loss by fire. This method may cause a greater loss by water damage and therefore may not be suitable. Halon fire suppression systems may mitigate that risk, but the cost may be prohibitive as a strategy.

Acknowledging that risks can be positive or negative, optimising risks means finding a balance between negative risk and the benefit of the operation or activity; and between risk reduction and effort applied.

Modern software development methodologies reduce risk by developing and delivering software incrementally. Early methodologies suffered from the fact that they only delivered software in the final phase of development; any problems encountered in earlier phases meant costly rework and often jeopardized the whole project. By developing in iterations, software projects can limit effort wasted to a single iteration.

Outsourcing could be an example of risk reduction if the outsourcer can demonstrate higher capability at managing or reducing risks. For example, a company may outsource only its software development, the manufacturing of hard goods, or customer support needs to another company, while handling the business management itself. This way, the company can concentrate more on business development without having to worry as much about the manufacturing process, managing the development team, or finding a physical location for a call centre.

Risk sharing

Briefly defined as "sharing with another party the burden of loss or the benefit of gain, from a risk, and the measures to reduce a risk."

The term of 'risk transfer' is often used in place of risk sharing in the mistaken belief that you can transfer a risk to a third party through insurance or outsourcing. In practice if the insurance company or contractor go insolvent or end up in court, the original risk is likely to still revert to the first party. As such in the terminology of practitioners and scholars alike, the purchase of an insurance contract is often described as a "transfer of risk." However, technically speaking, the buyer of the contract generally retains legal responsibility for the losses "transferred", meaning that insurance may be described more accurately as a post-event compensatory mechanism. For example, a personal injuries

insurance policy does not transfer the risk of a car accident to the insurance company. The risk still lies with the policy holder namely the person who has been in the accident. The insurance policy simply provides that if an accident (the event) occurs involving the policy holder then some compensation may be payable to the policy holder that is commensurate to the suffering/damage.

Some ways of managing risk fall into multiple categories. Risk retention pools are technically retaining the risk for the group but spreading it over the whole group involves transfer among individual members of the group. This is different from traditional insurance, in that no premium is exchanged between members of the group up front, but instead losses are assessed to all members of the group.

Risk retention

Involves accepting the loss, or benefit of gain, from a risk when it occurs. True self-insurance falls in this category. Risk retention is a viable strategy for small risks where the cost of insuring against the risk would be greater over time than the total losses sustained. All risks that are not avoided or transferred are retained by default. This includes risks that are so large or catastrophic that they either cannot be insured against or the premiums would be infeasible. War is an example since most property and risks are not insured against war, so the loss attributed by war is retained by the insured. Also, any amounts of potential loss (risk) over the amount insured is retained risk. This may also be acceptable if the chance of a very large loss is small or if the cost to insure for greater coverage amounts is so great it would hinder the goals of the organisation too much.

HOW TO DEVELOP A CONTINGENCY PLAN

The process of developing an effective contingency plan can be broken down into six key stages:

- Identify your needs.
- Impact assessment.
- Select suitable measures and controls.
- Develop recovery strategies.
- Build the plan.
- Test, train and maintain.

Identify your needs

Every organisation is different. This might sound obvious, but a common failing when developing a disaster management strategy is to look for a one-size-fits-all solution. Starting out with a clear examination of the specific requirements of your organisation helps to make sure the plan you develop is the one you actually need.

It can help clarify your thinking to create a contingency planning policy statement as part of your analysis. The statement should briefly set out the following information in as clear a manner as possible:

- The overall contingency objectives. For example, under what circumstances should the contingency plan be invoked?
- The individuals/roles and teams responsible for the development, maintenance and implementation of the plan.
- The scope of the plan. For example, what departments and organisational functions will be subject to the plan?
- The review process that will apply to the plan.
- The requirements for the procurement of resources, training and testing.

- Maintenance arrangements. This covers how the plan will be kept up to date with organisational and technological change.
- Backup schedules and storage arrangements

Once these objectives have been defined, it's important to ensure that the various departments of the organisation who may be impacted by the plan are brought on board. This may include the IT and HR departments, those responsible for physical security and emergency readiness, and the decision makers responsible for these areas. This shouldn't be regarded as a comprehensive list; the circumstances of a particular organisation must be individually assessed.

Before a meaningful plan can be developed, it's necessary to know precisely what is at stake. In short, unless an organisation has a clear understanding of the relative value of its assets, there is a serious risk of targeting resources inappropriately, and of providing inadequate protection where it is most required. An impact assessment can help minimize this risk, by establishing a clear hierarchy of the priorities the contingency plan will address.

Recovery priorities will usually be self-evident if accurate data has been gathered and collated in the first two steps. The planner will assign relatively greater resources to the recovery of more critical components within the overall framework.

Select measures and controls

The impact assessment stage will help to identify areas where disruption can be significantly reduced by implementing preventative measures. Although in principle prevention is always better than cure, whether this is true in any specific case will come down to a cost assessment.

	For example, if the financial cost to the business of system downtime is greater than that of generators to virtually eliminate the risk of this, the generators are a sound investment. However, in many cases the reduced financial outlay required to ensure rapid restoration will be more than adequate. Many such decisions will need to be made by the planner during the development of the plan.
Recovery strategies	Recovery strategies enable operations to be rapidly normalized in the event of disruption. Strategies should be based on the data gathered in the impact assessment, in order to ensure that they are appropriate to the organisation's core requirements. They should also take into account the full range of possible incidents and disruptions. The plan should specify teams and individuals and the areas for which they are responsible in an emergency situation. The people involved must understand their roles and the expectations that these roles place upon them, and they must be fully prepared to implement their responsibilities at short notice when required.
Build the plan	The plan development phase involves pulling together all the information gathered in the previous steps into clear and precise outlines of the actions to be taken under various emergency conditions. The plan should be laid out in a simple and straightforward manner, to assist people to locate relevant information quickly and easily. An emergency is not the time for individuals to have to wade through thousands of words trying to find the bits that matter to them. The plan should also be simple to execute under emergency conditions. A useful approach to laying out the plan is to structure it according to the various emergency circumstances that have been envisaged. Within these sections, step by step

workflows, and checklists targeted at individuals or teams help make it easy for people to know what they are supposed to be doing.

It is typical to specify three phases of response for each identified emergency situation. The first of these is the activation phase and consists of the procedures for communicating the existence of the emergency, assessing the damage and activating the plan. The second phase is the recovery phase, during which the recovery procedures are initiated and carried out. This is followed by the reconstitution phase when the original infrastructure is restored and tested, and the emergency procedures wound up.

Test, train, maintain

Testing, training and maintenance are essential follow-up activities that must be carried out after the completion of the plan. It is vital that the plan is thoroughly tested in all its aspects. An untested plan is worthless, as there is a high probability of it failing under the pressure of an actual emergency. For this reason, planning standards generally recommend a structured and comprehensive testing schedule covering at least the following areas:

- **Co-ordination of responsible parties**. Testing should demonstrate that responsible teams and individuals understand and can carry out their assigned roles in an emergency. Given the human aspect to this, it is advisable that at least some testing is carried out under pressure situations to ensure that people are able to function under the stress of an actual emergency.
- **Notification procedures**. The communication elements of the plan are easy to overlook but are in fact critical. Testing should ensure that communication procedures are viable and effective,

and able to function properly under emergency conditions.

Training is essential to ensure that individuals are aware of the plan, it's possible impact on them and their role within it. This does not apply only to active participants in emergency processes. In an emergency it is not unusual for almost every individual in an organisation to be affected in some way. Some form of training is therefore necessary for everybody. Training usually consists of a combination of classroom and practical exercises designed to imitate real life scenarios as convincingly as reasonably possible. Practical exercises should ideally involve simulations of anticipated disruptions.

Maintenance is another frequently overlooked aspect of contingency planning. In a dynamic environment such as a typical business, frequent reappraisal and review are essential. This part of the process shouldn't be left to chance: the maintenance schedule should be formally specified as part of the plan. As a general rule the plan should be subject to annual review, although in many cases more frequent or even continuous review will be desirable. In all cases, procedures must be in place to update constantly changing details such as contact information on an as-needed basis.

Finally, the plan itself should be subject to the organisation's security processes. It is in and of itself a piece of critical and sensitive documentation. Therefore, its distribution should be appropriately controlled, backup copies should be stored offsite, and its contents themselves must be disaster proof.

Communicating The Contingency Plan To The Relevant Stakeholders

Risk communication is defined as any two-way communication between stakeholders about the existence, nature, form, severity, or acceptability of risks. It is vitally important to understand the basic concepts of risk communication and to ensure that communication among stakeholders is integral to the risk management process.

Inherent in risk management decisions are uncertainties and value assumptions about the nature and significance of the risk. Stakeholders may bring information and perspectives to the table that are critical to the decision process. Ongoing exchange of information and ideas between risk managers and stakeholders is fundamental to the overall risk management process. It is critical to building trust in the decision process and therefore ensuring a successful outcome. Experience increasingly shows that decisions made with the involvement of interested and affected parties are more effective and more durable.

The risks associated with ineffective risk communication include irreplaceable loss of management credibility, unnecessary and costly conflicts, diversion of management attention from important problems to less important problems, non-supportive and critical employees, and unnecessary human suffering due to high levels of anxiety and fear.

RISK COMMUNICATION TASKS IN THE RISK MANAGEMENT PROCESS	
RISK MANAGEMENT STEP	**RISK COMMUNICATION TASK**
Initiation	• Identify stakeholders. • Consult with stakeholders in defining scope of issue.
Preliminary Analysis	• Develop stakeholder analysis for ongoing verification and refinement.
Risk Estimation	• Discussion of source, exposure issues. • Communication of results with stakeholders. • Assess changes in knowledge/perception in light of new information.

Risk Evaluation	• Elicit stakeholder perceptions of the risks and benefits, and the reasons for these, if possible. • Assess stakeholder acceptability of the risk.
Risk Control	• Consult with stakeholders to gain input into identifying and evaluating control options. • Inform stakeholders of chosen risk control and financing strategies. • Inform stakeholders of benefits, costs, and any new risks associated with proposed control options. • Evaluate acceptance of control options and residual risks. • Determine if risk trade-offs might be possible.
Implementation (Action)	• Communication of risk control decision and implementation.
Monitoring	• Ensure implementation of communication strategies. • Monitor changes in needs, issues, concerns of existing or new stakeholders.

Risk communication among stakeholders is deemed integral to all stages of the risk management process. Communicating well has benefits for good risk management.

During the Initiation step, the risk communication tasks include identifying stakeholders and assessing stakeholder perspectives on the risk issue for the purpose of defining the scope of the issue to be addressed. Stakeholders include groups that are affected or potentially affected by the risk, risk managers, and groups that will be affected by any efforts to manage the source of the risk. Stakeholders may include the decision-maker(s), community groups, local governments, public health agencies, businesses, labour unions, the media, individuals and groups, environmental advice organisations, and provincial and national government agencies.

Individual Formative Exercise 3 A: Contingency Plans

Time Frame: 75 min

Learning Unit 4:

Testing and Revising Contingency Plans

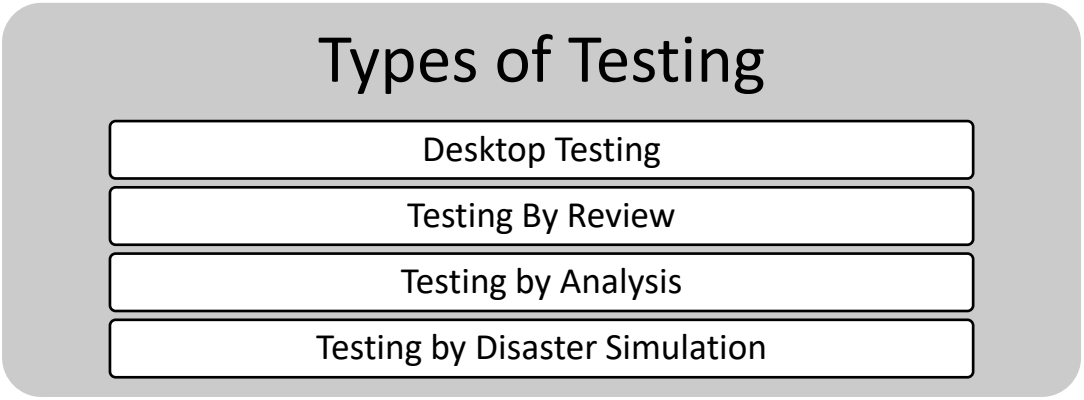
Unit Standard	
252025	Monitor, assess and manage risk
Specific Outcomes	
SO4: Test and revise contingency plans.	
Learning Outcomes	
• Testing a contingency plan in accordance with the entity's risk management procedures • Revising and making improvements to contingency plans	

TESTING A CONTINGENCY PLAN IN ACCORDANCE WITH THE ENTITY'S RISK MANAGEMENT PROCEDURES

It has often been said that a plan isn't a plan until it has been tested. The adage that plans must be maintained to accommodate change is also well known. Despite this awareness, surprisingly large numbers of organisations commit significant resources to contingency plan development only to see the value of the investment dwindle as time passes. This wasteful attrition is usually due to an unwillingness to test and maintain the very plans that were created for organisational survival. This usually occurs when a company has been fortunate enough to not experience a crisis for a prolonged period. The ensuing complacency lures the organisation into the classic "it's not broken" trap!

Contingency plans are extremely dynamic. Things change. Most emergency and contingency operations usually require a complete rewrite of all procedures every five years. These rewrites should be based on a refinement of requirements, exploit new technology and use fresh eyes to look at old solutions to new problems. This process is called plan maintenance.

Once you have carried out a risk analysis and management exercise, it is important to carry out regular reviews. These might involve formal reviews of the risk analysis or may involve testing systems and plans appropriately. Full testing of the contingency plan against such scenarios is essential- not least to make sure that it works. Most businesses take this very seriously, undertaking full and comprehensive testing of the plan when it is first developed. However, many struggles to test the plan in full again for several years due to the disruption of operations and the staff time involved.



Desktop Testing

Many businesses use a "desk-top" approach to full testing - whereby messages and situation reports are relayed to a select group of managers to test their reactions and to challenge the plan. This enables the whole or part of the contingency plan to be reviewed every six to twelve months. Full "live" testing is undertaken less frequently, for example when significant changes to the plan have been made.

The downside of such an approach is that most members of staff are not involved in the "desktop" process, which typically only involves the members of the Crisis Management Team. This is often compensated for by regular rehearsals of procedures involving all employees, such as fire drills. However, more often than not these exercises seek to practice a routine and do not challenge participants by obliging them to consider what they should do if things do not go to plan. In real life situations, however, exit routes may be blocked, communication systems can fail, and key managers may not be on duty at the time of the incident. It is therefore the ability of staff to react in these circumstances, split second decision making and the bravery of individuals that find themselves face to face with the impact of the disaster that often saves lives.

Increasing the involvement of employees in the full testing of the plan and during rehearsal exercises to test their responses is likely to ensure that they are better prepared should a serious incident take place.

Spicing up rehearsals of procedures with a few unforeseen complications will simulate real life incidents more closely, force people to think more carefully about what they are required to do and provide a more effective challenge to the process.

Testing by Review

A review can be a simple test to check the accuracy of contingency plan documentation. For instance, a reviewer could check if individuals listed are still in the organisation and still have the responsibilities that caused them to be included in the plan. This test can check home and work telephone numbers, organisational codes, and building and room numbers. The review can determine if employees know emergency procedures.

Testing by Analysis

An analysis may be performed on the entire plan or portions of it, such as emergency response procedures. It is beneficial if the analysis is performed by someone who did not help develop the contingency plan but has a good working knowledge of the critical function and supporting resources.

The analyst(s) may mentally follow the strategies in the contingency plan, looking for flaws in the logic or process used by the plan's developers. The analyst may also interview functional managers, resource managers, and their staff to uncover missing or unworkable pieces of the plan.

Testing by Disaster Simulation

Organisations may also arrange disaster simulations. These tests provide valuable information about flaws in the contingency plan and provide practice for a real emergency. While they can be expensive, these tests can also provide critical information that can be used to ensure the continuity of important functions. In general, the more critical the functions and the resources addressed in the contingency plan, the more cost-beneficial it is to perform a disaster simulation.

Summative Assessment: Risk Assessment Report

Time Frame: 70 hours

Part 2:

Learning Unit 1:

Understanding the Basics of Accounting

Unit Standard	
252040	**Manage the finances of a unit**
Specific Outcomes	
Demonstrate an understanding of the key concepts of managerial finance	
Learning Outcomes	
Explain the accounting cycle by means of a diagram. Explain accounting conventions applied in the financial management of a unit with examples.	

