PHAKAMANI
LEARNING ACADEMY

PROJECT ACCELERATOR PROGRAMME

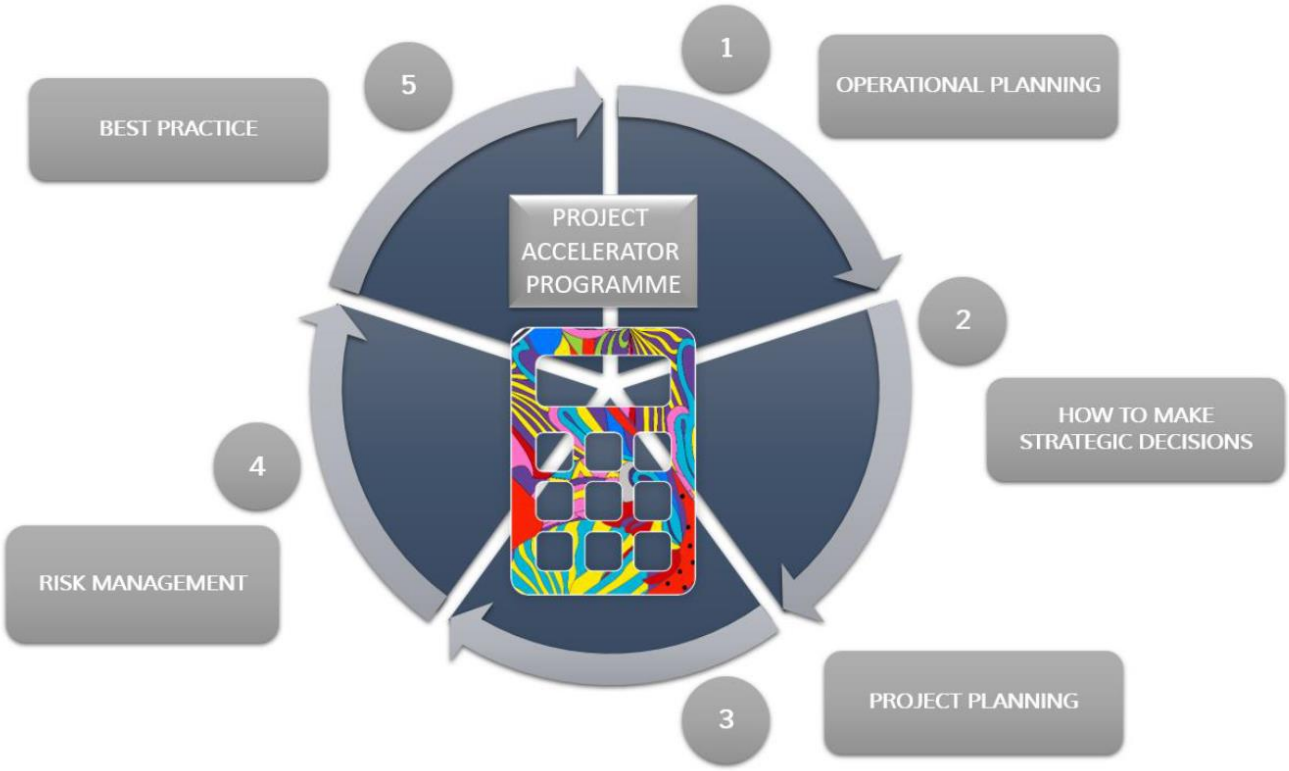
THE PROJECT ACCELERATOR PROGRAMME

PURPOSE

This Programme is designed to assist the learner to become proficient in project planning, execution and completion. Learners and companies which need to be assisted with project management should attend this programme.

- You are responsible for your own learning – make sure you manage your study, practical, workplace and portfolio time responsibly.
- Learning activities are learner driven – make sure you use the Learner Guide, Learner Workbook and Learner Portfolio of Evidence Guide in the manner intended and are familiar with the Portfolio requirements.
- The Facilitator is there to reasonably assist you during contact, practical and workplace time of this programme – make sure that you have his/her contact details.

PROGRAM DESIGN



CONTENTS

ADMIN AND HOUSEKEEPING

This Program is designed to be completed as a distance Learning program, but may also be an in-house facilitation programme. Due to the need for clarification on the process involved in this program please follow the following steps:

1. You are required to complete and sign ***all contracts and agreements*** related to this program

2. You are required to submit a ***letter of thanks to the mining company which has supported this program*** by financially providing for you to attend it

3. You need to go through your training toolkit and understand all of the parts of it.

1. You are required to complete and sign ***all contracts and agreements*** related to this program
2. You are required to submit a ***letter of thanks to the mining company which has supported this program*** by financially providing for you to attend it
3. You have gone through your training toolkit and understand all of the parts of it.
4. ***This Program is accredited with Services Seta. Phakamani's accreditation number is 14218.***
5. ***The Services Seta will hand you the certificate when you have completed the qualification and the Services Seta conducted a verification.***

*Please note *ED stands for Enterprise Development* and applies if you have not done any work with the mine which is funding this training. *SD stands for Supplier Development* and applies if you have done work for the mine which is providing this training.

IMPORTANT INFORMATION ON THE PROJECT ACCELERATOR PROGRAMME

1. Your ***LEARNING TOOLKIT*** consists of
    a. This ***LEARNER GUIDE*** which is the learning material
    b. The ***LEARNER WORKBOOK*** which is the guide you will complete and submit as part of your Portfolio of Evidence (Formative and Summative Assessments)
    c. Slides / Presentations and videos which are included to help you in this course
    d. Contact with your facilitator on social media platforms and one on one in distance learning
2. If you wish to obtain this qualification ***ALL REQUIRED DOCUMENTATION MUST BE SUBMITTED AND ALL MANDATES AND AGREEMENTS MUST BE SIGNED. SHOULD YOU NOT SIGN AND SUBMIT ALL THAT IS REQUIRED YOUR POE WILL NOT BE ACCEPTED AND SUBMITTED FOR ASSESSMENT.***
3. The Notional Hours and the timelines for submission must be followed. If you do not submit your POE and required documentation in time you will need to apply for late submission.

LEARNING OUTCOMES

Develop, implement and evaluate an operational plan
Develop operational strategies for a unit.
The strategic plan of an entity is examined to determine the purpose of a unit in contributing to the achievement of the entity's strategy.
Operational strategies for achieving the purpose of a unit are developed and recorded.
The operational strategy of a unit is aligned with the overall strategy of an entity.
A systematic process is followed to develop goals, objectives and performance standards that are clear, concise, measurable and achievable.
Stakeholders are involved in the formulation of the goals, objectives and performance standards of a unit to obtain their commitment.
Develop an operation plan for a unit.
The operation plan is developed to transform the goals and objectives into tasks, responsibilities, time frames, performance measures, resource needs and contingencies.
Measurable parameters are validated against customer and unit performance requirements.
Monitoring systems are described in the operational plan to enable the measurement of progress and results against the performance standards.
Feedback on the operational plan is obtained from team members to promote buy-in in the implementation of the plan.
Implement an operational plan.
The operational plan is implemented, with amendments where necessary, to meet the specified goals, objectives and performance standards.
Optimal use of available resources is ensured during implementation to promote cost-effectiveness.
The use of control measures by first line managers is encouraged in the areas of their responsibility.
Monitor, measure and evaluate the achievement of goals and objectives.
The performance of the unit is monitored against the goals, objectives and performance standards in the plan using established monitoring systems.
Performance reviews are conducted to measure inputs and outputs of team members against the operational plan.
Recommendations on corrective action are implemented with the agreement of the responsible first line managers.
Results are evaluated in terms of the teams' contribution to the performance of a unit.
Apply a systems approach to decision making
Apply critical and analytical skills to analyse an issue or problem.
Critical and analytical skills are applied to analyse and define an issue/problem affecting the functioning of a unit.
Critical and analytical skills are applied to determine factors impacting on the issue/problem and other areas in a unit and the entity affected by the issue/problem.
Engage with stakeholders in analysing the issue/problem and developing solutions.
The purpose of the consultation is communicated to stakeholders with reference to the aspects of the issue/problem and solutions to be discussed.
The critical and analytical processes for analysing the issue/problem and generating ideas on addressing the issue/problem are explained with examples.
The participation of stakeholders is obtained in analysing the unit's internal and external environment to identify factors relevant to the issue/problem.
The participation of team members is obtained in developing solutions to the issue/problem that would contribute towards the functioning of the unit and the broader system within which it operates.
The different ideas, values and perspectives of team members and stakeholders are recognised and respected in view of the value they add to the solution developed.
Select feasible solutions through a systems approach.
The inputs from stakeholders are analysed to identify feasible solutions to the issue/problem that would improve the functioning of the unit and the broader system within which it operates.
The identified solutions are prioritised in terms of their potential outcomes on the various processes/sections in the unit, the wider entity and external stakeholders.
A solution(s) is selected that is most appropriate within a systems context taking into consideration interrelated issues that impact on the solution and areas that will be impacted upon by the implementation of the solution.
Formulate and communicate the decision.
The decision on addressing the issue/problem is formulated with reference to the impact of the decision on the unit and the broader system within which it operates.
Actions required to implement the decision in the unit are described with reference to activities, role players, resources and time lines.

Change processes that are required to support the implementation of the decision are described with reference to their impact on the success of the implementation of the decision.
The decision is communicated to relevant team members in the unit and other stakeholders who will be involved in its implementation in a user-friendly format.
Develop, implement and evaluate a project plan
Select a work-based project for a unit.
Project alternatives are considered in relation to their viability in achieving unit objectives.
The decision on the preferred alternative is motivated in terms of viability, cost and results.
Scope a work-based project for a unit.
The scope of work and deliverables are defined in relation to the unit objectives.
The principal work activities are determined that will be required to achieve the unit objectives.
The potential risks are identified and analysed in relation to the likelihood of risks materialising.
Change processes that are essential to project success are described in terms of their contribution to the project results.
Develop a project plan.
The overall objectives of the plan are described with reference to the achievement of unit objectives.
The sponsor, project team and other stakeholders are described with their contributions to the project.
A work breakdown structure (WBS) is developed to describe the main activities of the project and the interrelationship between them.
The project activities, required performance levels and quality criteria are stipulated and communicated to team members and other stakeholders to promote quality and effectiveness.
The project plan is checked for accuracy, completeness and compliance to internal and external requirements.
Develop tools to measure key performance parameters.
A gantt chart is developed for managing and evaluating the time dimension.
A budget is developed for managing and evaluating the cost dimension.
Quality parameters are developed for managing and evaluating quality.
The measurement tools are communicated to team members to promote a common understanding of requirements.
Implement the plan and evaluate project progress.
Project implementation is monitored and evaluated against the plan, the stipulated performance criteria and quality requirements.
Project results are monitored to establish progress and effectiveness.
Deviations from the project plan are identified and analysed in order to take corrective action.
Corrective actions are implemented to ensure the achievement of project objectives.
Results are evaluated against the scope and objectives of the project.
Monitor, assess and manage risk
Demonstrate an understanding of potential risks to a unit.
The concept of risk is explained with reference to accepted theory and practice.
The factors that could constitute risks to a unit are identified and explained.
The role of organisational policies and procedures are explained in relation to risk management.
Identify potential risks and assess the impact thereof in a unit.
Potential risk factors for critical processes in a unit are identified and documented.
Possible scenarios that could constitute a risk are identified and documented.
The possibility of each scenario occurring is evaluated and recorded for future use.
An analysis is performed and documented to rate the impact of each scenario on a unit.
Priorities resulting from the impact analysis are determined and documented for implementation in the event of the risk materialising.
Develop contingency plans for managing risk.
Contingency plans are developed and documented in accordance with the entity's policies and procedures.
Contingency plans are communicated to relevant stakeholders in accordance with the entity's risk management procedures.
Contingency plans are distributed and stored in accordance with the entity's risk management procedures.
Test and revise contingency plans.
Contingency plans are tested in accordance with the entity's risk management procedures.