INTRODUCTION

An important part of managing any business unit understands the numbers. As a manager, you may have income, expenditure or profit targets to meet. You may also have budgets that you have to live within or possibly even be involved in setting.

Sometimes you may need to predict (or forecast) sales or other targets in order to know what purchases need to be made in the first place. Managers are often also asked to look at financial reports and interpret them in order to be in a better position to make a decision.

For some managers, the 'numbers' can be quite daunting, as their specialisation is often more related to what they are managing, as opposed to the numbers behind what they are managing.

However, it is important to realise that everything ultimately relates back to the bottom line of the business and that the numbers cannot be ignored.

This learning programme is intended for non-financial managers.

The aim is to equip any manager with a good grasp of the basics and ultimately build a degree of confidence in managing their own numbers.

This course will take you through each step.

What is the Difference Between Financial Management and Accounting?

Very simply, accounting is about recording how money is spent and financial management is about controlling how money is spent. Financial management requires an understanding of accounting records in order to exert better control.

In this course, you will learn some basics of accounting records and then you will learn how to analyse these records and make decisions accordingly.

THE BASICS OF ACCOUNTING

A lot of managers find 'numbers' daunting simply because they do not have the accounting background in order to understand how the numbers got there in the first place.

This section will take you through the basics of how accountants actually create the financial reports, which include things like a Balance Sheet, Income Statement and Cash Flow Statement.

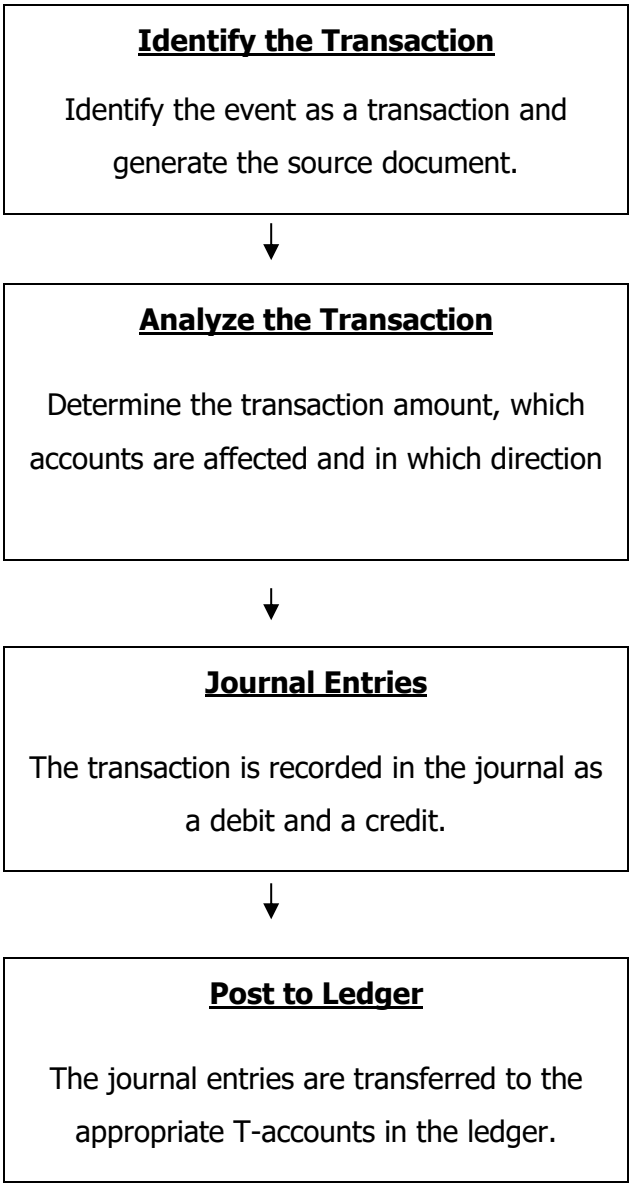
THE ACCOUNTING CYCLE

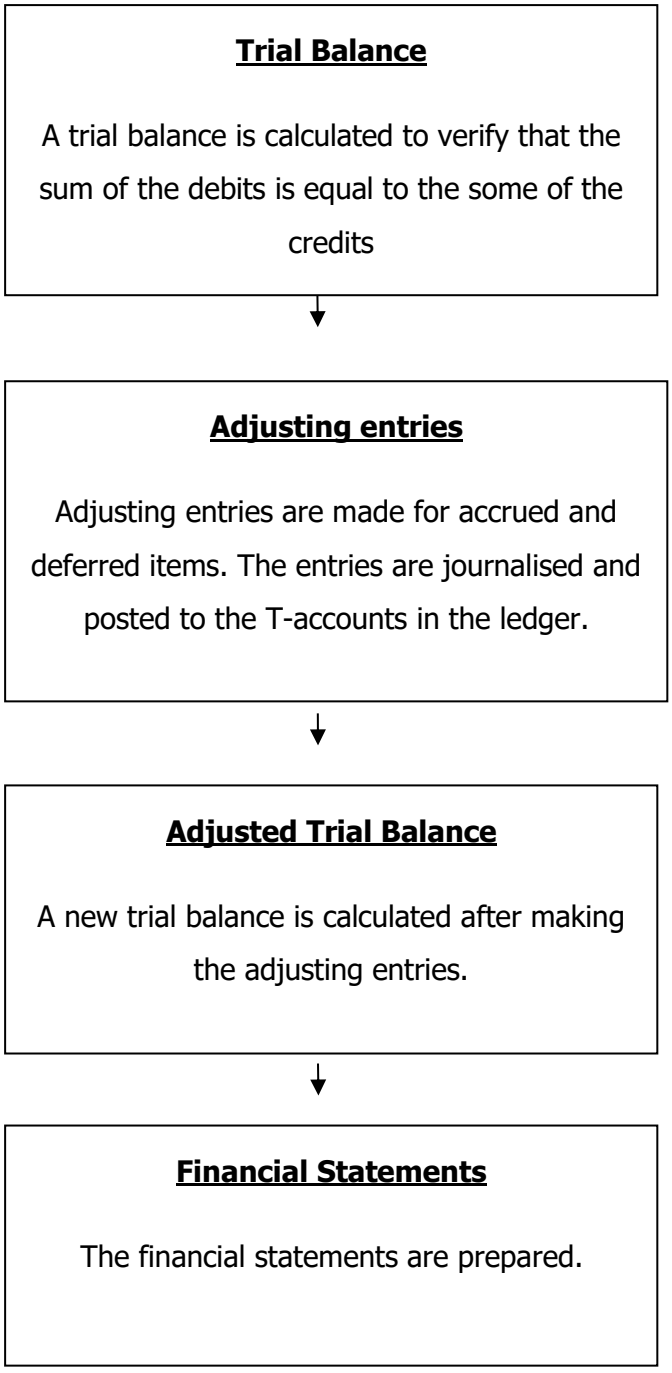
Accountants work through a cycle called the Accounting Cycle.

A manager does not need to go into great depth in terms of understanding the accounting behind the financials; however, it does help to have a basic idea of where the numbers are coming from.

The accounting profession is made up of various degrees of qualifications. You get accountants, chartered accountants, financial accountants, management accountants, auditors and bookkeepers.

The Accounting Cycle is illustrated:




Trial Balance
A trial balance is calculated to verify that the sum of the debits is equal to the some of the credits
Adjusting entries
Adjusting entries are made for accrued and deferred items. The entries are journalised and posted to the T-accounts in the ledger.
Adjusted Trial Balance
A new trial balance is calculated after making the adjusting entries.
Financial Statements
The financial statements are prepared.

Let us work through each step of the cycle: -

Step one:

Identify the Transaction

Identify the event as a transaction and generate the *source document*.

Transactions will include things like purchases, making a sale and issuing credit. Source documents are the documents that show proof of the transaction. Source documents include things like invoices, receipts, cheque counterfoils and credit notes.

Step two:

Analyze the Transaction

Determine the transaction amount, which accounts are affected and in which direction.

The transaction amount will be the amount in Rands of the purchase or sale etc. Accountants will then enter the transaction amount into the *accounts*. Accounts are the opened for each element of a financial statement and all the transaction amounts that apply to that particular item is recorded in the relevant account. Accounts are divided into two symmetrical sections called *debits* and *credits.* The debit section is shown on the left-hand side and the credit section is shown on the right-hand side.

The side on which the transaction is captured depends on whether the transaction increases or decreases the particular asset or liability or income or expense. For example, if there was increase in the asset account, the entry would be recorded on the debit side of the account. If the asset had decreased, the entry would be recorded on the credit side of the account.

Which side of the accounts need to be debited and which side of the accounts need to be credited can often be confusing to the non-accountant. For the purposes of this course, it is not essential for you to grasp accounting concepts in detail, however some examples of debits and credits are shown in the tables below:

Table depicting examples of debits and credits for expenses and incomes:

Debits (usually expenses)	***Credits (usually incomes)***
Cost of sales	Sales
Wages	Rent income
Water and electricity	Interest on a fixed deposit
Salaries	Discount received
Telephone	Bad debt recovered
Stationery	Provision of bad debt
Depreciation	Profit on sale of assets
Interest paid	Interest received

Table depicting examples of debits and credits for assets and liabilities:

Debits (usually assets)	***Credits (usually liabilities)***
Fixed assets such as land, buildings, vehicles and equipment	Long term liabilities such as non-current loans.
Financial assets such as fixed deposits, fixed investments and any other deposits.	Current liabilities such as overdrafts and income received in advance.
Current assets such as inventory or prepaid expenses.	Dividends or distributions to members.

Accountants follow what is called "*The Double Entry Rule".* An accounting equation must always balance, so a transaction always affects two elements at the same time. One element will be debited, and one element will be credited.

Let us look at a couple of very basic accounting examples:

Example 1

- On the 11th January 2009, wages were paid to an employee by the name of Andrew Smith in the amount of R500.

The wages account would be debited by R500 and the bank account would be credited by R500 at the same time, in line with the double entry rule.

Example 2

- On the 12th January 2009, the organisation received an amount of R350 from a customer for services that were rendered.

The bank account would be debited by R350 and the services rendered account would be credited by R350 at the same time in line with the double entry rule.

Step three:

Journal Entries

The transaction is recorded in the *journal* as a debit and a credit.

Once the accountant knows which accounts to debit and which accounts to credit, the records are made in the *books of first entry* or *Journals*. The examples used in Step two are shown as journal entries below:

THEMBA'S CLOTHING

General journal for January 2009

Date		Debit	Credit
11/01/2009	**Dr Wages**	**R500**	
	Cr Bank		**R500**
12/01/2009	**Dr Bank**	**R350**	
	Cr Services Rendered		**R350**

Step four

Post to Ledger

The journal entries are transferred to the appropriate T-accounts in the *ledger*.

The ledger is simply a summary of the transactions that were recorded in the journals. The example from Step two and Step three are shown in a simple ledger below. *CPJ* stands for "Cash Purchases Journal" and *CRJ* stands for "Cash Receipts Journal."

Dr. (+)	**(Wages) 1**						**(Cr. (-)**
Date	**Details**	**Folio**	**R**	**Date**	**Details**	**Folio**	**R**
11-01-2009	Cash	CPJ	500				

Dr. (+)	**(Bank) B1**						**(Cr. (-)**
Date	**Details**	**Folio**	**R**	**Date**	**Details**	**Folio**	**R**

11-01-2009	Services rendered **Balance**	CPJ c/d	350 150 **500**	11-01-2009 01-02-2009	Wages 2009 Balance	CPJ b/d	500 **500** 150

Dr. (+)	**(Services Rendered) I2**						**(Cr. (-)**
Date	**Details**	**Folio**	**R**	**Date**	**Details**	**Folio**	**R**
				11-01	2009 Bank	CRJ	350

Step five:

<u>Trial Balance</u>

A *trial balance* is calculated to verify that the sum of the debits is equal to the some of the credits

A trial balance is a list of all the balances of the accounts that were depicted in the general ledger. The trial balance can be used to confirm that the total of accounts with debit balances still equals the total of the accounts with credit balances. The example as carried over from Step four is shown below:

THEMBA'S CLOTHING

Trial balance as at 31 January 2009

	Folio	Debit R	Credit R
Balance Sheet Section			
Bank	B1		150
Income Statement Section			
Wages	I1	500	
Services Rendered	I2		350
		500	500

Step six:

Adjusting entries

Adjusting entries are made for accrued and deferred items. The entries are journalised and posted to the T-accounts in the ledger.

In accounting, adjustments are made at the end of the financial year to reflect any transactions that did not appear in the source documents. These adjustments are made for the sake of accuracy. Adjusting entries would need to be made in the journal and the ledger.

For example, let us say that wages were incorrectly entered at R500, and the correct amount was actually R450. Let us also so that one of the tenants in the building (S Tato) owed R1200 for rent for the month, but she paid R1800 and this entry was not recorded. The adjustments would need to be reflected in the journal and ledger as follows:

THEMBA'S CLOTHING: General journal for January 2009

No	Detail	Debit	Credit
1.	Dr. Bank	500	
	Cr. Wages		500
	(Correction of error)		
2.	Wages	450	
	Bank		450
	(Current amount for wages)		
3.	Rent Paid	1200	
	Bank		1200
4.	Pre-paid expenses	600	
	Rent Paid		600

General Ledger

Dr. (+)	(Wages) B1						(Cr. (-)
Date	**Details**	**Folio**	**R**	**Date**	**Details**	**Folio**	**R**
11-01-2009	Bank		500	11-01-2009	Bank		500
	Bank		450	30-01-2009	Balance c/f		450
			950				950
01-02-2009	Balance b/d		450				

Dr. (+)	(Bank) B2						(Cr. (-)
Date	**Details**	**Folio**	**R**	**Date**	**Details**	**Folio**	**R**
11-01-2009	Wages		500	11-01-2009	Wages		500
					Wages		450
	Balance c/f		1650	21-01-2009	Rent		1200
	Bank		2150				2150
				01/02/2009	Balance b/d		1650

Dr. (+)	(Rent) B3						(Cr. (-)
Date	**Details**	**Folio**	**R**	**Date**	**Details**	**Folio**	**R**
21-01-2009	Bank		1200	21-01-2009	Pre-paid Expenses		600
				30/01/2009	Balance c/f		600
			1200				1200
01/02/2009	Balance b/d		600				

Dr. (+)	(Pre-paid Expenses) B4						(Cr. (-)
Date	**Details**	**Folio**	**R**	**Date**	**Details**	**Folio**	**R**
	Rent		600				

Step seven:

Adjusted Trial Balance

A *new trial balance* is calculated after making the adjusting entries.

Once the adjustments have been made, a new trial balance has to be drawn up. The example is depicted below:

THEMBA'S CLOTHING

Adjustment trial balance as at 31 January 2009

Details	Folio	Debit: R	Credit: R
Wages	B1	450	
Bank	B2		1650
Rent	B3	600	
Prepaid Expenses	B4	600	
		1 650	1 650

Step eight:

Financial Statements

The financial statements are prepared.

The financial statements are then prepared from the trial balance.

Individual Formative Exercise 1A:

Complete Exercise 1A in your Portfolio of Evidence.

Time Frame: 15 min

ACCOUNTING CONVENTIONS

An accounting convention is a common practice that is universally followed in recording and presenting accounting information. Accounting conventions help in comparing accounting data across business units. It is important for a manager to be aware of these accounting conventions when interpreting financial reports.

Some accounting conventions are explained in the table below: -

Accounting Convention	Explanation
Consistency	The same accounting principles should be used to prepare financial statements year after year. For example, depreciation on fixed assets is calculated using the same method each year.
Going concern	Accountants assume, unless there is evidence to the contrary, that a company is not going broke. This in turn has important implications for the valuation of assets and liabilities.
Prudence	Profits are not recognised until a sale is completed and costs are provided for in the accounts as soon as there is a reasonable chance that they may occur.
Realisation	Accounts recognise transactions at the point of sale or at the point of contract, rather than when payment is made.
Disclosure	Material and relevant facts are disclosed to interested parties such as shareholders or investors. Disclosure may be adequate, fair or full.
Objectivity	Accounting information is reported in a neutral way and is not biased.

Matching	Income should be properly "matched" with expenses in a given accounting period.

Individual Formative Exercise 1B:

Complete Exercise 1B in your Portfolio of Evidence.

Time Frame: 15 min

Learning Unit 2: The Financial Reports

Unit Standard	
252040	**Manage the finances of a unit**
Specific Outcomes	
Demonstrate an understanding of the key concepts of managerial finance. Interpret financial statements.	
Learning Outcomes	
Explain your financial reports with examples (Financial reports include audit reports, income statement, cash flow statement and balance sheet) Analyse financial statements and evaluate for authenticity and accuracy.	

INTRODUCTION

The previous Learning Unit demonstrated on a basic level how financial reports are arrived at. As a manager, you probably will not get too involved in the accounting behind these reports; however, you will be required to analyse the reports in order to make decisions. In this section, the elements of the financial reports will be explained in more detail.

Different forms of business will have different legal requirements in terms of financial reports:

Sole proprietorship (1 owner):

- The owner has a personal interest in the business.

- Not necessary to publish and audit financial statements.

Partnerships (2-20 partners)

- Partners have a personal and unlimited liability for the debts of the partnership.

- It is not necessary to publish and audit the financial statements.

Private Company (1-50 directors /shareholders – Pty Ltd)

- Financial statements must be drawn up and must be audited by a chartered accountant, but not compulsory to publish.

Public Company (+7 people – Ltd)

- Financial statements must be drawn up and must be audited by a chartered accountant.

- Compulsory disclosure of statements and constitution of the company's affairs.

Close Corporation (1-10 members – CC)

- Financial statements are only required in simplified form, not necessary to audit or publish.

The Balance Sheet

A Balance Sheet is very simply a statement of position at a given date. It is like a snapshot at the close of a given day of a business.

The balance sheet lists all the money owned or owed to a business (the *assets*) and the money owed by a business (the *liabilities*).

The balance sheet also includes what the owners or shareholders have put into the business (in other words the source of financing of the business) otherwise known as the shareholder's *equity*.

The Balance Sheet is stated as:

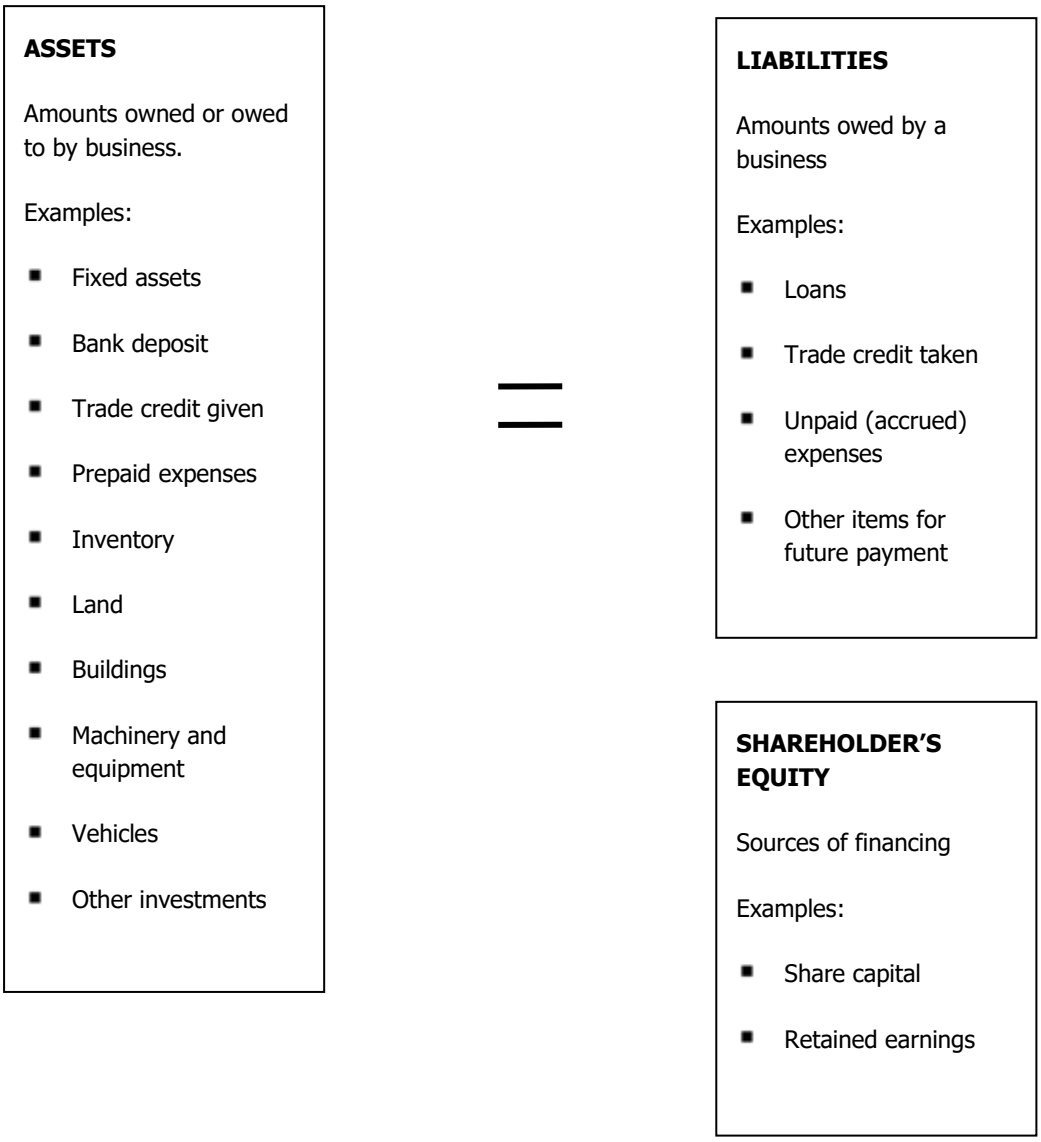
ASSETS = LIABILITIES + EQUITY

Basically, you would always want to own more than you owe. So, your assets should therefore not only be equal to any liabilities (loans you may have taken), but also the actual financing that you have put into the business.

Arithmetically, shareholders equity always equals assets less liabilities.

The diagram illustrates what goes into a balance sheet:

The Balance Sheet: Assets equal Liabilities plus Shareholder's Equity



Some Balance Sheets that you come across will be laid out vertically and others horizontally.

Assets and liabilities may be classified as short term (current assets and current liabilities) or as long term. Short term assets and liabilities are usually those recorded as of the current financial year, whereas long term assets and liabilities are those that are recorded over periods greater than one year.

Let's look at the example Balance Sheet below: (Thousands of rands)

Summer Trading (Pty) Ltd

Balance Sheet as at 30 September 2009

	2004	**2005**
ASSETS	**R**	**R**
Current assets		
Cash at bank	10 000	10 000
Accounts receivable	35 000	30 000
Inventory	25 000	20 000
Total current assets	**70 000**	**60 000**
Fixed assets		
Plant and machinery	20 000	20 000
less depreciation	(12 000)	(10 000)
Land	8 000	8 000
Intangible assets	2 000	1 500
Total fixed assets	**18 000**	**19 500**
TOTAL ASSETS	**88 000**	**79 500**
LIABILITIES		
Current liabilities		
Accounts payable	20 000	15 500
Taxes payable	5 000	4 000
Total current liabilities	**25 000**	**19 500**
Non-current liabilities		
Loans – non-current	15 000	10 000
Total non-current liabilities	**15 000**	**10 000**

TOTAL LIABILITIES	**40 000**	**29 500**

SHAREHOLDER'S EQUITY

Paid-in share capital	40 000	40 000
Retained earnings	8 000	10 000
TOTAL SHAREHOLDER'S EQUITY	**48 000**	**50 000**
LIABILITIES AND SHAREHOLDER'S EQUITY	**88 000**	**79 500**

As you can see, total liabilities and shareholder's equity equal total assets.

Let's break down some of the main elements that could show on a Balance Sheet:

Element of Balance Sheet	Explanation
ASSETS	Economic resources that are expected to produce economic benefits for their owners. Assets can be buildings, vehicles or machinery, but they can also be patents or copyrights that provide financial advantages.
Current assets	Assets that are usually converted to cash within a period of one year. Creditors will closely monitor a firm's current assets.
Types of current assets: -	
Cash and bank deposits	These are the most liquid of current assets and are used to pay the bills. (Transactional bank deposits are also regarded as cash).
Cash equivalents	These are not cash but can be converted into cash easily. (examples include securities and money market funds)
Accounts receivable	Money that should be collected from customers. Due to the fact that a lot of business is done on credit, this item often forms a significant part of the balance sheet. The notes to the accounts should show long standing debts and provision should be made for any bad debts. A

	manager should check to see if receivables are growing more quickly than sales, as this could mean trouble for the organisation.
Inventory	Inventory includes raw materials, part completed items in progress and completed items. A manufacturing entity will have all three types of inventory, while a retail entity will only have completed items. The extent to which inventory can be turned into cash will vary and the underlying true market value of inventory will also vary. The notes to the accounts will provide more information in this regard. A manager should watch to see that inventory is not growing faster than sales as this could mean a slowdown in sales.
Pre-paid expenses	These are amounts paid in advance (for example rentals). Pre-paid expenses can be difficult to turn back into cash, but as long as the business is operating, they are considered a measure of stored value.
Long –term assets	Assets with a life of greater than one year.
Types of non-current assets: -	
Fixed assets	Tangible assets with a useful life greater than one year. Examples include buildings, property, equipment, machinery, production plants and vehicles. These are valued at total acquisition cost. Fixed assets are important as they represent long term, illiquid investments. The notes to the accounts may give more detail on the fixed assets.
Depreciation or accumulated depreciation	The process of allocating the original purchase price of a fixed asset over the course of its useful life. Depreciation appears as a deduction from the original value of the fixed assets. There are different ways in which depreciation can be calculated and the manager should be aware which method has been used. (Refer to section 4.3.1.1 for more detail on depreciation).
Intangible assets	Non-physical assets such as copyrights, franchises and patents. It is not always easy to estimate the value of an intangible asset. For some organisations, an intangible asset can prove to be very valuable. Intangible assets are usually shown separately from tangible assets or fixed assets.

LIABILITIES	Obligations that an organisation owes to outside parties or the rights of others to the services or money of the organisation. Examples include debts to suppliers, debts to employees and bank loans.
Current liabilities	Those obligations that are usually paid within the year.
Types of current liabilities: -	
Accounts payable	Debts owed to suppliers for the purchase of goods and services. (for example, the company buys their goods "on account")
Taxes payable	Any taxes that are payable in accordance with the legislation.
Short-term loans	Borrowings from banks or other lenders that is repayable within 12 months.
No current liabilities	A debt owed over a period greater than one year, often paid in instalments. The portion to be paid off in the current year is considered a current liability.
Types of non-current liabilities: -	
Non-current loans	More structured kind of borrowing over periods greater than one year. Managers should note that long –term borrowing should be matched against non-current assets. If short-term borrowing is being used to finance non-current assets the organisation could be in trouble.
Provisions	Balance sheets may also include provisions or contingent liabilities (probable future costs or losses where the timing is not certain)
SHAREHOLDER'S EQUITY	The value of a business to its owners after all of its obligations has been met. This is generally reflected by the amount of capital invested by the owners, as well as any profits re-invested.
Share capital	The book value of money raised by issuing equity or shares.
Treasury stock	The company's holding of its own stock repurchased in the open market.

Retained earnings	The reinvested profits or profits not distributed as dividends. Net profit less dividends is equal to retained earnings.

Now that you have an understanding of Balance Sheets, let's do some activities using other examples of Balance Sheets. Ultimately, you will need to be able to interpret your own organisation's Balance Sheets.

Individual Formative Exercise 2A:

Complete Exercise 2A in your Portfolio of Evidence.

Time Frame: 15 min

If you understand the concept of a Balance Sheet, you should not be afraid to tackle any kind of Balance Sheet, no matter how complicated. The layout of a Balance Sheet will follow the same basic structure, but there may be some things in the balance sheet you have not come across before. If this is the case, then do not be afraid to research the things you do not understand. The following exercise will help to build your confidence.

Individual Formative Exercise 2B

Complete Exercise 2B in your Portfolio of Evidence

Time Frame: 30 min

THE INCOME STATEMENT

The Income Statement (or Profit and Loss Account) is basically the organisation's record of sales and costs for a specified period of time, usually a month, quarter or year. The bottom line of the Income Statement is the bottom line of the organisation or the net profit or loss.

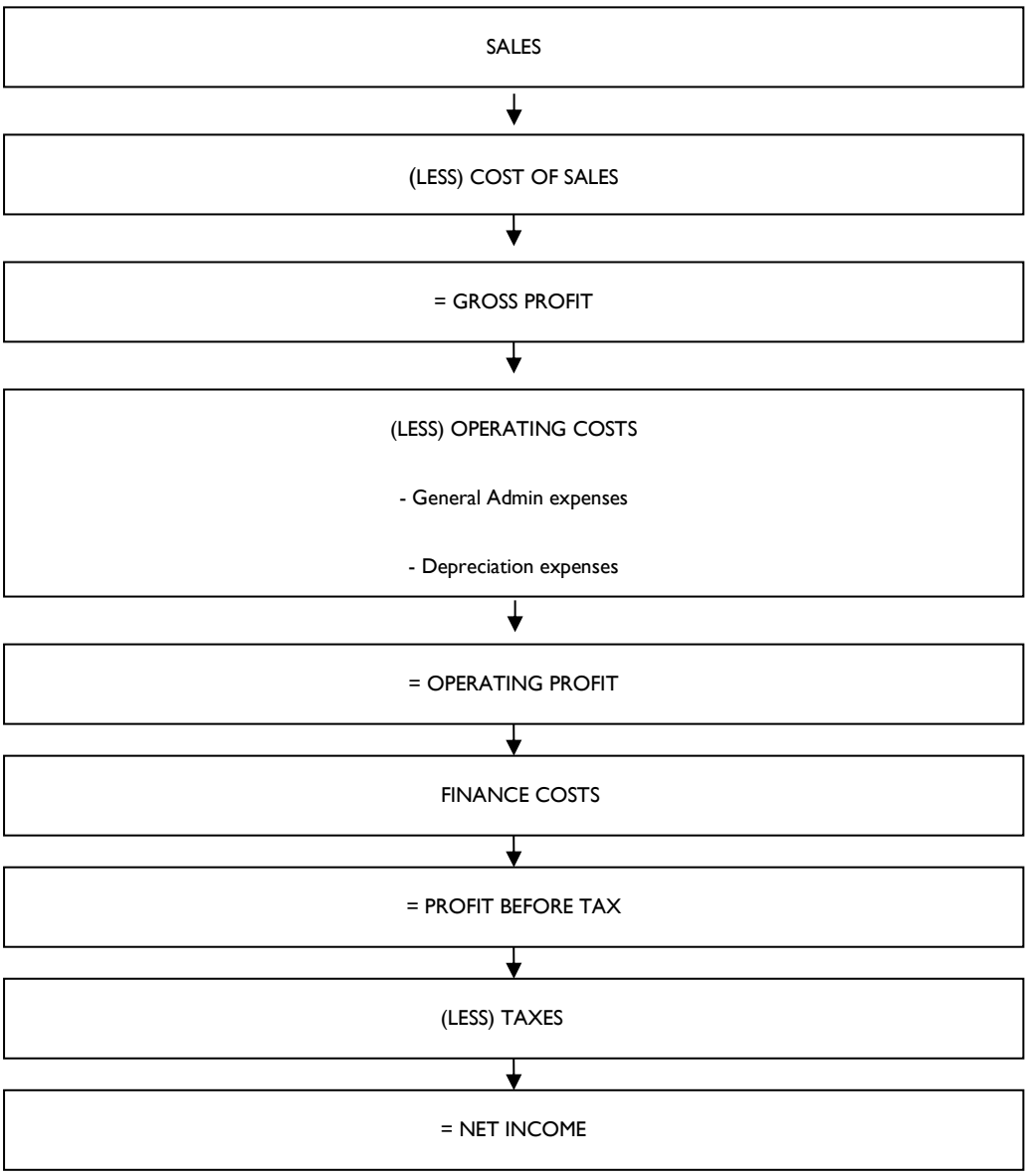
The simplest equation to describe an Income Statement is:

NET INCOME = REVENUE - EXPENSES

The Income Statement does not include capital transactions such as investments, fixed assets or borrowing; however, it does include the current income and costs related to these items such as interest and depreciation.

The diagram below illustrates a typical format of an Income Statement:

A typical format of an Income Statement



Income statements are not all structured exactly the same; however, this example is a typical income statement format.