Recommendations on improvements to the contingency plans are documented in relation to the findings of the testing.
Contingency plans are revised to incorporate recommendations from the testing in accordance with the entity's policies and procedures.
EVALUATE CURRENT PRACTICES AGAINST BEST PRACTICE
Apply the concept of best practice to a unit.
The concept of best practice is explained in terms of the practices in a unit.
Best practices are identified that are relevant to a unit.
The best practices identified define world-class practices for a specific context/unit.
Analyse current practices in a unit in relation to identified best practice.
Current practices in a unit are compared with best practice.
Current product/service reliability is evaluated in terms of internal and external customer expectations.
The best opportunity/s for maximum gain is identified for a unit.
Decide on the best practices to be adopted in a unit.
The performance outcomes to be achieved by replacing the current practice with best practice are described with examples.
The current practices to be retained are described with motivations for the retention.
The best practices to be introduced are described with motivations for the introduction.
Formulate recommendations for implementing best practices.
The recommendations described are appropriate for the current practices analysed.
The recommendations presented are in line with best practices.
Recommendations are communicated to stakeholders in order to obtain feedback.
Draw up a plan for implementing best practice.
The change processes required to support the implementation of best practice are described with practical examples.
Resources required are identified in terms of the needs for implementing best practice.
The plan includes tasks, responsibilities, time-scales and performance measures.
The plan includes contingencies that are reasonable in relation to the proposed plan.
The monitoring, recording and evaluation of the implementation are described in order to promote effective implementation.

HOW TO USE THIS GUIDE:

This Learner Guide belongs to you. It is designed to serve as a guide for the duration of your training programme and as a resource for you. It contains readings, activities, and application aids that will assist you in developing the knowledge and skills stipulated in the specific outcomes and assessment criteria. Follow along in the guide as the facilitator takes you through the material, and feel free to make notes and diagrams that will help you to clarify or retain information. Jot down things that work well or ideas that come from the group. Also, note any points you would like to explore further. Participate actively in the skill practice activities, as they will give you an opportunity to gain insights from other people's experiences and to practice the skills. Do not forget to share your own experiences so that others can learn from you too.

ICONS

For ease of reference, an icon will indicate different activities. The following icons indicate different activities in the manual.

	SPECIFIC OUTCOME		DEFINITION
	ASSESSMENT CRITERIA		LEARNING ACTIVITIES
	COURSE MATERIAL		TAKE NOTE
	REFLECTION		SUMMARY

OVERVIEW

PURPOSE	At the end of this training session you will have achieved the Learning Outcomes
LEARNING ASSUMPTIONS	Level 4 Matric pass in Mathematics and English
HOW YOU WILL LEARN	The programme methodology includes facilitator presentations, readings, individual activities, group discussions, and skill application exercises, self-reflection and distance learning
HOW YOU WILL BE ASSESSED	This programme has been aligned to registered unit standards. You will be assessed against the outcomes of the unit standards by completing a knowledge assignment that covers the essential embedded knowledge stipulated in the unit standards. When you are assessed as competent against the unit standards, you will receive a certificate of competence.
FORMATIVE ASSESSMENT	In each Learner Guide, several activities are spaced within the content to assist you in understanding the material through application. Complete the learner workbook, you may complete the formative assessments in class or online with your facilitator however the summative assessments must be completed as on your own.
SUMMATIVE ASSESSMENT	You will be required to complete a Portfolio of Evidence; this will be your workbook together with evidence which needs to be inserted as directed in your workbook. The Learner Workbook will assist you in identifying the portfolio and evidence requirements for final assessment purposes. You will be required to complete Portfolio activities on your own time, using real life projects in your workplace environment in preparing evidence towards your portfolio.

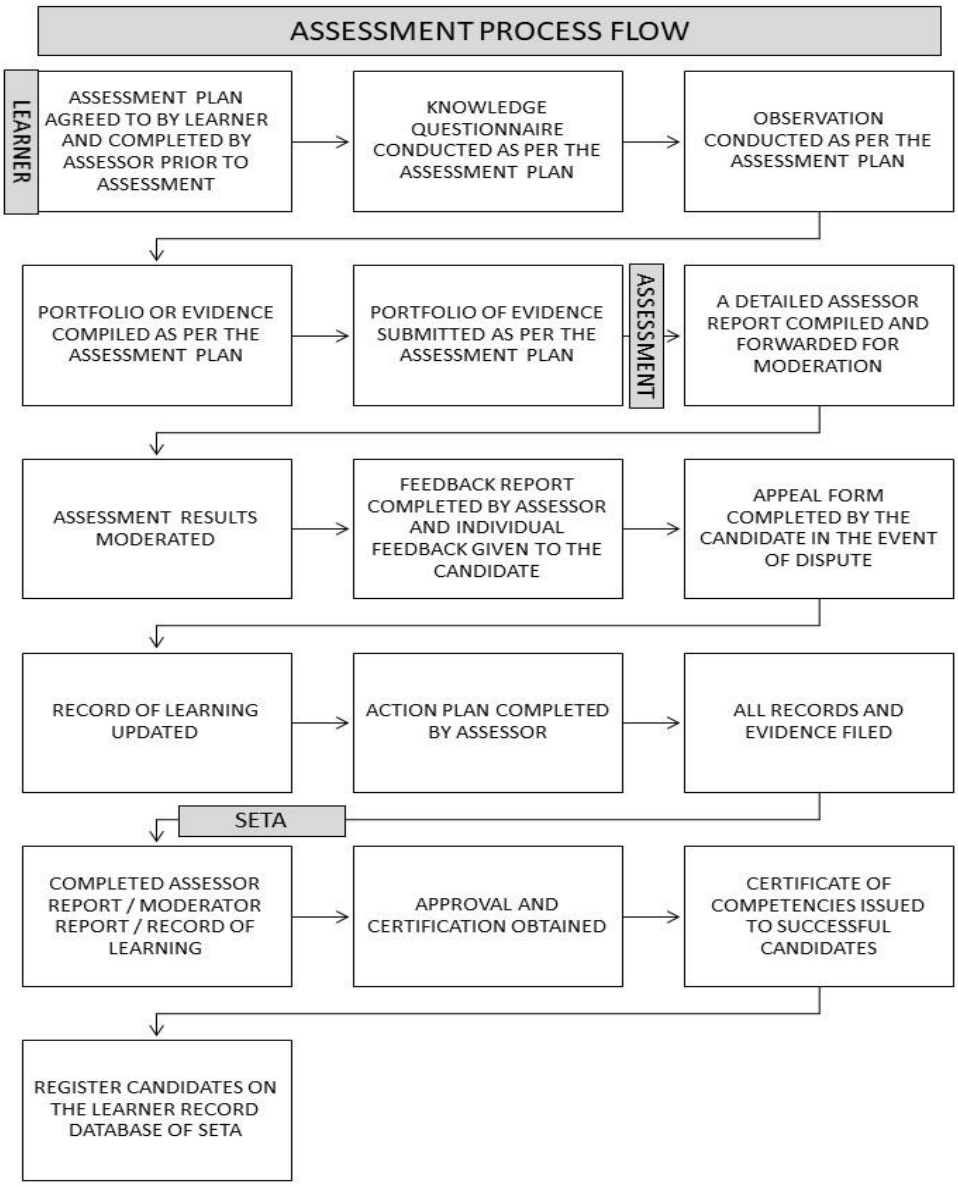
Being Declared Competent Entails:
Competence is the ability to perform whole work roles, to the standards expected in employment, in a real working environment.
There are three levels of competence:
Foundational competence: an understanding of what you do and why.
Practical competence: the ability to perform a set of tasks in an authentic context.
Reflexive competence: the ability to adapt to changed circumstances appropriately and responsibly, and to explain the reason behind the action.
To receive a certificate of competence and be awarded credits, you are required to provide evidence of your competence by compiling a portfolio of evidence, which will be assessed by a Services SETA accredited assessor.

You Have to Submit a Portfolio of Evidence
A portfolio of evidence is a structured collection of evidence that reflects your efforts, progress and achievement in a specific learning area, and demonstrates your competence.

The Assessment of Your Competence
Assessment of competence is a process of making judgments about an individual's competence through matching evidence collected to the appropriate national standards. The evidence in your portfolio should closely reflect the outcomes and assessment criteria of the unit standards of the learning programme for which you are being assessed.
To determine a candidate's knowledge and ability to apply the skills before and during the learning programme, formative assessments are done to determine the learner's progress towards full competence. This normally guides the learner towards a successful summative (final) assessment to which both the assessor and the candidate only agree when they both feel the candidate is ready.