Arial Trading (Pty) Ltd (Thousands of rands)

Income Statement for the year ended 28 Feb 2009

	R
Income	
Sales	4 076
(Less) Cost of Sales	
Cost of goods sold	(3 207)
Gross Profit	**869**
Operating Expenses	
General Admin/ business expenses	(227)
Depreciation expenses	(206)
Total Operating Expenses	**(433)**
Operating Income	**436**
Interest expense	(3)
Earnings before Taxes	**433**
Taxes	165
Net Income	**268**

Let's break down some of the main elements that could reflect on an Income Statement:

Element of Income Statement	Explanation
INCOME	The revenue or turnover of an organisation. The inflows from the delivery or manufacture of a product or from the rendering of a service. Income could be reflected by Sales, Revenue or Turnover.
Sales (also sometimes referred to as Revenue or Turnover)	Money derived from selling the company's product or service.
Cost of Sales	Includes all the spending *directly* associated with sales. For wholesalers and retailers, the cost of sales is essentially the prices paid to acquire the services or goods that will be resold. For manufacturers, the cost of sales is all the spending directly attributed to production (examples would include raw materials, factory overheads and wages). Cost of sales could also include research and development costs. By implication, cost of sales requires a calculation – these calculations could vary from very simple to more complexes, depending on the type of organisation. An example of a Cost of Sales calculation would be *Opening Stock + Cost of Purchasing – Closing Stock.* It is important to note that cost of sales does not include *indirect* costs (costs which cannot be directly attributed to sales and production.) Cost of sales is always a contra-entry as it is a cost.
GROSS PROFIT	The Sales less the Cost of Sales is the Gross Profit.
Operating Expenses	All expenses related to administering the business and marketing and distributing the product or service. Operating expenses might include rent, telephone, wages, water and electricity, advertising, bank charges, insurance, fees, salaries, repairs and other expenses. Depreciation is also considered an operating expense.

OPERATING PROFIT (OR LOSS)	Operating profit (or loss) is calculated by deducting Operating Expenses from Gross Profit. This is the core of the income statement.
Finance costs / Revenue or expenses / Gains or losses that are not part of the company's normal operations.	These could include interest paid on loans, interest received on deposits and investment income.
PROFIT (OR LOSS) BEFORE TAX	This is the operating profit (or loss) less the other revenue / expenses or gains or losses that are not part of the company's normal operations.
Tax	Company taxes that are payable in accordance with legislation. These would be based on taxable income.
NET PROFIT (OR LOSS)	This is the net income (or loss) after tax.

Now that you have an understanding of Income Statements, let's do some activities using other examples of Income Statements. Ultimately, you will need to be able to interpret your own organisation's Income Statements.

Individual Formative Exercise 2C:

Complete Exercise 2C in your Portfolio of Evidence.

Time Frame: 15 min

If you understand the concept of an Income Statement, you should not be afraid to tackle any kind of Income Statement, no matter how complicated. The layout of an Income Statement will follow the same basic structure (with some variations), but there may be some things in the Income Statement

you have not come across before. If this is the case, then do not be afraid to research the things you do not understand. The following exercise will help to build your confidence.

Individual Formative Exercise 2D

Complete Exercise 2D in your Portfolio of Evidence

Time Frame: 30 min

The Cash Flow Statement

The Cash Flow Statement is the third major financial statement. Income Statements show the passing relationship between money that changes hands, while the Cash Flow Statement focuses on changes in liquidity.

A Cash Flow states the sources and uses of funds and explains the changes in cash and cash equivalents over the period of accounts.

Cash flows can be done using one of two methods, the *direct* method or the *indirect* method. Cash flow statements do not include the amounts recorded from credit, only cash.

Let us start by explaining the *direct* method.

The direct method directly shows receipts from customers and payments to suppliers. Let's look at the example below:

Autumn Consulting (Pty) Ltd
Cash flow statement

	R
Cash receipts from sales	400 000
Cash paid to suppliers	(80 000)
Cash paid to employees	(100 000)
Cash generated from operations	**220 000**
Interest paid	(1 000)
Interest earned	2 000
Taxes	(20 000)
Net cash generated by operating activities	**201 000**

The direct method cash flow statement is fairly self-explanatory.

Let us now look at the *indirect* method. This method is used more frequently and is essentially the reversing out of non-cash items from the net-income. The indirect cash flow looks at the three components by which cash enters and leaves a company: core operations, investing and financing.

Operations

The operations component reflects how much cash is generated from a company's products or services. Generally speaking, changes made in cash, accounts receivable (receipts from customers), depreciation, inventory, and accounts payable (payments to suppliers and employees) are reflected in cash from operations.

Cash flow is calculated by making certain adjustments to net income, by subtracting or adding differences in revenue, expenses and credit transactions resulting from transactions that occur from one period to the next. These adjustments are made because non-cash items are calculated into net income (from the Income Statement) and total assets and liabilities (from the Balance Sheet).

Examples of adjustments that are made to calculate cash flow are:

- Depreciation is added back into net income. (This is because depreciation is an amount deducted from the total value of an asset and is not an actual cash expense).
- Changes in accounts receivable from one accounting period to the next are reflected. If accounts receivable decreases, then more cash have entered the company (more people are paying off their credit) and this is then added to net income. If accounts receivable increases then this is deducted from net income, because these amounts are not cash, but credit.
- If inventory increases, then more money has been spent. If the inventory was purchased with cash, the increase in the value of the inventory is deducted from net income. A decrease in inventory implies that more cash is coming in and this would therefore be added to net income. However, if inventory was purchased on credit, an increase in accounts payable would occur and the increase in the amount would be added to income.
- The same logic holds true for salaries payable, taxes payable and prepaid insurance. If something has been paid off, then the difference in the value owed from one year to the next has to be deducted from the net income. If there is an amount that is still owed, then this would reflect as in increase in the net income.

Investing

Investing activities are the acquisition and disposal of non-current assets and investments not included in cash equivalents. When an investment is made, this is a "cash-out "item. When a company divests of an asset, this is a "cash-in" item.

Financing

Financing activities result changes in the size and composition of the organisation's capital and borrowings.

Examples: When capital is raised, this is a "cash-in" item. When dividends are paid, this is a "cash-out" item. If bonds are issued, this is a "cash-in" item, however if interest is paid to bondholders, this is a "cash-out" item.

The following example is an illustration of a basic cash flow statement using the indirect method.

Jackson's Trading

Cash Flow Statement for the year ended 31 December 2008

Cash flow from operations

Net earnings	2 000 000
Additions to cash	
Depreciation	10 000
Decrease in Accounts Receivable	15 000
Increase in Accounts Payable	15 000
Increase in Taxes Payable	2 000
Subtractions from cash	
Increase in Inventory	(30 000)
Net Cash from Operations	2 012 000

Cash flow from investing

Equipment	(500 000)

Cash flow from financing

Interest payable 10 000

CASH FLOW FOR THE YR ENDED 31 DEC 2005 1 522 000

Looking at the above example, the bulk of the positive cash flow stemmed from operations, which is a good sign for investors as this means there is enough money to buy new inventory. The purchasing of new equipment is a sign of growth, while cash is available to pay any loans.

Not all cash flow statements exhibit a positive cash flow. However, a negative cash flow is not always a bad thing if, for example, the company is undergoing an expansion.

The Cash Flow statement reveals the following:-

- Cash earnings
- How the organisation is utilising its funds
- How the organisation is being financed
- Any need for outside financing
- The ability of the organisation to obtain outside financing
- The organisation's investments or divestments
- The organisation's ability to generate future cash flows.
- The organisation's ability to meet its obligations

In summary, cash flow is essentially a key indicator of the organisation's health.

Now that you have an understanding of Cash Flow Statements, let's do some activities using other examples of Cash Flow Statements. Ultimately, you will need to be able to interpret your own organisation's Cash Flow Statements.

Individual Formative Exercise 2E

Complete Exercise 2E in your Portfolio of Evidence.

Time Frame: 15 min

If you understand the concept of a Cash Flow Statement, you should not be afraid to tackle any kind of Cash Flow Statement, no matter how complicated.

The layout of a Cash Flow Statement will follow the same basic structure (with some variations), but there may be some things in the Cash Flow Statement that you have not come across before.

If this is the case, then do not be afraid to research the things you do not understand. The following exercise will help to build your confidence.

Individual Formative Exercise 2F

Complete Exercise 2F in your Portfolio of Evidence

Time Frame: 15 min

THE AUDIT REPORTS

An audit checks to see that the financial statements comply with reporting regulations are a true view of the state of affairs in the organisation. An auditor will also look out for any suspicious activity such as possible fraud. If an auditor finds something that appears is not being done properly, he or she will *qualify* the report with suitable warnings? If a report has been qualified by an auditor, it generally means that the organisation has to deal with the issues raised.

Learning Unit 3: Interpreting Financial Statements

Unit Standard	
252040	**Manage the finances of a unit**
Specific Outcomes	
Interpret financial statements.	
Learning Outcomes	
Apply ratios to measure the profitability and liquidity of an entity. Apply ratios to measure the working capital and asset utilisation of an entity. Apply ratios to measure the return of an entity. (Return ratios include return on equity, return on investment and debt ratio) Make recommendations regarding the profitability of, liquidity, working capital, and return and resource utilisation by using results obtained from ratio application.	

INTRODUCTION

Financial reports were introduced in the previous Learning Unit, along with explanations of each type of report. These financial reports provide information about an entity's financial position and its financial performance over a period of time. However, it also important for managers to measure long term trends of performance.

The four key areas of measurement are:

- **Efficiency:** looks at how effectively an organisation is managing its assets
- **Liquidity:** a measure of how easily an organisation's assets can be converted to cash.
- **Profitability:** provides information about whether the performance is improving or getting worse.
- **Capital structure:** provides information about whether owner's capital or borrowed capital is used.

Financial analysis and interpretation are used to help with these areas of measurement. Ratio analysis is a form of financial analysis. A ratio measures the relationship between two measurable items by dividing one item by another item. A financial ratio is a relationship between two different items from the financial statements and can consist of figures taken from both the Balance Sheet and the Income Statement. Once the ratios are calculated, they can then be interpreted.

Ratio analysis can assist a manager to answer questions such as:-

- How effectively are assets being managed?
- How much debt can we afford?
- Is there enough cash to pay short –term debts?

Ratios can be used not only to analyse one's own financial reports, but also published competitor's and other relevant companies published reports. The following sections explain the different ratios.

LIQUIDITY

Cash flow projections are the best measures of liquidity, but liquidity ratios can also be used. It is important to note that liquidity ratios are not current measures of liquidity, but historical measures of liquidity, as they draw on information from the financial statements that have been prepared.

Liquidity ratios essentially answer the question:

- What is our ability to pay short term debt?

If an organisation is liquid, it will be able to settle its debts when they become due, without having to sell any assets. If an organisation is not liquid, it will need to take action, such as improving its debt collecting or negotiating later payment dates with suppliers.

The *current ratio* and the *quick ratio* measure liquidity. The numbers for these ratios can be found on the Balance Sheet. Events from these calculations therefore cannot be compared across different points in time, as the Balance Sheet is a reflection of a single point in time.

The Current Ratio

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

How to interpret the ratio:

Current assets will provide the necessary cash to pay current liabilities. The bigger the ratio, the lower the risk that short-term debt will not be paid. The current ratio is expressed as a multiple of one. For example, 2:1 means that current assets are twice the amount of current liabilities. If the calculation is less than 1, then current liabilities are greater than current assets.

The Quick Ratio (or Acid Test Ratio)

$$\text{Quick ratio} = \frac{\text{Current Assets} - \text{Inventory}}{\text{Current Liabilities}}$$

How to interpret the ratio:

The quick ratio is a more conservative calculation that the current ratio, as it excludes inventory as a source of getting cash in to settle urgent debts. Converting inventory into cash requires selling the inventory and this could take some time. This ratio is the same as the current ratio, except that inventory is excluded.

Working Capital

Current assets – current liabilities = Working Capital

How to interpret this equation:

The subtraction of current liabilities from current assets is known as the *working capital*. Too much working capital implies that resources are being wasted which in turn affect return on capital. Too little working capital could mean a cash flow crisis. The current ratio and the quick ratio provide a guide for interpreting whether or not the working capital is adequate.

PROFITABILITY RATIO

How much profit an organisation generates only has meaning when profit is compared with the money that was used to create that profit. Profitability is ultimately the ability of an entity to receive a return on investment. If an entity is not profitable, it may be better to invest the money elsewhere.

Profitability ratios will answer the questions:

- What is the return on the assets used by the organisation?
- What is the return on the owner's investment in the organisation?
- Did our business maintain mark-ups as planned?
- Does our business have good control over expenses?

The main profitability ratios include the *return on assets* ratio and the *return on equity* ratio.

Another aspect of profitability is the percentage of profit that is squeezed from sales. These ratios include *mark-up* percentage, *gross margin* and *net margin.*

RETURN ON ASSETS

Return on assets = $\frac{\text{Profit before interest and tax}}{\text{Total assets}} \times 100$

How to interpret this ratio:

Profit is earned by using assets (for example, the use of property, equipment and inventory necessary to run the business. This ratio measures the profit or return on investment made in assets. A low return could suggest that there are perhaps assets that need to be disposed of. The return on assets calculation is a return on investment calculation that the managers of the business would be interested in.

RETURN ON EQUITY

Return on equity = $\frac{\text{Profit after tax and preference dividend}}{\text{Equity}} \times 100$

How to interpret this ratio:

This ratio measures also measures a return on investment, but the investment is restricted to the investment of ordinary shareholders (i.e. the equity). The return on equity is calculated after interest, tax and preference dividends have been taken into account. The return on equity calculation is a return on investment calculation from the shareholders point of view.

MARK- UP PERCENTAGE

Mark-up percentage = $\frac{\text{Gross Profit}}{\text{Cost of Sales}} \times 100$

How to interpret this ratio:

An organisation may price a product by adding a percentage to the cost of the product. Gross profit is the amount resulting from mark-ups on sold products. If the mark-up is very low, this could be an indication that products are being sold too cheaply. This ratio can also be used to ascertain if there was any increase in mark-ups from one period to the next.

GROSS MARGIN

Gross margin = Gross Profit x 100

Sales

How to interpret this ratio:

Mark-ups may also be expressed as a percentage of the sales price as opposed to a percentage of the cost as in the previous ratio. Essentially the mark-up percentage ratio and gross margin ratio measure the same thing.

Net Margin

Net margin = Profit after tax x 100

Sales

How to interpret this ratio:

This shows the portion of profit made out of sales after expenses. A large net margin indicates a good expense control.

ACTIVITY RATIOS

These ratios measure the speed (in terms of days or number of times per year) current assets and liabilities are converted into cash. Activity ratios are, therefore, also a measure of a firm's liquidity.

There are two good reasons for selling stock as quickly as possible:

- There are costs involved in keeping stock on hand e.g. storage costs, insurance costs and the cost of the funds tied up in capital.
- The only way to get the gross profit connected to stock is to sell it.

The speed at which stock is sold is measured by the stock turnover ratio.

Stock turnover ratio = cost of goods sold ÷ stock

= R38 000 000 ÷ R12 000 000

= 3.17 times per year

This means that Jimco managed to sell the average amount of stock 3.17 times per year.

Industry average 2.9 times.

It is customary to express stock turnover in days. This is done by dividing 365 by the stock turnover ratio just calculated.

Stock turnover in days = 365 ÷ 3.17

= Therefore, it takes 115 days, on average, to sell

Jimco's stock.

Cross sectional or time series analysis is needed to judge this figure. Stock turnovers vary widely over different industries e.g. greengrocers vs. jewellers.

Similarly, to stock, the quicker debtors are collected, the better for the company.

Debtor's collection ratio

= credit sales ÷ debtors

= R51 000 000 ÷ R10 000 000

= 5.1 times

This means that Jimco, on average, collects its outstanding short-term debt 5,1 times

per year.

It is more customary to express this ratio in days per year.

Debtor's collection period in days

= 365 ÷ 5.1

= 71.57 days

Jimco takes, on average, 71.57 days to collect its outstanding short-term debt (debtors). Cross sectional or time series analysis is needed to judge this figure. If Jimco extended credit terms of 30 days to its customers, a collection period of 71.57 days would be reason for concern.

The speed with which the company pays its creditors is measured by the following ratio. The object here is to pay slower rather than quicker, but to take care not to jeopardise the relationship with the suppliers.

Creditors payment ratio:

= credit purchases ÷ creditors

= R38 000 000 ÷ R3 000 000

= 12.67 times

Once again, it is more customary to express this ratio in days:

Creditors' payment period:

= 365 ÷ 12.67

= 28.81 days

Jimco takes, on average, 28.81 days to pay its creditors. Cross sectional or time series analysis is needed to judge this figure. If Jimco received credit terms of 30 days from its suppliers, a payment period of 28.81 days may indicate that they have no difficulty in meeting creditor payments on time.