Should it happen that a candidate is deemed not yet competent upon a summative assessment, that candidate will be allowed to be re-assessed. The candidate can, however, only be allowed two reassessments.
When learners have to undergo re-assessment, the following conditions will apply:
Specific feedback will be given so that candidates can concentrate on only those areas in which they were assessed as not yet competent.
Re-assessment will take place in the same situation or context and under the same conditions as the original assessment.
Only the specific outcomes that were not achieved will be re-assessed.
Candidates who are repeatedly unsuccessful will be given guidance on other possible and more suitable learning avenues.
In order for your assessor to assess your competence, your portfolio should provide evidence of both your knowledge and skills, and of how you applied your knowledge and skills in a variety of contexts.
This Candidate's Assessment Portfolio directs you in the activities that need to be completed so that your competence can be assessed and so that you can be awarded the credits attached to the programme

NOTE: YOUR WORKBOOK HAS MORE INFORMATION ON THE ASSESSMENT PROCESS



MODULE 1: OPERATIONAL PLANNING

UNIT STANDARDS IN THIS MODULE	252032	DEVELOP, IMPLEMENT AND EVALUATE AN OPERATIONAL PLAN	
		Develop operational strategies for a unit.	SO 1
		Develop an operation plan for a unit.	SO 2
		Implement an operational plan.	SO 3
		Monitor, measure and evaluate the achievement of goals and objectives.	SO 4
		The strategic plan of an entity is examined to determine the purpose of a unit in contributing to the achievement of the entity's strategy.	SO 1 AC 1
		Operational strategies for achieving the purpose of a unit are developed and recorded.	SO 1 AC 2
		The operational strategy of a unit is aligned with the overall strategy of an entity.	SO 1 AC 3
		A systematic process is followed to develop goals, objectives and performance standards that are clear, concise, measurable and achievable.	SO 1 AC 4
		Stakeholders are involved in the formulation of the goals, objectives and performance standards of a unit to obtain their commitment.	SO 1 AC 5
		The operation plan is developed to transform the goals and objectives into tasks, responsibilities, time frames, performance measures, resource needs and contingencies.	SO 2 AC 1
		Measurable parameters are validated against customer and unit performance requirements.	SO 2 AC 2
		Monitoring systems are described in the operational plan to enable the measurement of progress and results against the performance standards.	SO 2 AC 3
		Feedback on the operational plan is obtained from team members to promote buy-in in the implementation of the plan.	SO 2 AC 4
		The operational plan is implemented, with amendments where necessary, to meet the specified goals, objectives and performance standards.	SO 3 AC 1
		Optimal use of available resources is ensured during implementation to promote cost-effectiveness.	SO 3 AC 2
		The use of control measures by first line managers is encouraged in the areas of their responsibility.	SO 3 AC 3
		The performance of the unit is monitored against the goals, objectives and performance standards in the plan using established monitoring systems.	SO 4 AC 1
		Performance reviews are conducted to measure inputs and outputs of team members against the operational plan.	SO 4 AC 2
		Recommendations on corrective action are implemented with the agreement of the responsible first line managers.	SO 4 AC 3
		Results are evaluated in terms of the teams' contribution to the performance of a unit.	SO 4 AC 4

Develop an operation plan for a unit

Results-based management (RBM) is a program/project life-cycle approach to management that integrates strategy, people, resources, processes and measurements to improve decision-making, transparency, and accountability. The approach focuses on achieving outcomes, implementing performance measurement, learning, and adapting, as well as reporting on performance[1].

The key steps used in RBM are:

1. **Assess**: What is the current situation?
2. **Think**: What caused it? Who is involved?
3. **Envision**: What are we going to achieve?
4. **Plan**: How are we going to do it? With whom? When? With what resources?
5. **Do**: Get it done. How is it going? Do we need to adapt?
6. **Review**: What went well/badly? What can we learn for next time?

Throughout this programme, we will see the above in action.

Operational planning

Operational planning is the process of linking strategic goals and objectives to tactical/operational goals and objectives. It describes milestones, conditions for success and explains how, or what portion of, a strategic plan will be put into operation during a given operational period.

An operational plan addresses four questions:

- Where are we now?
- Where do we want to be?
- How do we get there?
- How do we measure our progress?

Operational plans should be prepared by the people who will be involved in implementation and should contain:

- clear objectives
- activities to be delivered
- quality standards
- desired outcomes
- staffing and resource requirements
- implementation timetables
- a process for monitoring progress

In this Module we will investigate how to develop the operational plan for a unit.

Liedtka (1998) developed a model which defines strategic thinking as a particular **way** of thinking, with very specific and clearly identifiable characteristics. The figure below illustrates the five elements of strategic thinking.

[1] http://www.international.gc.ca/development-developpement/partners-partenaires/bt-oa/rbm-gar.aspx?lang=eng

The Liedtka Model of the elements of Strategic Thinking

The first element is a **systems perspective**. A strategic thinker has a mental model of the complete system of value creation from beginning to end, and understands the interdependencies within the chain.

The mental model of how the world works must incorporate an understanding of both the **internal and external context** of the organisation, i.e. the business functions in a context larger than that of its industry alone; it is part of a "**business ecosystem"**[2] that crosses a variety of industries.

In addition to understanding the external business ecosystem in which a firm operates, strategic thinkers must also appreciate the inter-relationships among the individual internal parts that, together, constitute the whole, as well as the fact that the whole is greater than the sum of its parts. The systems perspective enables individuals to clarify their **role within the larger system** and the **impact of their behaviour on other parts of the system, as well as on the final outcome.**

Thus, from a vertical perspective, strategic thinkers see the linkages in the system from multiple perspectives and understand the relationship among the corporate, business, and functional levels of strategies to the external context, as well as to the personal daily choices they make. From a horizontal perspective, they also understand the connections across departments and functions, and between suppliers and buyers.

The second element of strategic thinking is that it is **intent-focused** and intent-driven.

Strategic intent provides the focus that allows individuals within an organisation to marshal and leverage their energy, to focus attention, to resist distraction, and to concentrate for as long as it takes to achieve a goal. "In the disorienting swirl of change, such psychic energy may well be the scarcest resource an organisation has, and only those who utilise it will succeed".[3]

Therefore, strategic thinking is fundamentally concerned with, and driven by, the continuous shaping and re-shaping of intent.

The third element of strategic thinking is **intelligent opportunism:** the idea of openness to new experience, which allows one to take advantage of alternative strategies that

may emerge as more relevant to a rapidly-changing business environment. In practising intelligent opportunism, it is important that organisations seriously consider the input from lower level employees or more innovative employees who may be instrumental in embracing or identifying alternative strategies that may be more appropriate for the environment.

Mintzberg (1999) points out that it is very hard for a CEO or prospective CEO to say to a board, "Well, we are evolving our strategy. It's emerging." The board wants the strategy to be "nice and clear" as do the stock-market analysts, who are part of the same problem. He goes on to say that a healthy strategy system in any company is one in which there's a tremendous amount of communication and interaction around ideas and possibilities - from the ground, from middle management, from senior management.

[2] James Moore (1993)
[3] JM Liedtka (1998)

The fourth element of strategic thinking is referred to as **thinking in time**. Strategy is not solely driven by the future, but by the gap between the current reality and the goal for the future, between the current capabilities and resources and ambitions for the future. Thus, by connecting the past with the present and linking this to the future, strategic thinking is always "thinking in time."

The fifth element of the strategic thinking recognises that the process is **hypothesis-driven**.

According to Liedtka (1998) this approach is somewhat foreign to most managers: "Yet in an environment of ever-increasing information availability and decreasing time to think, the ability to develop good hypotheses and test them efficiently is critical . . . the ability to work well with hypotheses is the core competence of the best strategy consulting firms".

Hypothesis generation poses the question, "What if . . .?" Hypothesis testing follows up with the critical question, "If . . . then" and evaluates the data relevant to the analysis.

In summary, Liedtka (1998) states:

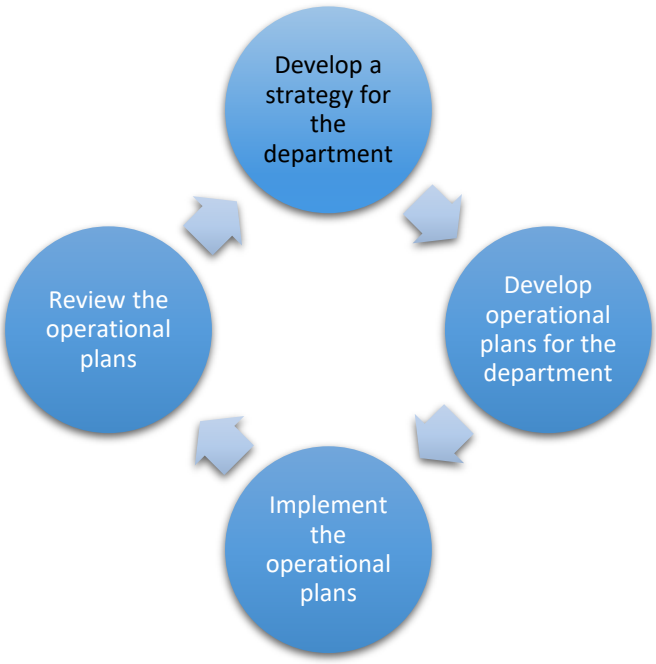
"Firms who succeed at embedding a capability for strategic thinking throughout their organisations will have created a new source of competitive advantage. Their whole (holistic) system perspective should allow them to redesign their processes for greater efficiency and effectiveness. Their intent-focus will make them more determined and less distracted than their rivals. Their ability to think in time will improve the quality of their decision-making and speed of implementation. A capacity for hypothesis generation and testing will incorporate both creative and critical thinking into their processes. Intelligent opportunism will make them more responsive to local opportunities".

The greatest competitive differentiator for organisations is the ability to put strategy into operation.

All too often, a strategy is defined but it is not communicated, understood or implemented by the employees. The strategy that is defined by the business should be tangible by translating it and cascading it horizontally and vertically through the business. All employees and stakeholders should align their performance to achieving the strategic vision, mission and objectives.

The strategic plan determines where the organisation intends going, what it intends achieving and how it will achieve it. It is the future focus for the entire organisation. It involves creating fits between strategy and the way things are done in the business. "Fits" ultimately refer to alignment of your people, processes and technology.

The process that we will be following to achieve this, is depicted in the diagram below:



Develop Operational Strategies

The first step in aligning operations with the strategic plan is to understand the plan. Begin first by understanding the company **vision and mission**. The vision explains the preferred future and the mission explains the purpose and function.

Role of the vision and mission statements

An organisation's mission and vision statements are a description of the goals and objectives of the business. Just as we have a **personal value system and goals** by which we try to live, an organisation has certain values and goals, which are embodied in its **culture and its mission and vision statements.** Because values are the basis for organisational decisions, strategy must be driven by a thorough understanding of the dominant values of the enterprise.

The **vision statement** of a business says what it hopes to achieve in the **future**. The vision statement describes where the business is going or where it wants to go, in other words, the future of the business.

While the primary objective of a business is to make a profit, it also necessarily forms a relationship with the community and environment, and with its customers, employees and shareholders.

There are certain characteristics that most vision statements have in common. In general, vision statements should be:

- Understood and shared by all members of the organisation
- Broad enough to allow a diverse variety of perspectives to be encompassed within them
- Inspiring and uplifting to everyone involved
- Easy to communicate - for example, they should be short enough to fit on a T-shirt
- The end result, or desired outcome, is clearly stated
- It gives a picture of the business's planned future
- It is a **plan of action**
- It expresses the business's culture and climate

The **mission statement** describes why the business exists **today**. It is a reflection of the goals of a business and how it sees its responsibilities to the customer and community. The mission statement describes the purpose of the business's existence.

A mission statement:

- Gives direction and guidance to everyone in the business
- Is realistic and achievable
- Must not be so vague that it could apply to any other organisation
- Is concise. Although not as short a phrase as a vision statement, a mission statement should still get its point across in one sentence
- Is outcome-oriented. Mission statements explain the overarching outcomes your organisation is working to achieve
- Is inclusive. While mission statements do make statements about your company's overarching goals, it's very important that it does so very broadly. Good mission statements are not limiting in the strategies or sectors of the organisation that may become involved in the project.

A good mission statement is made up of three parts:

- The **key market** is defined
- The company's **contribution** is stated

- A distinction is made between your company and others

For example:

Key market	*To provide **discerning**, **quality-minded guests***
Contribution	*with an exclusive, premier **lodging facility***
Distinction	*which is consistently perceived as **comfortable**, **well-maintained and attractive**, staffed by **friendly, attentive and efficient people***

All staff members should know and understand the company's goals. This will ensure that all staff work as a team, with a full understanding of the desired direction:

- Everyone will have the same focus and there will be no misunderstandings
- Creates a team-oriented environment
- Improves employee morale
- Helps attract and keep the best people

Once you've analysed the mission and vision statements, work through the organisation's strategic objectives.

What are Objectives?

An objective is a target a business sets for itself. The target may be short term (one year) or long term (five years). Targets help a business to measure its success.

Once an organisation has developed its mission statement, its next step is to develop the specific objectives that are focused on achieving that mission. Objectives are the specific measurable results of the initiative. An organisation's objectives offer specifics of how much of what will be accomplished by when.

For example, one of several objectives for a corporate social responsibility initiative to promote care for older adults might be: "By 201X (by when), to increase by 20% (how much) those elders reporting that they are in daily contact with someone who cares about them (of what)."

Strategic objectives may be classified into the four perspectives of the **Balanced Scorecard**. The four perspectives of the Balanced Scorecard are:

- Financial
- Customer
- Internal Business Process
- Learning and Growth

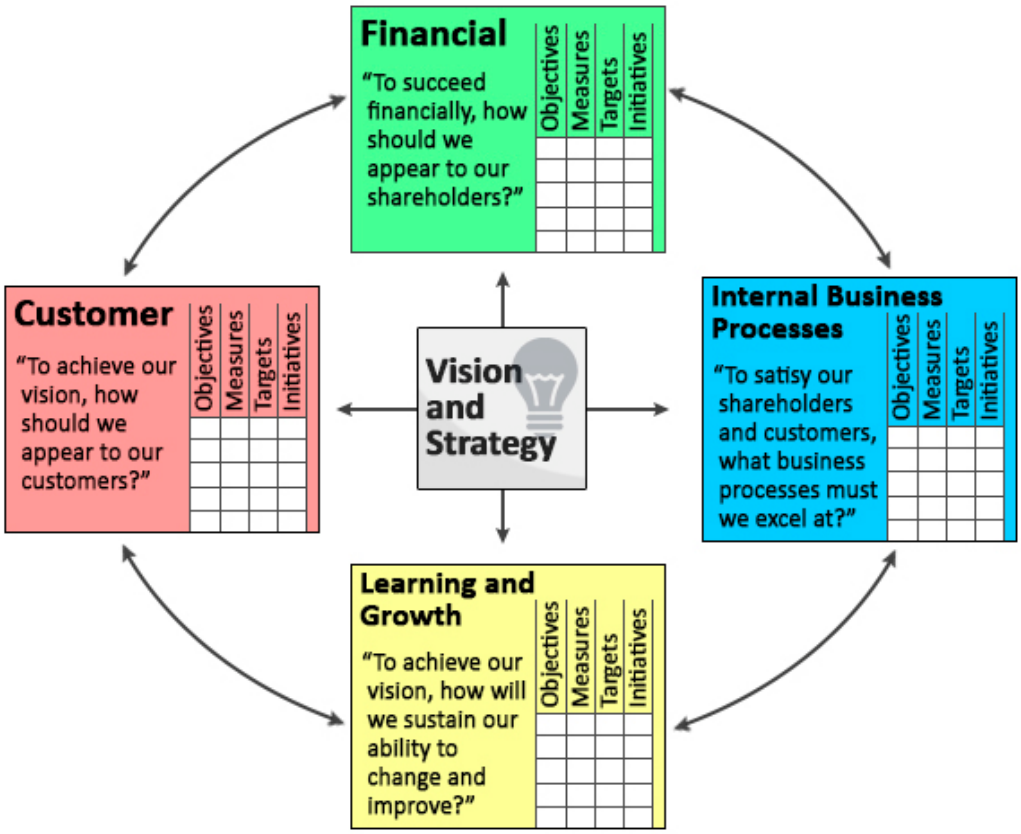
The balanced scorecard provides a mechanism for taking an organisation's vision and strategy, and translating them into clearly-defined, measurable objectives. Achievement of these objectives adds value to the organisation both immediately and in the long-term. In other words, it captures the organisation's value-adding activities and focuses people's efforts on them.

The analysis of the organisation strategic plan should also include external appraisal (how are we viewed by stakeholders outside the business), internal appraisal (how are we viewed by internal stakeholders), corporate culture appraisal (how has I culture contributed towards or hampered progress) and past performance appraisal (how have we performed historically).

The Four Perspectives of the Balanced Scorecard

When working through the organisation's strategic plan, consider the four business perspectives. These four perspectives present a balanced view of the whole organisation, and if objectives are set under each of these headings for your department, it is unlikely that any important area will be missed.

These perspectives, and the way they stem from the organisation's strategy, are shown in this diagram[4]:



Let's take a closer look at the concept of a balanced scorecard and each of the perspectives. When the scorecard is complete, it should consist of objectives and measures which reflect the organisation's mission and strategy. The measures represent a **balance** between:

- **External measures** for shareholders and customers and **internal measures** of critical business processes and of learning and growth.
- Measures which report the **historical performance** of the organisation and measures intended to drive **future performance**.
- **Objective, quantifiable measures** (i.e. we can put a number to them) and **subjective measures** (i.e. we make a value judgement about them).

A balanced scorecard lists objectives for each business perspective, indicates how each will be measured, and states the target that has been agreed for each one. It is therefore a very simple document, with this layout:

[4] Balanced Scorecard (Kaplan & Norton 1996)

Perspective	Objective	Measure	Target
Financial			
Customer			
Internal Business Process			
Learning and Growth			

The Financial Perspective

The Financial Perspective helps a company to determine whether the strategy, implementation and execution are contributing to the bottom line.

When defining the financial perspective we need to ask the question, "How should we appear to our shareholders?"

- Are we spending more money than we are receiving?
- Are structures in place to control financial expenditure?

Financial success is used in addition to the other three perspectives to determine overall success

The Customer Perspective

The Customer Perspective involves evaluating our clients' needs such as time, quality, performance and service.

When defining the customer perspective we need to ask the question "How do we interact with our customers?"

- Internally and externally, what percentage of new services should we offer?
- How long should we take to respond to requests?
- What are the time, cost and quality requirements expected from our clients?
- Internally and externally, what are the customer satisfaction levels and what should they be?

The Internal Business Process Perspective

The internal business process perspective involves applying measurements to internal operations in order to improve efficiency and effectiveness.

When defining the internal business process perspective, we need to ask the question "Where must we excel?"

- Consider measures stemming from processes with the greatest impact on customer satisfaction (response time, quality, etc.)
- Attempt to identify and measure core competencies and services required to remain a market leader
- Use employee ideas and suggestions to improve systems and processes

The Learning and Growth Perspective

The learning and growth perspective addresses the organisation's ability to innovate, improve, develop and motivate staff.

When defining the learning and growth perspective, we need to ask the question "How will we sustain our ability to change and improve our company?"

- Retain and develop the competency set of our people
- Improve our employee motivation and morale
- Improve the overall organisational culture
- Empower people to create value

Strategic models

There is no one perfect strategic planning model for each organisation. Each organisation ends up developing its own model of strategic planning, often by selecting a model and modifying it as it develops its own planning process.

The following models provide a range of alternatives from which organisations might select an approach and begin to develop their own strategic planning process, bearing in mind that an organisation might choose to integrate the models, e.g. using a scenario model to creatively identify strategic issues and goals, and then an issues-based model to carefully strategise to address the issues and reach the goals.[5]

1. "Basic" strategic planning

This very basic process is typically followed by organisations that are extremely small, busy, and have not done much strategic planning before. Planning is usually carried out by top-level management.

The basic strategic planning process includes:

Step 1 - Identify the purpose (mission statement)
This is the statement that describes why an organisation exists, i.e. its basic purpose. The statement should describe what client needs are intended to be met and with what services. Top-level management should develop and agree on the mission statement. The statements will change with time.

Step 2 - Select the goals the organisation must reach if it is to accomplish its mission
Goals are general statements about what the organisation needs to accomplish to meet its purpose, or mission, and address major issues facing the organisation.

Step 3 - Identify specific approaches or strategies that must be implemented to reach each goal
The strategies are often what change the most as the organisation eventually conducts more intensive strategic planning, particularly by more closely examining the external and internal environments of the organisation.

Step 4 - Identify specific action plans to implement each strategy
These are the specific activities that each major function (department, division, etc.) must undertake to ensure it is effectively implementing each strategy. Objectives should be clearly worded to the extent that people can assess if the objectives have been met or not. Ideally, top management develops specific committees that each have a work plan, or set of objectives.

Step 5 - Monitor and update the plan
Planners regularly reflect on the extent to which the goals are being met and whether action plans are being implemented. Perhaps the most important indicator of success of the organisation is positive feedback from the organisation's customers.

2. Issue-based (or goal-based) planning

Organisations that begin with the "basic" planning approach described above, often evolve to using this more comprehensive and more effective type of planning.

The following is a step-by-step summary of this type of planning process:

1. External/internal assessment to identify "SWOT" (Strengths and Weaknesses; Opportunities and Threats)
2. Strategic analysis to identify and prioritise major issues/goals

[5] Carter McNamara, MBA, PhD: *Basic Overview of Various Strategic Planning Models*

3. Design major strategies (or programmes) to address issues/goals
4. Design/update vision, mission and values(some organisations may do this first in planning)
5. Establish action plans (objectives, resource needs, roles and responsibilities for implementation)
6. Record issues, goals, strategies/programmes, updated mission and vision, and action plans in a Strategic Plan document and attach SWOT, etc.
7. Develop the yearly Operating Plan document
8. Develop and authorise budget for the year
9. Conduct the organisation's operations
10. Monitor/review/evaluate/update Strategic Plan document

3. Alignment model

The overall purpose of the alignment model is to ensure strong alignment among the organisation's mission and its resources to effectively operate the organisation. This model is useful for organisations that need to fine-tune strategies or find out why they are not working. An organisation might also choose this model if it is experiencing a large number of issues around internal efficiencies.

Overall steps include:

1. The planning group outlines the organisation's mission, programmes, resources, and needed support.
2. Identify what's working well and what needs adjustment.
3. Identify how these adjustments should be made.
4. Include the adjustments as strategies in the strategic plan.

4. Scenario planning

Scenario planning or **scenario thinking** is a strategic planning method that some organisations use to make flexible long-term plans. It is in large part an adaptation and generalisation of classic methods used by military intelligence.

This approach might be used in conjunction with other models to ensure planners truly undertake strategic thinking. The scenario planning model may be useful, particularly in identifying strategic issues and goals.

"Scenario planning isn't the same thing as strategic planning. Basic strategic planning tends to address the accidents of the day, such as the decision to reduce inventory because of a downturn in the economy. Scenario planning looks at what's going to happen *tomorrow*. It's focused on understanding what the future will look like, so that CEOs can build their organisations accordingly." [6]

In the 1980s Pierre Wack[7] wrote about work he was doing for the Royal Dutch Shell Company over the previous decade. Because the price of oil is so volatile, and because it is such an important factor in determining the fortunes of a company like Shell, he worked with his team on developing scenarios for the company's top executives. Wack invented the practice of scenario planning, which is different from just forecasting the future. Scenario planning is the use of alternative stories about the future, many with improbable and dramatic twists, to develop strategy. By presenting different possible futures to managers, the scenario planner's hope is get managers, as Wack says, to "question their own model of reality and change it when necessary so as to come up with strategic insights beyond their minds' previous reach".