EFFICIENCY RATIO

An organisation needs to utilise its assets efficiently in order to generate more income.

Efficiency ratios will answer the question:

- Does the business use its assets / investments efficiently?

Two main efficiency ratios include the *total asset turnover* ratio and the *fixed asset turnover* ratio.

Total Asset Turnover

$$\text{Total Asset Turnover} = \frac{\text{Sales}}{\text{Total Assets}}$$

How to interpret this ratio:

The bigger the ratio, the more efficient the utilisation of total assets.

Fixed Asset Turnover

Fixed Asset Turnover = Sales

Fixed Assets

How to interpret this ratio:

Fixed assets such as equipment or property require a large investment and it is important that the sales justify this investment. The bigger the ratio, the more efficient the utilisation of fixed assets.

CAPITAL STRUCTURE

Capital structure refers to how an organisation gets the money to fund its assets. As we know from the Balance Sheet, assets are either funded by equity or by liabilities. Equity financing allows owners to decide for themselves if they want to draw their contributions out, however liabilities require repayment and interest. If an organisation is using too much debt to finance its operation, it is running the risk of being unable to pay the interest or the debt itself.

A Capital structure ratio will answer the following question:

- Will our lenders take the chance of lending us more money?

The main capital structure ratio that we will discuss is called the *debt ratio*.

DEBT RATIO

A company's ability to survive over the long term, which is related to its debt position, is measured by these ratios. The debt position of a firm indicates the amount of non-owner or non-self-generated funds used by the business. In general, the more debt a firm uses, the higher the risk. Due to the influence of financial leverage, debt could actually increase the return to owners but at the risk of possible insolvency should the company not be able to service its debt.

Debt is part and parcel of the way modern companies are financed. As long as the margin of safety provided by own funds is sufficient and the company is able to meet its debt related obligations there is no reason why debt could not be used. The only proviso is that the company must earn more with the borrowed funds than the cost thereof, that is positive financial leverage.

Debt ratio = Total liabilities x 100

Total assets

How to interpret this ratio:

Assets can be sold off for cash and are therefore an indication that the organisation can pay back its liabilities. The smaller the percentage, the smaller the risk, as it means that fewer assets are being financed by debt.

Debt ratio:

= total liabilities ÷ total assets

= R10 000 000 + R10 700 000 ÷ R31 000 000

= 0.668 or 66.8%

Industry norm 47.7%

For each rand invested in assets, R0.66 was financed by debt. Put differently, only

R0.34 of each rand invested in assets belongs to the owners.

Times interest earned (TIE)

= Earnings before interest and tax ÷ Interest paid

= R4 000 000 ÷ R1 000 000

= 4 times

Interest is covered more than the 2.4 times of the industry norm. Note that when TIE equals 1, net income before tax is zero. Although Jimco's debt ratio seems to be on the high side, interest payments should easily be met, as indicated by the TIE ratio.

Note that these two ratios should always be judged together. A company can have a fairly low (good) debt ratio and a very low (bad) TIE ratio and vice versa.

Individual Formative Exercise 3A

Complete Exercise 3A in your Portfolio of Evidence.

Time Frame: 60 min

Learning Unit 4: Forecasting

Unit Standard	
252040	**Manage the finances of a unit**
Specific Outcomes	
Describe and prepare financial forecasts	
Learning Outcomes	
Identify the types and formats of financial forecasts with examples. Indentify sources of financial forecasts/ Outline factors in preparing forecasts. Incorporate relevant factors in the preparation of forecasts. Analyse financial forecasts to determine viability.	
Unit Standard	
252036	**Apply mathematical analysis to economic and financial information**
Specific Outcomes	
Use mathematical techniques to collect and organise data Apply mathematical techniques to calculate and represent financial and economic data Apply mathematical analysis to indicate economic relationships	
Learning Outcomes	

Use mathematical techniques to collect and organise data

Apply mathematical techniques to calculate and represent financial and economic data

Apply mathematical analysis to indicate economic relationships

INTRODUCTION

Forecasting in most businesses almost always comes down to first forecasting sales volumes (quantity rather than value). Once the sales volumes have been determined, it follows that everything else can be estimated based on this forecast.

For example, if I can forecast how many goods I am going to sell, I can in turn estimate the costs and resources involved in ensuring that we can obtain or produce these goods in the first place. So essentially, forecasts generally revolve around sales, while the rest of the projections made are in actual fact estimations based on these forecasts.

The initial forecast of sales requires educated guesswork, while the estimations based on these forecasts requires arithmetic and logic.

The item that is being forecast may not always be referred to as 'sales. If the item being forecast is not directly a sales item, it will usually still be an indicator of demand. For example, a non-profit organisation might forecast donations and a government organisation might forecast number of applications.

FORECASTING

Forecasts are often simply done based on past patterns and hunches; however good forecasting utilises a combination of the following two methods:

1. History of the numbers

AND

2. Knowledge of the environment (the economy, competitors, the product, your market, etc).

Be careful as sales forecasts often become sales targets and this could in turn impact on the organisation's capacity.

HISTORY OF NUMBERS

When looking at the history of the numbers, you should firstly look for patterns and then

project patterns. Patterns could include:

- The company is expanding.
- The company is in decline.
- The company is seasonal.
- Sales trends.
- Sales cycles.

When projecting patterns, it is important to take note of all the factors that could impact on the existing pattern. For example, an organisation in an expanding pattern might not necessarily continue to expand as it could be reaching its peak and be on the verge of decline. Another example would be a company in decline that has just stepped up its marketing budget and is now on the verge of expansion. Some organisations' patterns might remain the same.

KNOWLEDGE OF THE ENVIRONMENT

Once you have determined the existing patterns, you will need knowledge of the market and environment in which you operate in order to project future patterns.

Knowledge of the market and the environment can be obtained from the following:

- Published economic forecasts and other published forecasts
- Your own research and knowledge
- The media
- Knowledge in your organisation
- The internet
- Industry networks

Some economic indicators you might want also to want to consider include:

- Interest rates: **Interest** is the cost of money. When money is borrowed, the cost involved in using the money is that the borrower will pay back more than the amount that was borrowed. This is true for a personal loan as it is for an investor who borrows capital.

Interest is changed for all kinds of 'borrowing' including loans, hire purchase, rental, lease agreements, credit cards, bank overdrafts, and even in case of late payments of accounts

- Exchange rates: Is how much of one currency (Rands) can be exchanged for another currency (US $). If the Rand is poor against the dollar, it is good for exports, but bad for imports. If the Rand is strong against the $ it is bad for exports but good for imports.
- Inflation: Inflation is a sustained and significant increase in general price level. This means that the same R1.00 which bought you bread in 1990 can now only buy 1/5 of bread.
- GDP (Gross Domestic Product) is the total value of goods and services produced by the factors of production located in SA over a specified period. Because some part of domestic production is destined for foreign markets and therefore not sold in South Africa, exports are added to calculate the GDP.
- Prices of commodities
- Unemployment levels
- Consumer spending

A review of your organisations strategies and plans is also important when compiling forecasts.

If your organisation is involved with a large number of items that make up its 'sales', then it is important to group or segment the items first in order to avoid overly detailed forecasts. Items or products that would behave similarly under a given set of conditions can be grouped together. For example, a hardware outlet might forecast sales of hand-held tools and power tools as opposed to forecasting sales for each type of hammer and drill.

Spread sheets can be a helpful forecasting tool.

Individual Formative Exercise 4A

Complete Exercise 4A in your Portfolio of Evidence

Time Frame: 60 min

TWO CRITICAL CALCULATIONS TO MASTER BEFORE WORKING WITH PROJECTIONS

In order to do proper capital spending projections, you need to understand how interest and depreciation are calculated. So, we will first deal with these and then move into the four types of estimations/ projections you can make.

Interest is the cost of money. When money is borrowed, the cost involved in using the money is that the borrower will pay back more than the amount that was borrowed. This is true for a personal loan as it is for an investor who borrows capital. Interest is changed for all kinds of 'borrowing' including loans, hire purchase, rental, lease agreements, credit cards, bank overdrafts, and even in case of late payments of accounts.

- The capital on which the interest is calculated at the beginning of the transaction is called the **principle (P)** or present **value (PV)**
- The rate of **interest (r)** is that percentage of the principle that is to be paid for each unit of time and is expressed as a percentage per year.
- The **time period (t)** is the period for which the money is borrowed and is expressed in years or a fraction of a year.
- The amount to be paid at the end of the term, that is, the principle plus the interest, is referred to as the **amount (A)**, or the future **value (FV)**.
- Interest can be calculated on the principle sum as:
    - Simple interest or
    - Compound interest

Simple interest

When simple interest calculations are done, interest is calculated on the principal sum only at the end of a specified period, such as at the end of a year. That means the interest is not available before the end of the term, and the interest is not added to the principal to earn interest on interest.

The standard formulae for calculating simple interest are:

I = Prt

A = P (1 + rt)

A = P + I

Where:

I = Amount of interest P = Principal A = Amount	r = Interest rate per annum expressed as a decimal t = Time in years or a portion of a year

Example:

See forward Contract deal in the previous example for "B Bank".

"B Bank" will make an investment with "C Bank" in the amount of R 82 500

(R8, 25 x $ 10 000), for 3 months (90 days) at 7% interest per year.

A = P (1 + rt)

A = 82 500 (1 + (0,07 x 90/365)

= 82 500 (1,0173)

= R 83 924

The interest earned over the 3-month period is R 83 924 less R 82 500 = R 1 424

"B Bank" uses this to pay "A" his R 83 000 (R 8, 30 x $ 10 000) and keep the profit. "B Bank"

Then uses the $ 10 000 for further financial deals.

Compound interest

When interest is not paid out, but is continuously added to the principal, the principal is continuously increasing, and we say the interest is compound. This means that the interest calculated in period 1 on the principal amount is added to the principal amount so that the interest calculated in period 2 is calculated on the increased balance. It can therefore be said that compound interest calculates 'interest in interest'. Compound interest will therefore be more than simple interest, even if the % of interest is the same.

Interest can be compounded once a year, semi-annually, quarterly, monthly or even daily. The time period, which is normally quoted as a yearly rate, should be adjusted to the number of interest periods per transaction. For example, if the interest is compounded quarterly, and the time period is 5 years, then the number of interest-compounding periods

(n) Is 5 x 4 = 20.

To obtain the period rate (i) from the yearly rate (r), the average rate per period method is followed: for example, if the annual rate is 6% compounded quarterly, the period rate is taken to be 6/4 = 1.5%.

N = no. of years x no. of compounding periods per year

I = annual rate / no. of periods per year

The standard formulae for calculating compound interest are:

$A = P (1 + i)^n$

$I = (A/P)^{1/n} - 1$

$T = \frac{\log A/P}{\log (1 + i)}$

Where:

A = Amount or future value

P = Principal or present value

i = Interest rate per period within a year expressed as a decimal

n = number of times per year interest must be calculated

Note: Doing compound interest calculations will require the use of the 'power' key on the calculator, which will be marked as either x^y or y^x, the 'root' key, which is usually marked as $\sqrt{}$, and the 'log' key.

Example:

Simon lends R 1 000 to Thandi. At a rate of 15% per annum calculated monthly, the amount she must repay at the end of 2 years is as follows:

The interest rate of 15% is the interest that is charged for the year. However, if the interest is to be calculated monthly, then the annual interest rate (15%) must be converted to a monthly interest rate by dividing by 12:

i = 15%/12 = 1,25%

The 2-year period should change to n = 12 x 2 = 24

$A = 1\ 000\ (1 + 1{,}25\%)^{24} = 1\ 000\ (1{,}0125)^{24} = R\ 1\ 347.35$

Amount of interest paid: R1 347.35 – R 1 000.00 = R 347.35

Compound interest is used in mortgage loans and hire purchases and we need to repay the loan over the period of time. The following formula will apply:

$$R = P \frac{i}{[1-(1+i)^{-n}]}$$

Example:

Lerato successfully completed her studies and found a job as an IT technician. She wanted to buy a new Chevrolet Aveo. She needed to obtain financing from the bank to the value of R90 000 to buy the vehicle. The monthly compounded interest rate is 12%. She will amortize the loan by monthly payments over a period of 4 years.

$$R = 90\ 000 \frac{[0.12/12]}{[1 - (1+.12/12)^{-48}]}$$

$= 90\ 000\ (0.02633835)$

$= R2370.05$

DEPRECIATION

Depreciation is essentially writing off the costs over the working life of your assets.

Different terms are used to describe writing off costs. 'Depreciation' is used for physical assets, 'Amortization' is used for intangible assets and 'Depletion' is used for natural resources. They are all essentially the same thing.

Methods of depreciation include:

1. ***The Straight-Line method***

An equal amount of depreciation for each year over the asset's life.

Example:

An R10 000 asset with a five-year life span, no maintenance costs and no residual value.

Divide the depreciable base (the acquisition price plus maintenance costs less residual value) by the number of years of expected life span:

10 000 / 5 = 2 000 per year.

2. Sum-of-the-year's digits.

- -Estimate the number of years of the asset's useful life in reverse order (5,4,3,2,1)
- -Add the reverse order years (5+4+3+2+1 =15)
- Divide each year by the sum (5/15; 4/15; 3/15, 2/15; 1/15)
- Multiply the depreciable base (acquisition cost plus maintenance costs less residual value) by each fraction above (for example, if the depreciable base is R10 000, then 10 000 x 5/15 = 3 333 for the first year and so on.)

3. Double-declining balance

- Calculate the straight-line depreciation
- Calculate the percentage depreciation in the first year and then double it. Using the same example, this would be 2000/10000 x 2 = 0.4 or 40%)
- Use this factor to calculate depreciation on the outstanding balance.

- Use the straight-line figure if the depreciation is higher when calculated using the straight-line method.

The following table illustrates the different depreciation methods:

Straight line method			***Sum-of-years method***				***Double declining balance method***		
Year	**Depreciation**	Net asset value	Year	Factor	**Depreciation**	Net Asset Value	DDB calculation	**Depreciation**	Net asset value
0		10,000				10,000			10,000
1	**2,000**	8,000	5	5/15	**3,333**	6,667	4,000	**4,000**	6,000
2	**2,000**	6,000	4	4/15	**2,667**	4,000	2,400	**2,400**	3,600
3	**2,000**	4,000	3	3/15	**2,000**	2,000	1,400	**2,000**	1,600
4	**2,000**	2,000	2	2/15	**1,333**	667	864	**1,600**	0
5	**2,000**	0	1	1/15	**667**	0	518	**0**	0
Totals	**10,000**		15		**10,000**		9,222	**10,000**	

Source: Stutley, R. 2007. The Definitive Guide to Business Finance. 2nd Edition. Prentice Hall. Pg 168

Use the method of depreciation that is used by your organisation.

Individual Formative Exercise 4B

Complete Exercise 4B in your Portfolio of Evidence

Time Frame: 30 min

ESTIMATING

An estimate, as it relates to the creation of financial statements, is a calculation of a financial transaction for which no exact value is determinable, and is based upon judgment, historical understanding, and experience.

Accountants use estimates when it's not possible to calculate an exact figure supporting a financial transaction, but it is known that a future transaction will occur and it's reasonably estimated. Typically, accountants will apply a consistent methodology between the different account periods. This methodology may rely on estimates for the basis of the financial statement transaction.

The use of estimates may be required for a vast number of reasons. Typically, they are ultimately required when information to support an exact figure is not available, or the issue generating the transaction is not complete, and therefore may be pending at the time of a financial statement close.

Accountants will use all information available, including historical trends, past experience, and judgment to estimate the true value of a financial transaction. Depending on the value of the transaction and its impact on the financial statements taken as a whole, additional disclosures may be required.

Disclosures outline how the estimate was derived and the risks associated with the true transaction value differing from the estimate. In some instances, subsequent differences between the actual amount of the financial transaction, and the estimate, may require subsequent adjustment to the financial statements.

As discussed previously, once you have forecasted the main element of sales, everything else from your projections follows on from this. The following items form an important part of your projections:

- Capital spending
- Employee costs
- Non-employee costs
- Other income and costs

Projecting Capital Spending

Projecting capital spending involves determining what property, vehicles or equipment will be needed to support the sales forecasts.