Scenario planning alerted Shell's managing directors in advance about some of the most dramatic events of their times: the 1973 energy crisis, the more severe price shock of 1979, the collapse of the oil market in 1986, the fall of the Soviet Union, the rise of Muslim radicalism, and the increasing pressure on companies to address environmental and social problems.

[6] Gideon Malherbe, .president of VCI, New York
[7] *The Man Who Saw the Future* By Art Kleiner

As the pace of change in business accelerates, the legacy of Pierre Wack, the father of scenario planning, is more relevant than ever. A clear sense of the future's obscure challenges and opportunities is the most valuable asset an executive can have. To Mr. Wack, the ability for which managers are most celebrated, namely the ability to get things done, was only one part of their necessary skills. Equally important was the ability to see ahead.

Scenario planning has since become widely popular outside Shell, not just in corporations, but in some governments, as well. In South Africa, for example, scenario planning played a major role in the peaceful transition from a system of apartheid to a stable multiracial government.

Scenario planning is an outstanding **learning** tool -- a way to learn about the future through a deeper understanding of the major driving forces affecting all of us today. In a group setting, executives engaged in scenario planning exchange knowledge and ideas, constructing a selection of "future stories" that expand their understanding of the current business environment and broaden their perception of future events.

"Driving forces," the most significant trends likely to affect the larger world, generally represent four categories:

- **Society:** Demographics, lifestyle changes, etc.
- **Economics:** Industry changes, competitive forces, changes in workforce, etc.
- **Politics:** Electoral, legislative, regulatory
- **Technology:** Innovations, etc.

Within this overall grouping are **predetermined elements** (large-scale forces that are relatively **stable and predictable**, such as population demographics) and **critical uncertainties** (forces that we **can't predict**, such as natural disasters, shifts in consumer tastes, new products devised by the competition, and so on).

"The goal in scenario planning isn't to create one specific future. Instead, by drawing attention to key drivers and exploring how they push the future in different directions, planners create an array of possible 'futures' -- resulting in the ability to make crucial decisions today."[8]

The basic approach in scenario planning is two-fold:

1. **Know your core competencies:** The starting point for any future thinking is knowing your strengths *as they exist right now,* as well as your organisation's strategic advantage in the marketplace.
2. **Identify forces and trends:** Has your company taken the time to seriously pinpoint forces that affect your financial performance; now and in years to come?

In some industries, the driving forces are obvious, for example a good example is the Internet, which facilitates communication to and from any locality in the world. Now we don't need central meeting spaces any longer. How is your business different when all your customers and suppliers, as well as your competition, are in the same room and can talk to each other at the same time?

Other guidelines to constructing scenarios:

- **Look for patterns:** As you devise different versions of the future, look for common threads and/or underlying similarities.
- **Tell a story:** Convert apparently random scenarios into believable, coherent stories.
- **Imagine, don't predict:** Don't confuse scenarios with predictions.
- **Test the impact:** What are the consequences for your company of each different scenario?
- **Break free of stereotypes:** Use scenario planning to challenge inbred or conventional assumptions.

How scenario planning or scenario thinking is done:

[8] William Poppei, a professor in the finance department of DePaul University

1. **Decide on the key question to be answered by the analysis**. By doing this, it is possible to assess whether scenario planning is preferred over the other methods. If the question is based on small changes or a very few number of elements, other more formalised methods may be more useful.
2. **Set the time and scope of the analysis.** Take into consideration how quickly changes have happened in the past, and try to assess to what degree it is possible to predict common trends in demographics, product life cycles, etc. A usual timeframe can be five to 10 years.
3. **Identify major stakeholders**. Decide who will be affected and have an interest in the possible outcomes. Identify their current interests, and whether and why these interests have changed over time in the past.
4. **Map basic trends and driving forces**. This includes industry, economic, political, technological, legal and societal trends. Assess to what degree these trends will affect your organisation. Describe each trend, how and why it will affect the organisation. In this step of the process, **brainstorming** is commonly used, where all trends that can be thought of are presented before they are assessed, to prevent possible group thinking and tunnel vision.
5. **Find key uncertainties**. Map the driving forces on two axes, assessing each force on an uncertain/(relatively) predictable and important/unimportant scale. All driving forces that are considered unimportant are discarded. Important driving forces that are relatively predictable (e.g. demographics) can be included in any scenario, so the scenarios should not be based on these. This leaves you with a number of important and unpredictable driving forces. At this point, it is also useful to assess whether any linkages between driving forces exist, and rule out any "impossible" scenarios (e.g. full employment and zero inflation).
6. **Check for the possibility to group the linked forces** and if possible, reduce the forces to the **two** most important. (To allow the scenarios to be presented in a neat xy-diagram)
7. **Identify the extremes** of the possible outcomes of the (two) driving forces and check the dimensions for consistency and plausibility. Three key points should be assessed:
    - **Time frame:** are the trends compatible within the time frame in question?
    - **Internal consistency:** do the forces describe uncertainties that can construct probable scenarios?
8. **Define the scenarios,** plotting them on a grid if possible. Usually, 2 to 4 scenarios are constructed. The current situation does not need to be in the middle of the diagram (inflation may already be low), and possible scenarios may keep one (or more) of the forces relatively constant, especially if using three or more driving forces. One approach can be to create all positive elements into one scenario and all negative elements (relative to the current situation) in another scenario, then refining these. In the end, try to avoid pure best-case and worst-case scenarios.
9. **Write out the scenarios**. Narrate what has happened and what the reasons can be for the proposed situation. Try to include good reasons *why* the changes have occurred as this helps the further analysis. Finally, give each scenario a descriptive (and catchy) name to ease later reference.
10. **Assess the scenarios.** Are they relevant for the goal? Are they internally consistent? Do they represent relatively stable outcome situations?
11. **Identify research needs**. Based on the scenarios, assess where more information is needed. Where needed, obtain more information on the motivations of stakeholders, possible innovations that may occur in the industry and so on.
12. **Develop quantitative methods.** If possible, develop models to help quantify consequences of the various scenarios, such as growth rate, cash flow etc.
13. **Converge towards decision scenarios.** Retrace the steps above until you reach scenarios which address the fundamental issues facing the organisation. Try to assess upsides and downsides of the possible scenarios.

One of the leading proponents of scenario planning in South Africa is Clem Sunter, former Chairman of Anglo American:

THE MIND OF A FOX[9]

To Clem Sunter's way of thinking, humanity is divided into two categories: the hedgehogs and the foxes.

In his new book, The Mind of a Fox, co-written with Chantell Ilbury, Sunter writes, "Foxes are people who embrace uncertainty and believe that experience- doing things- is an essential source of knowledge."

"Foxes need to ask themselves- what do I control?" says Sunter. "What do I not control? Of all the factors that affect me and my business, what is certain? And what is uncertain?"

Some things are uncertain and will always remain so. There is nothing the entrepreneur can do about the price of fuel or the interest charged on house bonds. He or she has no control over such matters. And there is no point wasting time, energy and worry on these factors.

But there are matters of which we can be certain and over which we do have control. "The real fox expends his or her energy there," says Sunter. "That is where there can be a return for the effort that is being expended."

Clem Sunter is an exponent of the rare art of scenario planning… a way of looking at the future that encourages you to think through a range of possible outcomes- best and worst case scenarios and everything in between. We all need to do it: entrepreneurs, managers, consultants, agents, licensees, franchisees, professionals, or whatever your line of business. If you operate a factory or workshop and 50% of your staff contract Aids and either die or become too ill to work, what do you do? What are your options in the good days and the bad?

The message is to control those elements that you can and survive the others by anticipating them. You have control over how hard you work, how smart you work, how determined you are, how much knowledge you acquire before making decisions: you even have control over how you deal with those elements you cannot control.

The authors use the following **example of scenario planning (example 1)**:

You are in a vehicle travelling towards an intersection on a main road. On a minor road, coming towards the same intersection is another vehicle that you have every reason to believe should stop. This action is out of your control, cannot be guaranteed and is therefore uncertain.

This is a key uncertainty. In your mind you play out different scenarios:

1. The driver of the other vehicle sees you and slows to a halt, allowing you to travel through safely.
2. The driver of the other vehicle doesn't see you, drives straight through the intersection, and you have a near miss.
3. The driver of the other vehicle doesn't see you, drives straight through the intersection and you have a crash.

Based on the scenarios, you have a number of options:

1. Maintain your speed on the assumption that the driver is eventually going to see you
2. Slow down because you worry that the driver is not going to see you
3. Speed up in the hope that you may get through the intersection before the other vehicle arrives.

Which option would YOU choose?

Options 1 and 3 may result in a crash, whereas option 2 won't. The way of the fox, the entrepreneur, has to be option 2. The fox knows that the other vehicle may not stop. The fox controls what he or she can. There is

[9] From "The mind of the entrepreneur" in Succeed, August / September 2001

nothing you can do about the behaviour of the other driver, but you can modify your own to avoid the accident.

Scenario planning: (example 2)

How would you plan for the five-year failure of your organisation?

Gideon Malherbe, president of VCI, New York suggests the following:

"Ask people in the company how they might go about destroying the business. Employees won't believe you're serious, so they won't think they actually have to do any of the things they propose. As a result, they won't limit themselves, and will give you their best ideas. After all, in their minds, the exercise is just fun. They will suggest all kinds of possibilities. And that's exactly what you want!"

In this manner, he adds, the CEO and senior management can learn what employees think is working and what isn't working in the business -- and what the company is doing *right now* in both categories.

"What makes scenario planning such an effective tool is that it tells many compelling stories," Malherbe says. "This is a way to gauge current reality and a way for people to find meaning in the daily tasks they perform for your organisation."

"Thinking about the future means asking yourself some tough questions," Malherbe says. "But the value lies in anticipating change before it happens -- rather than mindlessly reacting to whatever comes at you next."

Toward that end, ask questions like:

- Who will our customers be five years from now?
- What channels will we use to reach these customers?
- Are our short-term priorities aligned with our long-range goals?
- What will constitute our competitive advantage?
- What will make us unique?
- Are we aware of new competitive threats on the horizon?
- Do senior staff have a commitment to altering the business model as changing times demand?
- Is our change mandate driven by our competitors' actions or by our own unique vision of the future?

"Your answers to these questions will tell you a lot about who you are today," Malherbe notes. "It will also give you a better sense of the type of resources you'll need to commit to imagining your organisation's future."

5. "Organic" (or self-organising) planning

Traditional strategic planning processes are sometimes considered "mechanistic" or "linear," i.e. they're general-to-specific, or cause-and-effect in nature. For example, the processes often begin by conducting a broad assessment of the external and internal environments of the organisation, conducting a strategic analysis ("SWOT" analysis), narrowing down to identifying and prioritising issues, and then developing specific strategies to address the specific issues.