The following steps should be followed when projecting capital spend:

1. Ask yourself what assets you are going to need.

2. Estimate their expected cost as well as any payment terms.
3. Estimate their useful life spans, residual values and any other costs or benefits.
4. Determine the method of depreciation that you should use.
5. Draw up a depreciation schedule.
6. Set the cost of the acquisitions against your bank balance (offset by an increase in fixed assets).
7. Record depreciation as an expense.
8. Record any other possible expenses, such as maintenance costs or insurance.
9. Take note of any benefits that the assets would have that might impact on other aspects of your projections (for example, better machinery might equate to higher levels of production).

Projecting Employee Costs

Projecting employee costs is fairly simple – use each person's cost to company and take into account any additional employees that may be required based on your forecasts and their costs to company.

Remember that employee costs include the following:

- Salaries and wage
- Overtime
- Bonuses

Benefits such as pension and transport allowances

Other costs such as recruitment costs and training costs.

This information may be readily available from your Human Resources department or you may need to calculate your own breakdowns per staff member.

Projecting Non-Employee Costs

Non-employee costs would include all those costs not associated with employees. Once you have your forecasts, you can estimate these costs.

Examples of operating costs would be:

- Marketing and sales related costs
- Communications costs such as telephone and internet

- Fees such as legal or accounting fees.
- Occupancy costs such as security, water and electricity.
- Computer costs
- Office costs such as stationery
- Travel costs such as petrol and vehicle rentals.
- Other fees and costs such as insurance and bank charges.

To assist with financial statement projections, you should do separate workings for those employee and non-employee costs that relate to cost of sales and those workings for employee and non-employee costs that relate to other operating costs.

Projecting Other Income and Costs

Other income and costs that can be included in your projections include things like investment income and taxation.

Individual Formative Exercise 4C

Complete Exercise 4C in your Portfolio of Evidence

Time Frame: 15 min

PROJECTED FINANCIAL STATEMENTS

Once you have your forecasts and estimations, you can actually create projections that take the format of your financial statements. Let us look at each one in turn:

Projected Income Statement

An example of a projected Income Statement is shown below:

Sunnyside Incorporated

Income statement for XYZ for the six months

	JAN	**FEB**	**MARCH**	**APRIL**	**MAY**	**JUNE**	**TOTAL**
Sales	30 000	25 000	35 000	50 000	30 000	70 000	210 000
Less: COS	9 000	10 500	15 500	19 000	9 500	25 000	86 500
Gross Profit	**21 000**	**14 500**	**19 500**	**31 000**	**20 500**	**45 000**	**123 500**
Less: Operating cost							
Employee cost	5 000	5 000	5 000	5 000	5 000	5 000	30 000
Other expenses	15 000	10 000	13 000	15 000	8 000	16 000	77 000
Total Operating cost	20 000	15 000	18 000	20 000	13 000	21 000	107 000
Nett profit (loss)before interest and tax	**1 000**	**(500)**	**1 500**	**11 000**	**7 500**	**24 000**	**44 500**
Interest and or tax	100	-	150	1 100	800	2 500	4 650
Nett profit (loss)	**900**	**(500)**	**1 350**	**9 900**	**6 700**	**21 500**	**39 850**

Key	
A	Sales are your sales forecasts.
B	Cost of sales needs to be calculated. (For example) Opening stock + Purchases – Closing stock. Cost of sales is calculated based on your sales forecasts.
C	Gross profit projections are your Sales Forecasts less your related Cost of Sales
D	Operating costs include employee and non-employee costs.
E	Employee costs would be calculated by using total cost per employee as per current headcount, as well as adding total costs for any additional employees that you project you will need based on your sales forecasts.
F	Other expenditure would include all non-employee costs. You would need to list and add all these to get a total figure. Your list would include things like marketing expenses, travel expenses, depreciation, communication expenses etc. You could list each item separately on your projections or have one total figure as in this example. All of these costs are estimates based on your sales forecasts.
G	Total operating costs is the total of employee and non-employee costs.
H	Net profit or loss before interest and tax is Gross Profit Less Total Operating Costs
I	Interest and tax would be calculated based on forecasts and knowledge of the amount of interest earned / owed and tax that needs to be paid. In this example it is shown in one row for the sake of simplicity, however they interest, and tax would be on separate lines.
J	The Net Profit or Loss projections can now be calculated.

Statistics to Assist in the Analysis of the Income Statement

Two commonly used statistical calculations which could assist with your projections, include the calculation of the mean/average, as well as the standard deviation:

a. The arithmetic mean

This is the most commonly used measure of central tendency and is often being referred to as the average or the mean. It is the sum of the values of a data set divided by the number of observations:

Calculation of a mean:

$\tilde{x} = \frac{\sum x}{n}$	$\tilde{x}$ = arithmetic mean x = each observation value n = number of observations

If you could, for example calculate the average net profit over the past 6 months, this could assist you to project profit for the following 6 months, provided all other variables stay unchanged.

Example:

Calculate the mean of the Net Profit of a company with a total net profit of R 490 676 over six months:

$\tilde{x} = \frac{\sum x}{n}$

$= \frac{(490\,676)}{6}$

= (81 779.33)

Which means that the Company's average Net Profit for the past 6 months was (81 779.33)

b. The standard deviation

The standard deviation is the most widely used measure of dispersion, and measures differences from the mean. To prevent negative deviations from the mean, cancelling positive deviations, the deviations are squared. The standard deviation is useful in statistics because:

- Most distributions in statistics is described by their mean and standard deviation
- The measuring unit is the same as the mean (Rands, minutes, metres, etc.)

- The larger the standard deviation, the larger the variation of data. A standard deviation of zero means there is no variation.

The calculation of the standard deviation:

$$s = \sqrt{\frac{\sum(x - \tilde{x})^2}{n-1}}$$

Example:

x	$(x - \tilde{x})$	$(x - \tilde{x})^2$
(73 456)	$73456 - 81\,779.33 = -8323.33$	$(-8323.33)^2 = 69277822.29$
(91 726)	$91726 - 81779.33 = 9946.67$	$(9946.67)^2 = 98936244.09$
(88 721)	$88721 - 81779.33 = 6941.67$	$(6941.67)^2 = 48186782.39$
(74 427)	$74427 - 81779.33 = -7352.33$	$(-7352.33)^2 = 54056756.43$
(86 505)	$86505 - 81779.33 = 4725.67$	$(4725.67)^2 = 22331956.95$
(75 841)	$75841 - 81779.33 = -5938.33$	$(-5938.33)^2 = 35263763.19$
		Sum = 328053325.3

$$s = \sqrt{\frac{\sum(x - \tilde{x})^2}{n-1}}$$

$$s = \sqrt{65610665.07} = 8100.04$$

The Standard deviation means that *(The larger the standard deviation, the greater the variation on profit from month to month, the smaller the standard deviation the more stable the profit)*

Projected Balance Sheet

An example of a simple projected Balance Sheet is shown below:

	Assets	**Start**	**Jan**	**Feb**	**March**	**Apr**	**May**	**Jun**
	RANDS							
	Current Assets							
	Cash Balance	55	15	21	7	15	93	53
	Accounts Receivable	395	371	474	576	644	803	791
	Inventory	251	332	444	545	701	878	647
	Other Current Assets	25	25	25	25	25	25	25
	Subtotal	***726***	***743***	***964***	***1153***	***1385***	***1799***	***1516***
	Capital Assets	350	375	375	390	390	440	440
	Accumulated Depreciation	50	51	52	53	54	55	56
	Subtotal	300	324	323	337	336	385	384
	TOTAL ASSETS	**1026**	**1067**	**1287**	**1490**	**1721**	**2184**	**1900**
	Liabilities	**Start**	**Jan**	**Feb**	**March**	**Apr**	**May**	**Jun**
	Current liabilities							
	Accounts payable	224	268	371	431	564	704	517
	Current Notes	90	90	190	220	320	320	220
	Other Current Liabilities	15	15	15	15	15	15	15
	Subtotal	***329***	***373***	***576***	***666***	***899***	***1039***	***752***
	Long term liabilities	285	282	279	376	373	370	367
	Total Liabilities	***614***	***615***	***855***	***1012***	***1272***	***1409***	***1119***
	Capital	**Start**	**Jan**	**Feb**	**March**	**Apr**	**May**	**Jun**
	Paid-in Capital	500	500	525	525	525	825	825
	Retained Earnings	(163)	(88)	(88)	(88)	(88)	(88)	(88)
	Earnings	75	0	5	11	12	38	44

	Total Capital	412	412	432	448	449	775	781
	CAPITAL AND LIABILITIES	**1026**	**1067**	**1287**	**1490**	**1721**	**2184**	**1900**

Source: Adapted from Balance Sheet Example. www.bplans.com/common/gifs/bplans/ IL15-7. Accessed on 19/08/09

Projecting a Balance Sheet requires a little bit more insight than the projection of the Income Statement. The following are some important points to remember for a Balance Sheet Projection:

Fixed assets in the Balance Sheet projections forms part of projecting your capital spending.

1. Inventory projections will stem from the sales forecasts, as well as some analysis of production or delivery schedules in relation to your forecasted sales. Inventory projections should also take into account buffer stocks in case there are unexpected changes in demand.

2. The retained earnings entries will change by the amount of net profit in any one period.

3. Accounts payable can be projected as follows:

Accounts payable can be projected as ratios. For example, if you receive an average of the same deliveries each month and your suppliers give you credit of 30 days and you make one payment per month, projected payables will average one-half of one month's spending on supplies.

1. Accounts payable is not a change figure, but an actual figure.

Accounts receivable can be projected in a similar manner to accounts payable. Accounts receivable is also not a change figure, but an actual figure.

Projecting cash, loans and share capital will depend on your cash flow and financing policies. The following section will cover information on financing policies.

Remember that your two halves of the balance sheet in your projections must balance. If they do not balance you need to revisit your figures.

FINANCING POLICIES

Let us take a moment now to look at some financing policies which will assist you to compile

your balance sheet projections.

An organisation will be financed using either debt or equity. The finance may be short-term, medium-term or long term.

When projecting financial requirements, you would need to relate back to your sales forecasts and cost estimates in order to determine whether or not you need to finance you operation and how you should finance your operation.

Let us look at some examples of sources of each type of finance:

Short-term finance:

- *Trade credit (buying "on account")*
- *Bank overdraft or bank loans: banks will usually require some form of security for this.*

Medium-term finance:

- *Leasing: monthly payments for purchase or rent of plant, property and equipment.*
- *Hire purchase: Similar to leasing, done through Finance Company.*
- *Medium term-loans: will usually also incur interest and security will need to be provided.*

Non-current finance

- *Non-current loans: will probably be needed to be secured by land or property and will incur interest.*
- *Corporate bonds: Borrowing by a company which is a "paper" traded on secondary financial markets at a fixed interest rate. The borrowing may be secured against specific assets. A debenture is essentially an unsecured bond.*
- *Equity: Shares issued by a company. (Shareholders are owners or part owners of the company)*

An organisation needs to choose how much financing will come from equity and how much financing will come from debt. The following table gives a comparison between the two:

Equity	***Debt***
Investors accept higher risk	Lenders do not like risk
Some ownership and control will need to be given up	Ownership and control is not lost

Dividend payments are optional and are a distribution of equity	Interest has to be repaid and is an expense
Interest has to be paid and is an expense	Dividend payments are optional and are a distribution of equity
Equity can end up costing more than debt, equity investors are looking for a return on equity that is greater than the rate of interest they could earn on a lower-risk investment	

A ratio that can be used to analyse debt is called the *gearing ratio*:

Gearing ratio = Debt

Equity

How to interpret this ratio:

This ratio indicates the extent to which an organisation is dependent on debt or equity. A low gearing indicates a low reliance on debt; a high gearing indicates a high reliance on debt and a possible cash flow problem.

PROJECTED CASH FLOW STATEMENT

Cash Flow Statements

Introduction

In the previous chapters on Companies we have said that the Cash Flow Statement is part of their financial statements.

The Cash Flow Statement identifies the inflows and outflows of cash during a specific period. The Cash Flow Statement presents the users of financial statements with useful and relevant information, for example, answers to the following

- Was sufficient cash generated from operations to pay the interest charges, dividends and taxation
- How was the expansion financed, etc.

Before we discuss the format of the Cash Flow Statement, we are going to discuss the meaning of certain concepts that are used in the Cash Flow Statement.

CONCEPTS FOR CASHFLOW PROJECTIONS

1. Cash

Cash, for the purpose of this statement, is cash at bank and on hand and any other highly liquid investment that are **readily retainable** to known amounts of cash.

2. Funds

Funds can be defined as the financial resources possessed by a company and which now from transactions concluded **third parties.** This means that there can only be a flow of funds if a transaction occurs between the business and a person outside the business. Your main task will be to determine whether there was an inflow or outflow of funds during the past financial year. One can say that the concepts cash and funds go hand in hand.

LET US DEMONSTRATE

The following comparative figures in the financial statement of Zippa LTD are given to you:

	2008	2007
1. Land and Buildings	150 000	100 000
2. Vehicles	80 000	90 000
3. Inventory	90 000	110 000
4. Debtors	40 000	60 000
5. Creditors	50 000	45 000
6. Ordinary share capital	200 000	180 000

REQUIRED

Indicate for each item whether it is an inflow or outflow of funds.

SOLUTIONS

1. LAND AND BUILDINGS

   To determine whether it was an inflow or outflow of funds one must compare the figures for this year with the previous year. Because there was an increase of R 50 000 one can say that more buildings were bought. Therefore, the increase of R50 000 in Land and Buildings will be an outflow of funds.
2. VEHICLES

   The decrease of R10 000 in vehicles means that vehicles were sold during the past financial year. This means an inflow of funds.
3. INVENTORY

   The decrease of R20 000 in stock means that more stock was sold during the past financial year. This means an inflow of funds.
4. DEBTORS

   The decrease of R20 000 in debtors means that more debtors paid their debts during the past financial year. This means an inflow of funds.
5. CREDITORS

   The increase of R5 000 in creditors means that more credit facilities were received from creditors (more credit purchases). This means an inflow of funds although your liabilities increased.
6. ORDINARY SHARE CAPITAL

   The increase of R20 000 in the share capital means that more shares were issued during the past financial year which indicates that the company received cash. This means and inflow of funds.

3. Investment Activities

Investment activities are those activities relating to the acquisition and disposal of fixed assets and investments. You are referred to the increase of R50 000 IN Land and Buildings and the decrease of R10 000 in vehicles in the previous example.

What will an increase in investments be?

EXAMPLE

	2008	2007
Investments	20 000	10 000

The increase of R10 000 in investments means that more money was invested in a business outside our business. This means an outflow of funds. The opposite, namely a decrease in investments, will be an inflow of funds.

4. Financing activities

Financing activities are those activities which result in changes in the size and composition

Of the debt and capital funding of the business. In other words, the financing activities indicate where the funds were obtained from to finance the investment activities and daily operating activities. The increase in R20 000 in the Ordinary share capital is a good example of financing activity (example to explain the concept funds).

Will an increase in long term liabilities be an inflow or outflow of funds?

Yes, it will be an inflow of funds because more money is borrowed from outside the business.

5. Operating activities

Operating activities include all transactions and other events that are not investing and financing activities. Cash flows from operating activities are generally the cash effects of transactions and other events that enter into the determination of income.

Examples of these type of activities are:

- Dividends paid for the year
- Taxation paid for the year and
- Interest paid (finance cost) for the year

In our discussion later you will see that the information for operating activities is found in the Income Statement.

6. Cash flows from operating activities

The cash flows from operating activities represent the first section of the Cash Flow Statement. In this section all those items which have an effect on the determination of income will be taken into account. The following items are involved.

- Investment income for example dividends received
- Financing charges for example interest paid
- Taxation paid
- Dividends paid
- Changes in working capital which consist of:
  - Increase/decrease in inventory
  - Increase/decrease in debtors
  - Increase/decrease in creditors
- Profit before taxation adjusted with all the non-cash flow items

What is the meaning of the concept non-cash flow items?

Non-Cash Flow items are all those items that have an influence on the profit but that are not a flow of funds because no third party is involved.

The following are examples of non-cash flow items:

- Profit or Loss on disposal of a fixed asset
- Depreciation
- Increase or decrease in the provision for bad debts
- Transfer to reserves

Did you recognise that the majority of the information for this section can be found in the Income Statement? It is only the changes in working capital that are found in the Balance Sheet. Although these changes did not influence the profits directly it must be taken into account in this section because the changes are part of the operating activities of the business.

7. Cash flows from investment activities

The cash flows from investment activities represent the second section of the Cash Flow Statement.

In this section all those items which have an effect on the acquisition and disposal of fixed assets and investments will be taken into account. In other words, this section indicates how the funds were utilised to maintain or to expand operations

The following items are involved:

- Replacement of fixed assets
- Proceeds on the disposal of fixed assets
- Additions to fixed assets
- Investments purchases
- Investments sold

Did you recognise that the information for this section can be in the notes for plant, machinery and equipment (Fixed assets) and Investments? The comparative figures of the previous year must be taken into account to determine the inflow or outflow of funds. (See our discussion later).

8. Cash flows from financing activities

The cash flows from financing activities represent the third section of the Cash Flow Statement. In this section all those items which have an effect on the debt and capital funding of the business, will be taken into account. In other words, this section indicates where the funds were obtained from to Finance the investment activities and the daily operating activities.

The following items are involved:

- Increase or decrease in long term borrowings
- Proceeds from issue of share capital
- Increase in share premium

Did you recognise that the information for this section can be found in the equity and liabilities section of the Balance Sheet? You must determine whether the increase or decreases from the previous year's figures are an inflow or outflow of funds.

Calculations of certain concepts

Before we discuss the format of the Cash Flow Statement according to AC 118 we are first going to discuss how to calculate the following concepts:

- Cash flows from operating activities
- Cash flows from investment activities

- Cash flows from financing activities

To explain the calculations of these concepts only one example will be used.

LET US DEMONSTRATE

The following information was obtained from the financial statements of SAICA (LTD) at 31 March 2008.

INCOME STATEMENT FOR THE YEAR ENDED 31 MARCH 2008

Turnover	96 000
Cost of Sales	62 400
Gross Profit	33 600
Other operating income: Profit ON disposal of asset	1300
Investment Income	389
Dividends received	164
Interest received	225
Operating costs	(20 089)
Depreciation	12 295
Auditor's remuneration	2 000
Administrative expenses	5 794
Profit on ordinary activities before interest	15 200
Interest paid	(3 200)
Profit on ordinary activities before taxation	12 000
Taxation	(5 400)
Profit on ordinary activities after taxation	6 600
Preference dividend	400)
Profit attributable to ordinary shareholders	6 200
Ordinary dividends	(1 000)
Transfer to general reserves	(2 800)
Retained profit for the year	2 400
Retained earnings- beginning of the year	3 180
Retained earnings- end of the year	5 580

BALANCE SHEET AT 31 MARCH 20X8

ASSETS	2008	2007
Non-Current assets	126 800	116 000
Fixed Assets (See Note)	121 800	114 500
Investments in shares at cost	5 000	1 500
Current assets	44 680	46 400
Inventory	19 300	21 850
Debtors	25 380	22 750
Bank		1 800
	171 480	162 400
EQUITY AND LIABILITIES		
Capital and reserves	97 380	81 180
Ordinary share capital	33 000	26 000
Preference share capital	6 000	4 000
Share premium	20 000	18 000
Non-distributable reserves	10 000	10 000
Distributable reserves	28 380	23 180
General Reserves	22 800	20 000
Retained income	5 580	3 180
Non-current liabilities	41 280	47 120
Non-current loan	21 000	29 000
Debentures	20 280	18 120
Current liabilities	32 820	34 100
Creditors	25 870	27 500
SARS	5 400	6 000
Shareholders for dividends	300	600
Bank overdraft	1 250	
	171 480	162 400

ADDITIONAL INFORMATION

1. FIXED ASSETS/TANGIBLE ASSETS

2008

	Land and Building	Plant	Equipment	Total
Gross carrying value	17 100	118 500	4 330	139 930
Acc depreciation	1 100	16 700	330	18 130
Opening balance	420	5 270	145	5 835
Depreciation	680	11 430	185	12 295
Net carrying value	**16 000**	**101 800**	**4 000**	**121 800**

2007

	Land and Building	**Plant**	**Equipment**	**Total**
Gross carrying value	14 420	103 770	3 645	120 335
Acc depreciation	420	6 770	145	5 835
Opening balance	140	3 000	45	1 685
Depreciation	280	3 770	100	4 150
Net carrying value	**14 000**	**97 000**	**3 500**	**114 500**

2. Plant with a cost price of R2 080 and a net carrying value of R580 was sold for R1 880. Plant purchased was in replacement of the plant sold.

REQUIRED

Calculate the following:

1. Cash flows from operating activities.
2. Cash flows from investing activities.
3. Cash flow from financing activities.

SOLUTION

I. CASH FLOWS FROM OPERATING ACTIVITIES

Profit before taxation	12 000
Adjust for:	
Depreciation	12 295
Interest paid	3 200
Profit on disposal of Plant	(1 300)
Investment income	389)
Operating profit before changes in working capital	25 806
Changes in working capital	(1 710)
Decrease in inventory (21 850-19 300)	2 550
Increase in debtors (25 380-22 750)	(2 630)
Decrease in creditors (27 500-25 870)	(1 630)
Cash generated by operations	24 096
Investment income	389
Interest paid	(3 200)
Taxation paid (6 000+5 400-5 400)	(6 000)
Dividends paid (600+1 400-300)	(1 700)
	13 585

EXPLANATION

- Depreciation is added back because it is not a flow of funds and because it originally decreased the profit.
- Profit on disposal of Equipment is another item that is not a flow of funds. Therefore, it must be subtracted because it originally increased the profit.
- The only reasons to subtract the investment income and to add the interest paid are because they both influenced the profit before taxation, and both have their own heading in the calculation of the cash flows from operating activities.
- The taxation paid, and dividends paid can also be calculated as follows:
    - Taxation

Unpaid amounts at beginning of year	6 000
Amount in Income Statement	5 400
Unpaid amounts at the end of the year	(5 400)
	6 000

Dividends

Unpaid amounts at beginning of year	6 00
Amount in Income Statement (Ordinary + Preference)	1400
Unpaid amounts at the end of the year	(3 00)
	6 000

- The amounts in brackets indicate an outflow of funds except for the adjustments to the profit before taxation.

2. CASH FLOWS FROM INVESTMENT ACTIVITIES

Investments to maintain operating capacity	(14 930)
Replacement of plant	(16 810)
Proceeds on disposal of plant	1 880
Investments to expand operating capacity	(6 865)
Additions to Land and buildings	(2 680)
Additions to Equipment	(68 5)
Investments purchased	(3 500)
	(21 795)

EXPLANATION

- The replacement of the Plant can be calculated using the following "T" account.

Plant

Balance	103 770	Asset disposal	2 080
*Purchase	16 810	Balance	118 500
	120 580		120 580

*The purchases are the balancing figure on the Plant account

- Because there was no Land and Buildings and Equipment sold the difference in their cost prices from the previous year indicates the additions to these assets.
- Remember an increase in investments indicates that more money was invested outside the business. (outflow of funds)

3. CASH FLOWS FROM FINANCING ACTIVITIES

Decrease in long term loans	(8 000)
Proceeds from Ordinary shares issued (7 000+ 2 000)	9 000
Proceeds from Preference shares issued	2 000
Proceeds from Debentures	2 160
	5 160

EXPLANATION

- A decrease in non-current loans indicates an outflow of funds. Money was paid to a third party outside the business.
- The increase in the share premium (R2 000) must be included in the proceeds from the Ordinary shares issued. The R2 000 is part of the cash received when the shares were issued.

FORMAT CASH FLOW STATEMENT AC 118

The Cash Flow Statement of a Company must be prepared according to the requirements of Statement AC 118 of the Public Accountants and Auditors Board. As we have indicated before there are two methods namely the indirect and direct method. In this chapter we are going to concentrate on the direct method only as this is the suggested format to use in practice.

LET US DEMONSTRATE

The following information was obtained from the financial statements of Mamoek Limited at 31 March 2008.

INCOME STATEMENT FOR THE YEAR ENDED 31 MARCH 2008

	R '000
Gross turnover	96 000
Cost of Sales	(62 400)
Gross Profit	33 600
Other operating income	1 300
Profit on disposal of Plant	1 300
Investment income	389
Dividends received	164
Interest received	225
Operating costs	(20 089)
Depreciation	12 295
Auditor's remuneration	800
Director's remuneration	1 200
Administrative expenses	5 794
Profit on ordinary activities before interest	15 200
Interest paid	(3 200)
Profit on ordinary activities before taxation	12 000
Taxation	(5 400)
Profit on ordinary activities after taxation	6 600

BALANCE SHEET AT 31 MARCH 2008

	2008	**2007**
	R'000	R'000
ASSETS		
Non-current assets	126 800	116 000
Fixed assets	121 800	114 500
Investments in shares at cost	5 000	1 500
Current assets	44 680	46 400
Inventory	19 300	21 850
Debtors	25 380	22 750
Bank		1 800
	171 480	162 400
EQUITY AND LIABILITIES		
Capital and Reserves	97 380	81 810
Ordinary share capital	33 000	26 000
Preference share capital	6 000	4 000
Share premium	20 000	18 000
Non-distributable reserves	10 000	10 000
Distributable reserves	28 380	23 180
General reserve	22 800	20 000
Retained income	5 580	3 180
Non-current liabilities	41 280	47 120
Long term loan	21 000	29 000
Debentures	20 280	18 120
Current liabilities	32 820	34 100
Creditors	25 870	27 500
Receiver of Revenue	5 400	6 000
Shareholders for dividends	300	600
Bank overdraft	1 250	
	171 480	162 400

ADDITIONAL INFORMATION

1. FIXED ASSETS

2008 (R'000)

	Land and Building	Plant	Equipment	Total
Gross carrying alue	17 100	118 500	4 330	139 930
Acc Depreciation	1 100	16 700	330	18 130
Opening balance	420	5 270	145	5 835
Depreciation	680	11 430	185	12 295
Net carrying value	**16 000**	**101 800**	**4 000**	**121 800**

2007 (R'000)

	Land and Building	Plant	Equipment	Total
Gross carrying value	14 420	770	3 645	12 335
Acc Depreciation	420	6 770	145	5 835
Opening balance	140	3 000	45	1 685
Depreciation	280	3 770	100	4 150
Net carrying value	**14 000**	**97 000**	**3 500**	**114 500**

2. Plant with a cost price of R2 080 (R'000) and a net carrying value of R580 (R'000) was sold for R1 880 (R'000). Plant purchased was in replacement of the plant sold.

REQUIRED

Prepare the Cash Flow Statement of Mamoek LTD for the year ended 31 March 2008 using both methods (indirect and direct).

SOLUTION

VERY IMPORTANT

Did you notice that the information given in Mamoek (LTD) is exactly the same as the information given in SAICA (LTD)? This means that we have already calculated the cash flows from operating activities, from investment activities and from financing activities. All that remain now is to put them together in the correct format according to the requirements of Statement AC 118.

MAMOEK LTD

CASH FLOW STATEMENT FOR THE YEAR ENDED 31 MARCH 2008

	Note	R'000
Cash flows from operating activities		13 585
Cash receipts from customers		93 370
Cash paid to suppliers and employees		(69 274)
Cash generated from operations	1	24 096
Interest received		225
Dividends received		164
Interest paid		(3 200)
Taxation paid (6 000+5 400-5 400)		(6 000)
Dividends paid (600+1 400-300)		(1 700)
Cash flows from investment activities		(21 795)
Purchase of fixed assets/tangible assets		(20 175)
Replacements	2	(16 810)
Additions	3	(3 365)
Proceeds on disposal of fixed assets/tangible assets	4	1 880
Investments purchased		(3 500)
Cash flows from financing activities		5 160
Decrease in long term loans		(8 000)
Proceeds from shares issued	5	11 000
Proceeds from Debentures issued		2 160
Net decrease in cash and cash equivalents		(3 050)
Cash and Cash equivalents at beginning of period		1 800
Cash and cash equivalents at end of period		(1 250)

NOTES TO THE CASH FLOW STATEMENT

1. Reconciliation of net profit before taxation to cash generated from operations.

	R'000
Profit before taxation	12 000
Adjusted for:	
Depreciation	12 295
Interest paid	3 200
Profit on disposal of plant	(1 300)
Investment income	(38 9)
Operating profit before changes in working capital	25 806
Changes in working capital	(1 710)
Decrease in inventory	2 550
Increase in debtors	(2 630)
Decrease in creditors	(1 630)
	24 096

2. REPLACEMENT OF FIXED ASSETS/TANGIBLE ASSETS

Plant purchased	16 810

3. ADDITIONS TO FIXED ASSETS/TANGIBLE ASSETS

Land and Buildings purchased	2 680
Equipment purchased	685
	3 365

4. PROCEEDS ON DISPOSAL OF FIXED ASSETS/TANGIBLE ASSETS

Carrying value of asset sold	580
Profit on disposal	1 300
Total proceeds	1 880

5. PROCEEDS FROM SHARES ISSUED

Ordinary shares	7 000
Share premium on ordinary shares	2 000
Preference shares	2 000
	11 000

EXPLANATION

1. You are referred to the explanations of the calculations for SAICA LTD
2. The cash received from customers and cash payments to suppliers and employees are calculated as follows:

Cash received from customers

Debtors

Balance	22 750	*Bank	93 370
Sales	96 000	balance	25 380
	118 750		118 750

All the sales are taken into account as credit sales and the bank is the balancing figure.

Cash payments to suppliers and employees

Creditors

*Bank	61 480	Balance	27 500
Balance	25 870	Purchases	59 850
	87 350		87 350

- Purchases are determined as follows:

Cost of Sales	62 400
Less: Decrease in inventory	(2 550)
	59 850

- The bank is the balancing figure, but this is only the payment to suppliers. What about the other payments to employees? Therefore, the payment to suppliers and employees are calculated as follows:

Payments to suppliers	R61 480
Payments to employees:	
Auditors' remuneration	800
Directors' remuneration	1 200
Admin expenses	5 794
	69 274

Individual Formative Exercise 4D

Complete Exercise 4D in your Portfolio of Evidence

Time Frame: 60 min

Individual Formative Exercise 4E

Complete Exercise 4E in your Portfolio of Evidence

Time Frame: 60 min

Individual Formative Exercise 4F

Complete Exercise 4F in your Portfolio of Evidence

Time Frame: 60 min

Refer now to the attached example of projections for ABC Limited to see an example of financial forecasting.

Read through this example in order to get a better feel for projections.

The projections that we have discussed here will give you the basic underlying understanding behind how projections are calculated. Projections that you do at the workplace may not be as simple as the one's you have compiled in class. Your organisation might have existing spreadsheets or software in place that does a lot of the workings for you. It is important for you to find out what your organisation has in place with regards to doing projections and to learn how to use your organisation's systems.