Another view of planning is similar to the development of an organism, i.e. an "organic," or self-organising process. Certain cultures, for example those that do not view time as strictly linear, or those who are more concerned with relationship-building than the constraints of linear time, might prefer unfolding and naturalistic "organic" planning processes more than the traditional mechanistic, linear processes.

Self-organising requires continual reference to common values, dialoguing around these values, and continued shared reflection around the system's current processes.

General steps to follow:

1. Use dialogue and **story-boarding techniques** to clarify and articulate the organisation's cultural values
2. Use dialogue and story-boarding techniques to articulate the group's vision for the organisation
3. On an ongoing basis, e.g., once every quarter, dialogue about what processes are needed to arrive at the vision and what the group is going to do to keep those processes going

4. Continually remind everyone that this type of naturalistic planning is never really "finished" and that, rather, the group needs to learn to conduct its own values clarification, dialogue/reflection, and process updates
5. Focus more on learning and less on method.
6. Ask the group to reflect on how the organisation will portray its strategic plans to stakeholders, etc. who often expect the "mechanistic, linear" plan formats.

6. The learning organisation

A learning organisation has been defined as an "organisation with an ingrained philosophy for anticipating, reacting and responding to change, complexity and uncertainty."[10]

Learning is the process of gaining knowledge or skills through experience or study. An **organisation** is a group of persons in which individuals cooperate systematically for a purpose. A **Learning Organisation** is one in which people freely and continually, individually and collectively, exchange information and create processes that will expand their capacity to create the results they strive for.

Peter. Senge, director of the Centre for Organisational Learning at MIT, argues that learning is the best form of competitive advantage and popularised the term "learning organisation" in his 1990 bestseller "The Fifth Discipline".

Learning organisations have the following characteristics:[2]

- People continually expand their capacity to create the desired results
- New and out-of-the-box thinking is nurtured and encouraged
- People are given enough scope to work out their collective aspirations
- Individuals continually learn how to learn together

Organisations exist through collaboration, and by working together people can accomplish things that they cannot do individually. A learning organisation builds collaborative relationships in order to draw strength from the diverse knowledge, experience, capabilities, and ways of doing things that people and communities have and use.

Peter Senge says that a company that performs badly is easily recognisable:

- Employees seem unmotivated or uninterested in their work
- The workforce lacks the skill and knowledge to adjust to new jobs
- Managers seem to be the only one to come up with all the ideas
- The workforce simply follows orders
- Teams argue constantly and lack real productivity
- Teams lack communication between each other
- When the "guru"/ manager/ "expert" is off, things get put on hold
- Managers are always the last to hear about problems
- Managers are the first to hear about customer complaints
- The same problems occur over and over

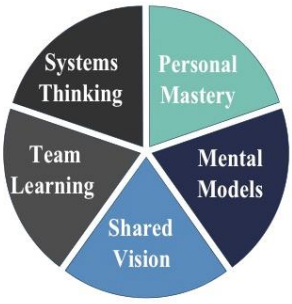
According to Senge, the answer to these problems could be found in becoming a Learning Organisation, an organisation that learns and encourages learning among its people. It promotes exchange of information between employees, hence creating a more knowledgeable workforce. This produces a very flexible organisation where people **will accept and adapt to new ideas and changes through a shared vision.**

[10] 1 Malhotra, Yogesh. (1996). Organisational Learning and Learning Organisations: An Overview [WWW document]. URL http://www.kmbook.com/orglrng.htm.

A learning organisation alters the way a company thinks about learning and decision making (Solomon, 1994). It involves everyone within the organisation, and provides a framework "where people expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people continually are learning how to learn together" (Solomon, 1994).

According to Senge, there are five disciplines of a learning organisation:

- Personal Mastery
- Shared Vision
- Mental Models
- Team Learning
- Systems Thinking



Systems Thinking

Systems thinking involves looking at problems and goals as a part of a whole. It is the cornerstone of a true learning organisation, integrating all the other disciplines depicted in the diagram above.

Often, companies are looked upon as a collection of departments rather than the complex network of interrelationships between departments and the outside world. Systems thinking focuses on the patterns and interrelationships between work systems, procedures, departments and teams.

Personal Mastery

Personal mastery is one of the core disciplines for building a learning organisation. It refers to an individual's commitment to life-long learning. It is a continuous and never-ending process. The three important elements of personal mastery are personal vision, creative tension and commitment to truth.[4] Personal mastery allows individuals to continuously focus and clarify their personal vision for the desired future (personal vision), look at their current reality and desired future (commitment to truth and reality) and use these gaps to create the dynamic energy to get to their desired future (creative tension).

Articulating the goals and objectives an individual wants to achieve is personal mastery. Senge defines personal mastery as "the discipline of continually clarifying and deepening our personal vision, of focusing our energies, of developing patience, and of seeing reality objectively".

Shared Vision

Although goals, values and purpose are important for organisations to achieve their objectives, a dry vision or mission statement alone is not enough. Genuine commitment starts with a shared vision of the future.[7] Building shared vision is necessary for the organisation, where key individuals have bought into and share the leader's vision.

A leader's role is to share his/her own vision with the rest of the organisation/ business unit. The vision should not be forced on others, but should rather describe what the organisation/ business unit stands for, or wants to become. Encouraging other individuals to participate in this process allows them to share in the vision and therefore, work together to make it happen.

It is naive to expect that the entire organisation would adopt the vision of its leaders, by simply reading the vision statement set up for display.

When an organisation has a shared vision, the driving force for change comes from knowing the difference between the shared vision and what is currently happening; i.e. creative tension. Truly committed employees will drive the organisation toward its goals

A shared vision is a mutual purpose among a group of people with common interests. "It binds people together around a common identity and a sense of destiny" (Senge, 1990). It builds a sense of commitment and facilitates open communication.

Mental Models

Mental models are the deeply ingrained ideas, assumptions, generalisations and images that influence how we understand the world.[5] Mental models affect our perceptions, thinking and behaviour.

Good new ideas rarely get put into practice.[6] This is often because they conflict with deep-seated internal images of how the world or the company works. It is essential to re-evaluate our mental models and preconceived ideas. Sometimes learning requires "unlearning".

Senge describes mental models as "deeply ingrained assumptions, generalisations, or even pictures or images that influence how we understand the world and how we take action".

We need to encourage reflection and inquiry, to develop awareness of attitudes and perceptions and define the current reality of the organisation.

Team Learning

Team learning has been described as "the process it takes to develop a team to create the desired results."[8] Team learning actually provides a forum for growth, rapid learning for participants and can be faster than individual learning, contributing to personal mastery. The discipline of team learning starts with dialogue and the capacity of members of a team to think together.

Team learning is facilitated through dialogue and discussion within small groups. Collective thinking is used to achieve a common objective. Members of a team learn and grow together to develop intelligence and competence and leverage the knowledge of the whole together as one.

Using **systems thinking** and **shared vision** disciplines will enable the organisation to give its employees the big picture and show them how they fit into the organisation and how the alignment of the Performance Management Programme will align their efforts to the organisation's goals and objectives. Human Resources will facilitate this change by implementing systems, mechanisms, and processes that enhance organisational capabilities. Life-long learning is a requirement to sustain competitive advantage. "The difference between companies that lead and those that follow is the degree to which management invests in building a learning organisation" (Meister, 2005).

The underlying cause for recent emphasis on organisational learning is because of the increased pace of change. In the past, work has been thought of as being conservative and difficult to change. Learning was something divorced from work and innovation was seen as the necessary but disruptive way to change.

Nowadays, we know that the organisation which is able to quickly learn and then innovate will be able to change its work practices to perform better in the constantly changing environment. Change is now measured in terms of months, not years, as it was in the past.

Furthermore, the old hierarchical communication barrier between manager-worker has devolved into more of a coach- team member scenario. Leaders support the team; they do not dictate to team members. The team members appreciate this, which in turn helps them to be highly motivated.

All workers have an increased awareness of the company's status and goals, and all that goes on in other departments. Communication between and across all layers of the company gives a sense of coherence, making each individual feel like a vital part of the whole system. Workers perform better, as they feel more a part of the company; they are not just resources to be used at will.

Ways to create a learning organisation:

- **Communicate** - "The role of communication is truly the central focus in creating and maintaining a learning organisation". Learning organisations typically have a free exchange and flow of information. Systems are established for all individuals to network across organisational boundaries, broaden their knowledge base, and develop expertise.

- **Reward the process** - Processes that encourage cross-organisational interaction should be rewarded. Implementing programmes that recognise and reward the acquisition of new skills, team-work, as well as individual effort, will help fuel creativity and provide employees with motivation. Celebration of the successes and accomplishments of employees also encourages continuous personal development which broadens the company's knowledge base.
- **Build a collaborative environment** - To build a collaborative environment, support must flow from the top management downward. An environment of openness and trust encourages individuals to develop ideas, speak out, and to challenge actions. "Collaboration requires both formal and informal spaces to meet to generate and exchange ideas". Collaboration can be encouraged by having designated spaces for developing and exploiting information—such as conference rooms, bulletin boards, etc. to share knowledge.
- **Run formal company or job orientation courses** - "Providing a company orientation for new and existing employees that covers why the company is in business, what the objectives of the company are, and how each department, or job, moves the company closer to its goals will bring an enormous return on the time and effort invested". This develops employees' understanding of their environment, reinforces company values and vision and provides management with an opportunity to instil the culture of cohesiveness and information sharing.
- **Record lessons learned** - Developing a system whereby *lessons learned* are recorded and retained for future use, aids the company, which is continually moving forward, instead of just treading water. "In the long term, the only sustainable competitive advantage is an organisation's ability to learn faster than its competition."[11]
- **Change culture** - The most defining attribute of a learning organisation is its culture. The culture is a support system for learning, change and improvement. An authoritarian culture, where decisions on what needs to be done are driven by people in authority rather than by people with the most knowledge, stifles learning and leads to negative behaviours and tendencies.

  The following are examples of what might be heard in a company that operates in an authoritarian culture:

  - "It's not my job."
  - "It's not my or my department's problem."
  - "They'll shoot the messenger; I'd better keep quiet."
  - "It's a serious problem, but pointing it out will only make everybody angry."
  - "They wouldn't listen anyway."
  - "Why isn't anyone motivated?"
  - "We need to crack the whip more often."

  The key to counteracting defeatist rationalisations and thinking patterns is to harness them as learning opportunities rather than interpreting them as cause for criticism or disciplinary action.
- **Share authority** - Imposed authority, where decisions are imposed upon people based on authority rather than technical rationale or proficiency, does not work. Authority must be earned from those over whom it is exercised. It means giving power to those closest to the action.
- **Create a learning culture** - Learning initiatives are the responsibilities of the individuals or groups within the framework of company support. Nothing motivates learners more than empowering them with the task of designing their own training programme and deciding what to learn and how to learn it. Training is often seen as something employees have to do rather than something they choose to do because it is relevant to the problems at hand. In most cases, failure to learn is the fault of the system, not the learner.