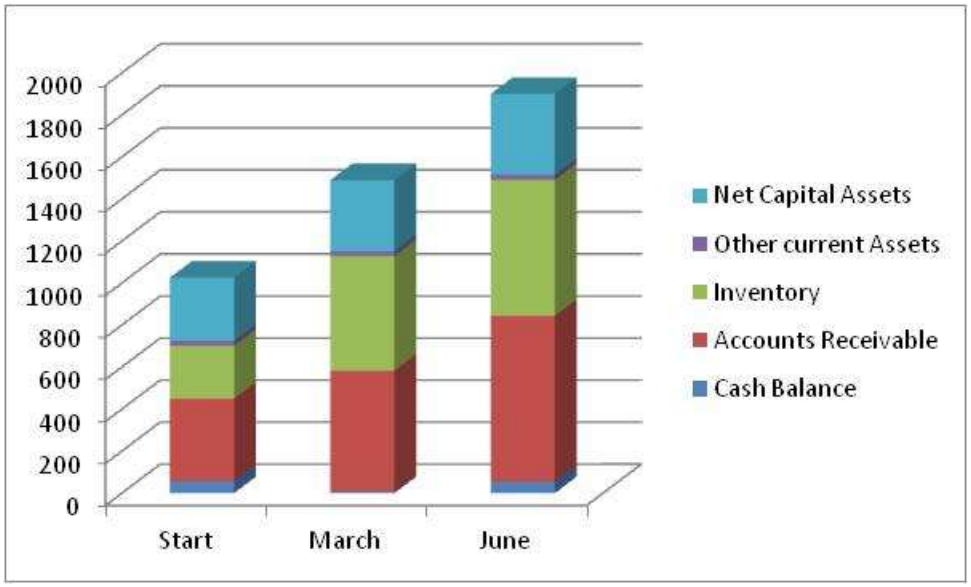
MATHEMATICAL TOOLS TO USE IN FORECASTING

GRAPHS AND DIAGRAMS

A graph shows the relationship between two variables – the X-variable on the horizontal axis and the Y-variable on the vertical axis. Graphs can be used to complement the data produced on your financial statements, especially for the purposes of a report and presentation. Following are examples of charts from the data in this chapter:

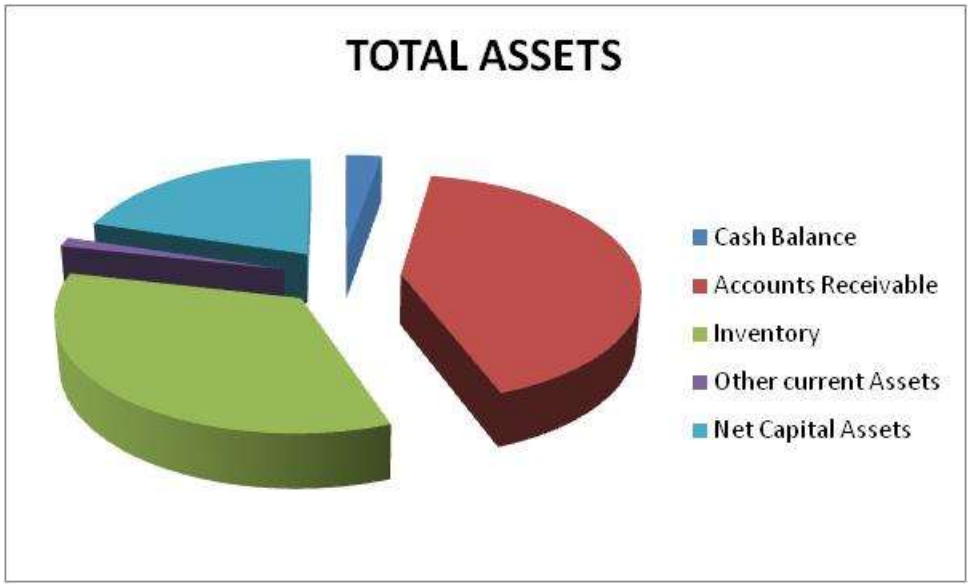
Single bar chart (Income statement)

Stacked bar chart (Balance sheet)

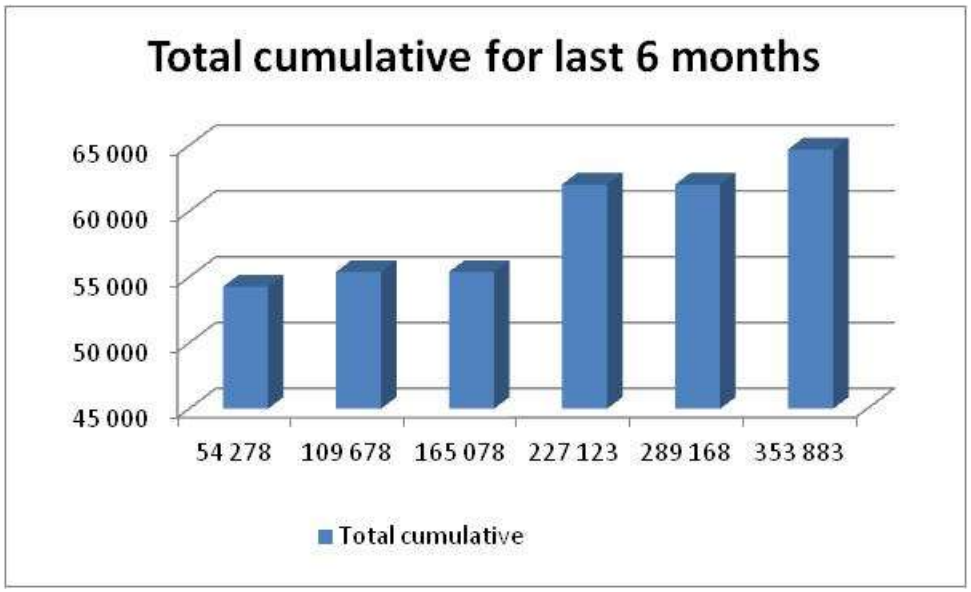


Line Graph (Income Statement)

Pie charts (Balance sheet)



Histogram: (Income statement)



Explaining Correlation and Regression

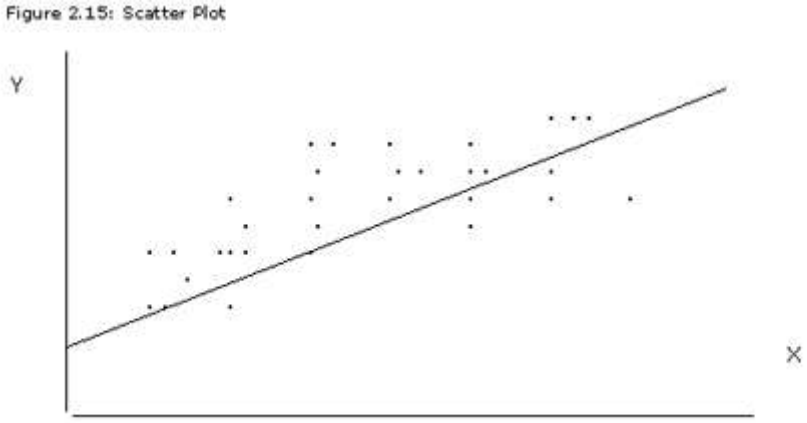
Financial variables are often analysed for their correlation to other variables and/or market averages. The relative degree of co-movement can serve as a powerful predictor of future behaviour of that variable. A sample covariance and correlation coefficient are tools used to indicate relation, while a linear regression is a technique designed both to quantify a positive relationship between random variables and prove that one variable is dependent on another variable. When you are analysing a security, if returns are found to be significantly dependent on a market index or some other independent source, then both return, and risk can be better explained and understood.

Scatter Plots

A scatter plot is designed to show a relationship between two variables by graphing a series of observations on a two-dimensional graph - one variable on the X-axis, the other on the Y-axis.

Scatter Plot

Figure 2.15: Scatter Plot



Sample: Covariance

To quantify a linear relationship between two variables, we start by finding the **covariance** of a sample of paired observations. A sample covariance between two random variables X and Y is the average value of the cross-product of all observed deviations from each respective sample mean. A cross-product, for the ith observation in a sample, is found by this calculation: (ith observation of X - sample mean of X) * (ith observation of Y - sample mean of Y). The covariance is the sum of all cross-products, divided by (n - 1).

To illustrate, take a sample of five paired observations of annual returns for two mutual funds, which we will label X and Y:

Year	X return	Y return	Cross-Product: $(X_i - X_{mean})*(Y_i - Y_{mean})$
1st	+15.5	+9.6	(15.5 - 6.6)*(9.6 - 7.3)= 20.47
2nd	+10.2	+4.5	(10.2 - 6.6)*(4.5 - 7.3)= -10.08
3rd	-5.2	+0.2	(-5.2 - 6.6)*(0.2 - 7.3)= 83.78
4th	-6.3	-1.1	(-6.3 - 6.6)*(-1.1 - 7.3) = 108.36
5th	+12.7	+23.5	(12.7 - 6.6)*(23.5 - 7.3)= 196.02
Sum	26.9	36.7	398.55
Average	6.6	7.3	398.55/(n - 1) = 99.64 = Cov (X,Y)

Average X and Y returns were found by dividing the sum by n or 5, while the average of the cross-products is computed by dividing the sum by n - 1, or 4. The use of n - 1 for covariance is done by statisticians to ensure an unbiased estimate.

Interpreting a covariance number is difficult for those who are not statistical experts. The 99.64 we computed for this example has a sign of "returns squared" since the numbers were percentage returns, and a return squared is not an intuitive concept. The fact that Cov(X, Y) of 99.64 was greater than 0 does indicate a positive or linear relationship between X and Y. Had the covariance been a negative number, it would imply an inverse relationship, while 0 means no relationship. Thus 99.64 indicates that the returns have positive co-movement (when one moves higher so does the other) but doesn't offer any information on the extent of the co-movement.

Source: http://www.investopedia.com

Learning Unit 5: Budgeting

Unit Standard	
252040	**Manage the finances of a unit**
Specific Outcomes	
Draft budgets according to the operational plan of the unit. Supervise financial management of a unit against given requirements.	
Learning Outcomes	
• Establish operational objectives in line with the unit's strategic plan. • Link budget plans to operational objectives. • Draft budgets according to operational plan of the unit. • Formulated budget according to standard operating procedures. • Review and reflect on draft budget and modify to ensure alignment to the operational plan of the unit. • Agree and adhere to monitoring systems according to standard operating procedures. • Monitor expenditure reports for the year for each team within a unit against given criteria. • Implement corrective actions where necessary in accordance with the entity's policies and procedures.	

INTRODUCTION

A budget is a short-term financial plan, usually for a twelve-month period. On approval, a budget ultimately becomes a target and tool for management control.

A budget will record the budgeted figures, the actual figures and the variance between the actual figures and the budgeted figures.

Budgets should ideally not be treated as the only way to control finances, but as one of the tools in a range of measurement control.

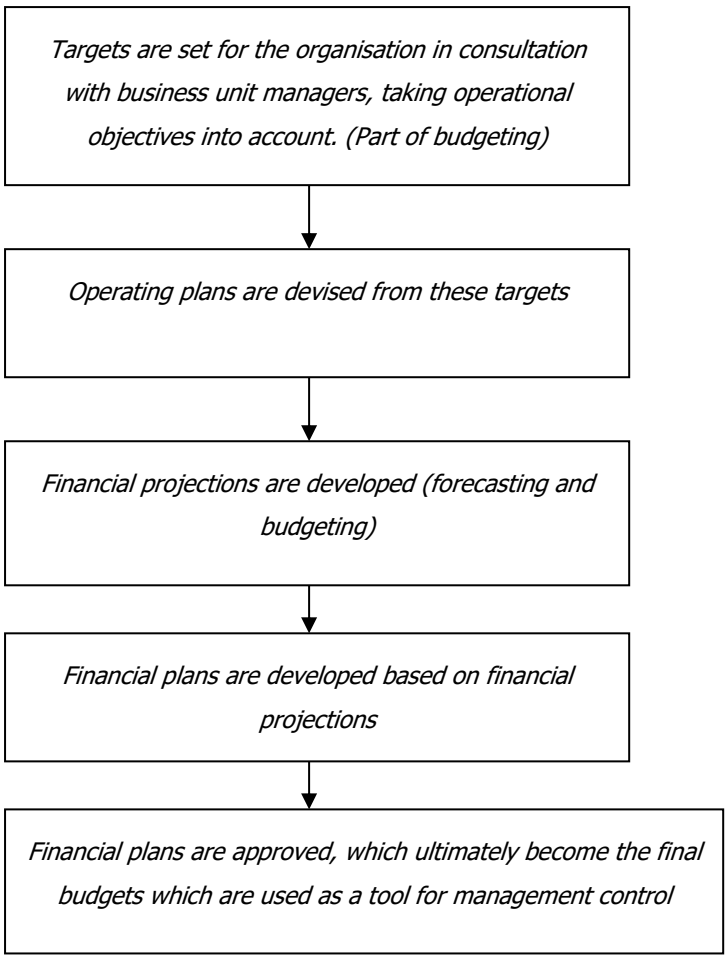
Usually each business unit manager / department manager will prepare a budget. These budgets are then aggregated to form the overall budget for the organisation.

Budgets should be consistent across the organisation, prepared using the same headings expectations and assumptions so that they can be aggregated into the final budget. For example, manufacturing budgets need to be aligned with what sales are budgeting. Also ensure that interest rates or exchange rates are being used consistently across different business units.

Where do Budgets Fit In?

There is quite a bit of overlap between the budgeting process and the forecasting process which was discussed in the previous Learning Unit. The following diagram illustrates, generally speaking, where budgets fit in:

Business unit managers are usually required to report on their progress against their budget each month. This is done by comparing actual spending against budgeted targets. At the End of the budget year, organisations usually conduct more comprehensive comparisons. Often organisations use end of budget year comparisons as performance measurements to reward or "punish" employees, however a better approach would be to incorporate the budget measurement tools with other forms of measurement to reduce the risk of turning budgets into harsh, bureaucratic management tools.



Figures from budgets should be evaluated in conjunction with other organisational elements. These include customer perceptions, strength of processes and ability to innovate. This is sometimes referred to as a "Balanced Scorecard Approach"

THE DEVELOPMENT OF SPENDING PLANS

Each business unit or department will create a spending plan or budget which are ultimately brought together to create the final budget plan for the organisation. Bear in mind the overlap with forecasting which you learnt in the previous Learning Unit.

The process usually takes place as follows:

1. Each business unit draws up their own budgets/ forecasts of expenditure (employee and non-employee costs.
2. Each business unit also draws up their own budgets / forecasts of capital expenditure.
3. In addition to these, the sales business unit will also produce a sales budget / forecast.
4. The production department will also create product volumes and costings budgets/ forecasts.
5. All of these are brought together to form the enterprise budget/ forecast.

If your organisation is small, you may not have all these departments, in which case the final budget can be generated without having to consult with other departments.

Some organisations work with *rolling* budgets as opposed to annual budgets. A rolling budget looks five quarters ahead and is revised every three months. Rolling budgets are often smoother as they take into account re-forecasting that should ideally take place in the course of running a business.

THE MANAGEMENT OF A BUDGET

Managing a budget requires comparing actual figures with budgeted figures (what actually happened compared to what you expected to happen. The difference between the two is called the *variance*. A budget should also include commentary on the variance.

An example of the management of a monthly budget for a business unit is shown below:

Rand						
	Month of June			**Year to end June**		
	Actual	**Budget**	**Variance**	**Actual**	**Budget**	**Variance**
Salaries	12000	10000	2000	72000	60000	12000
Stationery	2000	2000	0	12000	12000	0
Telephone	950	500	450	5700	3000	2700
Travel	2500	1200	1300	15000	7200	7800
Total Spending	**17450**	**13700**	**3750**	**104700**	**82200**	**22500**

Budget Commentary

1. Salaries were over budget by R2000 per month due to the salary increase authorised in line with additional responsibilities allocated.
2. Stationery was line with budget.
3. Telephone expenditure was way over budget by R450 per month – the reasons for this need to be investigated and telephone expenditure needs to be curbed.
4. Travel expenditure exceeded more than 100% of the budgeted figure. Urgently requires a check and control or possibly a revision of budget.

When reviewing a budget, a manager should keep an eye out for some of the following problem indicators:

- Sales are on target, but spending is not.
- Spending is on target, but sales are not.
- Large variances (more than 10%).
- Trends that show a decline, even if still within target.
- Sudden big changes.
- Single items of expenditure that exceed business unit spending limits.
- Large increases in accounts receivable (credit given to customer) and aging accounts receivable (debts not being collected).
- Headings that might conceal payments to third parties.

PLANNING, MONITORING, EVALUATION AND CORRECTIVE ACTION

As a manager, financial management of your unit should be viewed as a management aspect that requires planning, monitoring, evaluation and corrective action.

The old adage "if you can't measure it, you can't manage it" holds true for financial management.

Planning

Budget planning should be done from the bottom up, but frameworks and assumptions for budgeting should be set from the top down. Ensure that individual managers are involved in the budgeting process and are held responsible. It is important to remember that budgets should not be confused with performance management and that budgets should form part of performance management and not the entire yardstick against which people are measured.

Monitoring

An organisation can be affected by a multitude of factors and a manager should be prepared to reset the budget targets as necessary. A manager should look out for trends and measure them (for example, sales are running below target or spending is running above target). Charts can be created to monitor trends.

Non-financial indicators that ultimately affect the numbers should also be monitored, such as headcount, quality control problems and production levels. Ratio analysis also forms an important part of monitoring.

Check numbers ruthlessly and do not assume they are correct just because they have been presented well.

Evaluation

Evaluating requires taking monitoring one step further and is usually done at set intervals. Use the numbers to determine if you are in line with the business strategy. Evaluate whether cost –cutting measures can be put in place and what these measures should be. Ask yourself how efficiency can be improved and if more revenue can be generated. Question where things went wrong and why they went wrong.

A manager should also use their knowledge of financial management to benchmark against competitors.

Corrective Action

Monitoring and evaluation do not mean anything unless corrective action is taken. Managers should be required to prepare reports and action plans based on the budget variances and any ratio analysis they have done.

A typical action plan will include goals, objectives (measurable steps towards achieving those goals), timeframes and persons responsible. An action plan should be monitored and checked to see if items are being actioned on time.

Individual Formative Exercise 5A

Complete Exercise 5A in your Portfolio of Evidence

Time Frame: 60 min

Summative Exercise 1-10

Time Frame: 60 min

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