In conclusion, we can say that an inspired team with a unified vision, armed with the magic of systems thinking, can identify what they need to do to maintain and enhance their business. Organisational learning requires answering some uncomfortable questions about the business' current reality and defining what needs to improve in order to survive and thrive. The five disciplines can serve as a road map to diagnose and devise

[11] Ashish K. Mithal, Learning to Create Competitive Advantages. Part I: Learning Organisations & Key Disciplines, MoldMaking Technology magazine, October 2004.

strategies for survival. Organisations that fail to learn somehow learn to fail. Learning is not an option; it is a survival strategy.

Consider the strategic plan for your business. How can you categorise your strategic goals within this framework? This becomes your foundation for cascading strategy to your team.

Align the Operational Strategy

One of the sources of staff motivation and job enrichment rests in people's ability to understand their contribution to the strategy and how their job role makes a difference.

There is the infamous story of a group of consultants that were conducting an analysis at NASA. One of the consultants bumped into a floor cleaner and asked him "what is it that you do here?'. To which the floor cleaner replied, "I'm putting a man on the moon." He understood that although he plays a small part in the bigger picture, he still contributes to the overall objectives of the business.

Begin by creating a mission statement for your own department that aligns to the company mission statement.

Let's look at an example. If an organisation's vision/mission statement is to "To be the most highly rated and respected bank by our staff, clients, shareholders, regulators and communities", the mission statement for a call centre within the bank could be "To be the most highly rated call centre in the SA banking industry, highly rated and respected by our internal and external customers".

Let your department's mission statement link directly from the organisation statement, yet have a personalised meaning for your staff. With the above example, a call centre operator will immediately see that the expectation for service excellence extends beyond his own banking environment to that of the whole of South Africa.

Defining your mission statement is a collaborative process and buy-in will be far greater if you involve your people. Set this up in a workshop environment where you describe the organisation's mission statement and brainstorm an ideal mission statement for your own department. Avoid long and complicated statements. Make it concise, direct, and easy to understand.

Develop Goals, Objectives and Performance Standards

When setting your objectives, align them to the overall strategy and to your internal mission statement. It is very important that the organisation's management team reaches consensus, not only on what the objectives for each perspective should be, but what each objective means. In their book "The Balanced Scorecard", Kaplan and Norton tell the story of a financial institution that thought that all 25 members of the senior management team agreed about its strategy: "To provide superior service to targeted customers". When the time came to translate this strategy into measurable strategic objectives, it soon became clear that each executive had a different view of what constituted "superior service", and who the "targeted customers" were!

Many organisations have statements about their mission, vision, values and strategic intent which sound wonderful. Often, however, the reality is that people do not seem to live up to them. But if one asks those people, they believe that their activities are, in fact, supporting the statements. This is because the statements were never analysed and turned into SMART objectives.

Characteristics of objectives

The best objectives have several characteristics in common. They are all **S.M.A.R.T. + C.:**

- They are **specific**. That is, they tell how much (e.g., 40 %) of what is to be achieved (e.g., what behaviour of whom or what outcome) by when (e.g., by 201X)
- They are **measurable**. Information concerning the objective can be collected, detected, or obtained from records (at least potentially).
- They are **achievable**. Not only are the objectives themselves possible, it is likely that your organisation will be able to implement them.

- They are **relevant** to the mission. Your organisation has a clear understanding of how these objectives fit in with the overall vision and mission of the group.
- They are **timed**. Your organisation has developed a timeline (a portion of which is made clear in the objectives) by which they will be achieved.
- They are **challenging**. They stretch the group to set its aims on significant improvements that are important to stakeholders.

For example:

Sony wants to achieve 55% market share within two years of launch with its PlayStation 300.

Specific – a person has been designated to deliver the objective

Measurable- a number value has been set, e.g. sales or market share (55%)

Achievable- the target can be met

Realistic- in terms of human and financial resources required

Timed- within a given period of time, e.g. 24 months

There are many good reasons to develop specific objectives for your organisation. They include:

- Developing objectives helps your organisation create **specific** and **feasible** ways in which to carry out your mission
- Completed objectives can serve as a marker to show members of your organisation, investors, and the greater community what your initiative has accomplished
- Creating objectives helps your organisation set priorities for its goals
- It helps individuals and work groups set guidelines and develop the task list of things that need to be done
- It re-emphasises your mission throughout the process of change, which helps keep members of the organisation working towards the same long-term goals
- Developing the list of objectives can serve as a completeness check, to make sure your organisation is attacking the issue on all appropriate fronts

The balanced scorecard allows us to examine the past and plan for the future to ensure continuous improvement as a team and as individuals. It is a tool for turning vague and sometimes ambiguous statements about organisational strategy into specific objectives. This means that everyone in the organisation knows what is expected of him/her in terms of activities and results. Once these expectations are understood by the individual, he/she is in a strong position to identify and request whatever training and other resources are needed to carry out the activities and achieve the results. Thus, the balanced scorecard removes the elements of uncertainty that surround jobs in many organisations, and people need no longer ask, "I wonder is really expected of me? How is my manager *really* judging my performance?"

Turning strategy into specific objectives for the business unit

There are various sources when cascading strategy. One would refer to the overall business strategy or high level scorecard and ensure there is alignment with the business unit's strategy.

The objectives set for a Business Unit as a whole will be achieved through the focused activities of individuals. Therefore, the broad objectives for the business unit must be translated into specific measurable objectives for departments. These objectives in turn are translated into measurable objectives for each job function.

Once your organisation has decided that it does wish to develop objectives, how do you go about doing so? Let's look at the process that will help you to define and refine objectives for your organisation or business unit.

Step 1- Define or reaffirm your vision and mission statements

The first thing you will need to do is review the vision and mission statements your organisation has developed. Before you determine your objectives, you should have a "big picture" that they fit into.

Step 2 - Determine the changes to be made

The crux of writing realistic objectives is learning what changes need to happen in order to fulfil your mission. There are many ways to do this, including:

- Research what experts in your field believe to be the best ways to solve the problem. For many issues, researchers have developed useful ideas of what needs to occur to see real progress. This information may be available through local libraries, the Internet, and university or organisational research groups.
- Discuss with local experts what needs to occur. Some of the people with whom you may wish to talk include:
    - Other members of your organisation
    - Local experts, such as members of other, similar organisations who have a great deal of experience with the issue you are trying to change
    - Your **agents of change**, or the people in a position to contribute to the solution.
    - Your **targets of change**, the people who experience the problem or issue on a day-to-day basis and those people whose actions contribute to the problem. Changing their behaviour will become the heart of your objectives.
- Discuss the logistical requirements of your own organisation to successfully address the needs. Do you need an action plan? Additional funding? More staff, or more training for additional staff? This information is necessary to develop the process objectives.

At this point in the planning process, you don't need hard and fast answers to the above questions. What you should develop as part of this step is a general list of what needs to occur to make the changes you want to see.

For example, perhaps your organisation has decided upon the following mission:
"To reduce risks for cardiovascular diseases through an organisation-wide initiative."

At this point in your research (without getting into specifics!), your organisation might have decided that your objectives will be based on the following general goals:

- Begin smoking cessation programs
- Begin smoking prevention programs
- Bring about an increase in aerobic exercise
- Decrease the amount of obesity
- Encourage healthier diets
- Increase preventative medicine (for example, more check-ups for earlier detection of disease; better understanding of warning signs and symptoms)
- Increase the scientific understanding of your own organisation regarding the causes of cardiovascular disease
- Strengthen your organisation's ties with national organisations committed to the same goals as your organisation

Step 3: Collect baseline data on the issues to be addressed.

As soon as your organisation/ business unit has a general idea of what it wants to accomplish, the next step is to develop **baseline data** on the issue to be addressed. Baseline data are the facts and figures that tell you how big the problem is; it gives specific figures about the extent to which it exists in your organisation.

Baseline data can indicate the **incidence** (new cases) of a problem in the organisation. For example, "The Finance department has an absenteeism rate of 22.3 days per person per year." Such data can also reveal the **prevalence** (existing cases) of the problem. For example, "In Admin, 35% of staff reported that they had stayed off work at least three times in the last three months due to lack of money for transport."

Baseline data may also measure **attitudes** towards a problem. For example, "65% of employees do not consider absenteeism to be an important problem for the organisation."

This information is important because baseline data provides your organisation with the numbers; the starting points against which you can measure how much progress you have made. Not only is this information helpful when originally asking for financial (or other) assistance, it can help you show what your organisation has done later in its lifetime.

So, you can prove to management that there really is a very significant problem in your business unit that needs to be addressed ("My business unit's absenteeism rate is the highest in the organisation.") Then, when asked later in the life of your initiative, "What have you done?" you will be able to answer, "Since our project was launched, my business unit has seen absenteeism drop by 35%." If you don't collect (or obtain) the baseline information, you can't prove how much you have done.

There are two basic ways to collect baseline data:

- You can collect your own baseline data for the information related to your specific issues. Ways to gather this information include the use of surveys, questionnaires, and personal interviews.
- You can use information that has already been collected. Public libraries, city government, social service agencies, or departments in your organisation may already have the statistics that you want, especially if another department or organisation has already done work on a similar issue.

Step 4 - Decide what is realistic for your organisation/ business unit to accomplish

Once you know what you want to do, as well as exactly how big the problem is, it's time to work out how much you believe your organisation can accomplish. Do you have the resources to achieve all of the goals you looked at in Step Two? And to what extent will you be able to achieve them?

These questions are difficult ones to answer. It's hard to know what you can reasonably expect to get done. For example, if you are trying to increase rates of HIV testing, will your organisation be able to increase it by 5% in three years, or by 20% in one year? How do you make these decisions?

Unfortunately, there are no easy answers. Your organisation will need to take a good look at its resources, as well as talk to experts who have a sense of what is not only possible, but likely. For example, you might ask members of organisations who have done similar things, or researchers in your topic area what they believe makes sense.

Remember, you are attempting to set objectives that are both **achievable** and **challenging**. It's hard to hit just the right note of balance between these two qualities, and you may not always get it just right. Research and experience, however, should help you come closer and closer to this goal.

Step 5: Set the objectives for your organisation or initiative

With all of this information in mind, your organisation is ready to set some short-term goals or objectives that are feasible but demanding. Remember, objectives refer to specific measurable results. These changes in behaviour, outcome, and process must be able to be tracked and measured in such a way to show that a change has occurred.

Your organisation's list of objectives should do all of the following:

- Include all three types of objectives: objectives that measure behaviour change, community outcomes, and those that measure important parts of the planning process.
- Include specific objectives that tell how much of what will occur by when. For example, "By 201X, rates of defaults among lower income earners will decrease by 30%."
- They should include all of the "SMART + C criteria." This means that they should be: **S**pecific, **M**easurable, **A**chievable, **R**elevant, **T**imed, and **C**hallenging.

Step 6 - Review the objectives your organisation has created

Before you finalise your objectives, it makes sense for members of your organisation to review them one more time, and possibly, to ask people outside of your organisation to review them as well. You might ask members of your organisation who were not involved in the development process to review your work. You may also

wish to get the thoughts of local experts, targets and agents of change, and/or of people doing similar work in other communities to review what you have developed.

You can ask reviewers to comment on:

- Do your objectives each meet the criteria of "SMART+C"?
- Is your list of objectives complete? That is, are there important objectives that are missing?
- Are your objectives appropriate? Are any of your objectives controversial? If so, your organisation needs to decide if it is ready to handle the storm that may arise. For example, a programme that is trying to reduce the spread of AIDS may decide clean needles for drug addicts is an objective they wish to strive for; but it may very well cause difficulties for that organisation. That's not to say the organisation shouldn't make that an objective, but they should do so with as clear an understanding of the consequences as possible.

Step 7 - Use your objectives to define your organisation's strategies

Finally, once you have your general objectives, you are ready for the next step: developing the strategies that will make them possible. Once your objectives are finished, and satisfactory to members of the organisation and important people outside of your group, you are ready to move on to developing strategies and action plans.

Remember, targets should be reviewed regularly, as the world of business is changing at an ever-increasing pace. For example, in the industrial-age type organisation of the past, dominated by measuring tangible assets, it was sufficient to record investments in inventory, property, plant and equipment on the company's balance sheet. The income statement would also be sufficient to capture the expenses associated with the use of these tangible assets to produce revenues and profits.

However, in today's economy, intangible assets, such as customer relationships, innovative products and services, high-quality and responsive operating processes, information technology and databases, and employee capabilities, skills and motivation, have become the major sources of competitive advantage.

The diagram below illustrates how objectives cascade down through the organisation:

Questions for Defining Objectives

These are some questions to ask yourself to help you identify business objectives for your department/area:

Financial Perspective

- What are the financial business objectives?
- Revenue generation?
- Budget management?
- Cost control?
- Which areas need to be focused on?
- What measures do we need?

Customer Perspective

- Who are our customers internal and external?
- What do our customers want?
- What is important to our customers?
- How can we influence this?
- What are our objectives?
- Customer satisfaction?
- Customer attraction?
- Customer service?
- Which areas need to be focused on?
- What measures do we need?

Internal Business Process

- What are the internal objectives?
- What are the key outcomes?
- What are the key business processes?
- What are the critical steps required to deliver the outcome?
- What measures do we need?

Learning and Growth Perspective

- How do we develop and improve?
- How do we develop human capital for the future?
- How do we prepare our human capital for future regulatory changes?
- How do we prepare our human capital for competitive changes?
- How can we influence this?
- Which areas need to be focused on?
- Employee morale?
- Training?
- Development?
- What measures do we need?

Involve Stakeholders to Obtain their Commitment

Stakeholders can be a variety of people, such as:

- All people with a comprehensive knowledge of the company and its competitive environment
- Men and women with varied roles inside the organisation, particularly upper management

- Department managers, especially those involved in research and development
- People of different ages
- Suppliers, strategic partners and major customers
- New company employees, regardless of the positions they've been hired for, as they don't have preconceived notions of how things 'should' be done. Usually they will come up with innovative new ideas
- Outside consultants
- Industry specialists
- Individuals who don't come burdened with the "baggage" of being employed by the organisation and who can provide a valuable objective view

Stakeholders, therefore, consist of people who can benefit and people who can help. That is, there are people for whom your initiative has things to offer and people from whom you can learn and get assistance.

You need to be clear about who should benefit, and who can help address the issue or problem. Knowing just who these people are is an important step.

The people your organisation or initiative is trying to reach are called **targets of change,** and those who can help you reach them are called **agents of change**. [12]

Like finding the root cause of a problem, understanding whom you want to target for change can be relatively simple or more difficult. Generally, **targets of change** will fall into two categories:

- Those people who directly experience the problem or are at risk
- Those people who contribute to the problem through their actions or lack of actions.

To find potential **agents of change**, ask yourself the following questions:

- Who can influence the people and the conditions that contribute to the problem or issue?
- Who has the power to bring about change?
- Who has the time, resources and desire to bring about change?
- Who might be able to make a difference, if your initiative is able to convince them?
- Who has a relationship with the people in whom you want to bring about change? Who do the "targets of change" trust? Who will they listen to?
- Think about people who were formerly (or are currently) targets. They might be some of the best "agents of change" now.

These are the key individuals or groups who, if they put forth an effort, can help address the issues. The agents of change can influence others in a variety of ways. If they are working with someone who is directly affected by the problem, they will probably do the following:

- Establish a strong relationship with the person most affected. If the target of change sees them as credible, trustworthy and caring, it is much more likely they will confide in the agent of change, and listen to his or her advice.
- Diagnose the issue or problem. A good agent of change will walk around in other people's shoes if she really wants to understand them. To help someone change unsafe or harmful behaviour, she needs to really understand why that behaviour is happening.
- Convince the person experiencing the issue of the need for (and of the possibility of) a change. The support person might be responsible for convincing someone that her behaviour is a problem, that alternatives exist and that things really can change.

[12] Adapted from: Watzlawick, P., et al. (1974). *Change: Principles of problem formation and problem resolution*. New York, NY: W. W. Norton & Co., In

- Help make that change happen. It's one thing to say you are going to stop smoking. That's a very important first step. But ask any long-time smoker, and he'll tell you that there's a lot more to it than just that. Agents of change don't just convince someone of the need to do something and then sit back and rest on their laurels. They need to get their hands dirty and support the person who wants to change with the actual work of doing it. They can help plan and provide lots of support - both moral and tangible - to get the job done.
- Help maintain the change. For example, research shows that most dieters end up regaining the weight they have lost within a year. The person making the change will need a lot of support, especially at the beginning, to stick with what he has done.

In addition, support from senior leadership is essential for successful results both during and after the planning process.

Some of the questions leaders need to look at before planning their strategy would be:

- What problems are we dealing with? Why can't we solve them within our walls and what other organisations are affected by the same issues?
- Have we involved enough of the necessary players and stakeholders to deal with the issues?
- How do the different stakeholders interact? How do their interests and actions affect one another?
- How do others see my organisation? How do their perceptions of my organisation affect the way they operate?

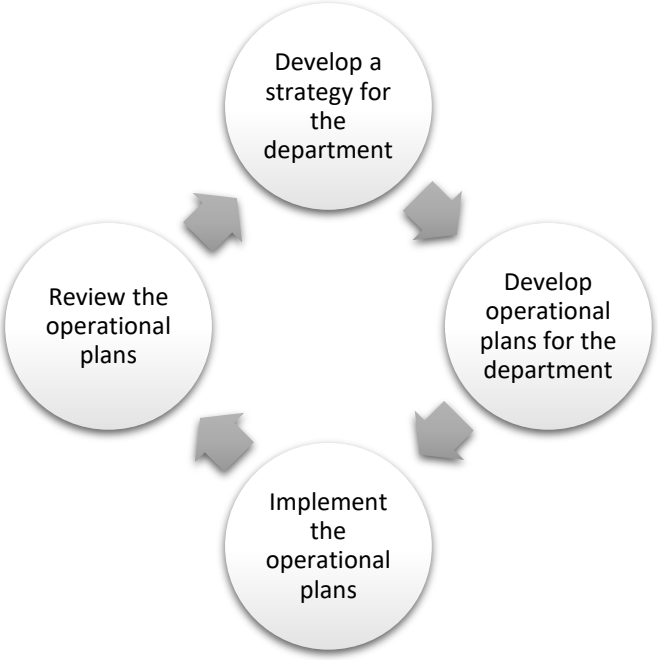
As mentioned previously, the best way to obtain buy-in and commitment is to involve your people on the process of defining your key objectives. Using the framework and guidelines mentioned above, consider your organisational mission statement and strategic objectives. Reflect on your departmental mission statement and define the strategic objectives specific to your department that align to the overall strategy. A recommendation is to keep it down to five critical strategic objectives.

This should be a participative process with representatives from your department and where possible, stakeholders from other areas of the business. Take the time to identify which stakeholders could give constructive and critical inputs. An external perspective may assist you in defining your critical objectives. For example, an IT department might need inputs from all the department heads in the business. This will ensure that the IT department's objectives deliver a capability that enables their internal customers to achieve their objectives.

To recap: Include your management team and invite selected staff to contribute. Either facilitate the process yourself, or use a facilitator to assist you. First paint a picture of the organisational mission and strategy. Explain the concept of the balanced scorecard and how the strategy fits within that framework. Discuss how the departmental mission statement aligns. Rework this if necessary. Then start the process of defining the 5 critical objectives that align to the mission and that will ensure the achievement of the organisational strategy.

Develop an operation plan for a unit

Once you have developed a strategy for your department, the next step is to develop action (operational) plans for your department.



Successful businesses use detailed operational plans to ensure a systematic process to implement strategic initiatives. The departmental operational plan is regularly updated to reflect achievements, changes in performance and shifting priorities. The scope and scale of the action plan is dependent on the size of the department.

When preparing your operational plan, document the strategically-aligned departmental objectives and include a provision for contingencies that addresses potential risks and weaknesses. The operational plans must also document tasks, responsibilities, timeframes, performance measures and resource needs.

DEVELOP THE OPERATIONAL PLAN

The framework for your operational plan

The framework for your action plan is recommended as follows:

- Departmental objectives (aligned to organisational strategy)
- Potential risks and contingencies to address these
- Tasks
- Responsibilities
- Timeframes
- Performance measures
- Resource needs

The operational plan will detail what needs to be done and how it will be achieved. It will be used to monitor and measure performance towards the strategic goals and progress.

Complete operational plans and include provisions for contingencies

Identify the potential risks and define contingencies. A risk is "the potential harm that may arise from some present process, or from some future event. It is often mapped to the probability of some event which is seen as undesirable". A contingency is "the planned allotment of time and cost for unforeseeable elements or risks". Within the action plan identify potential risks, such as the availability of skilled resources, market changes, budgetary restraints and when preparing your contingency plans, document how these can be managed to minimise the potential impact of the risk.

Document operational plan to show tasks, responsibilities, timeframes, performance measures and resource needs

- **Tasks -** List all of the tasks and activities that need to be carried out to achieve each departmental objective. This is an important step in the process as it is these tasks that will be cascaded to an individual level. Break down each objective into logical, bite-sized steps or actions.
- **Responsibilities -** Allocate responsibilities to resources for each of the tasks. This is likely to be line management's responsibility and they will then cascade the tasks to their respective staff members.
- **Timeframes -** A start and finish date supply you with definitive measures for performance. They also assist in defining predecessor and successor relationships between the tasks. Some actions may be dependent on others before they can commence. Line and staff should understand the knock-on effect of not achieving specified timelines.
- **Performance Measures -** Performance measures should cover cost, quantity and quality. All too often, organisations focus on one element and neglect the others. Typically in call centre environments, for example, the focus is on quantitative measures, e.g. call duration, number of abandoned calls, but just as important is the quality of the interaction with the customer.
- **Resource Needs -** Resource needs may include people, equipment, machinery, vehicles, IT systems, or money, to name a few. Ensure that in your plan you define specific resource needs that are required to achieve the objectives. In instances where there is limited budget available, develop contingencies to address shortfalls. In addition, create a benefit case for the "spend". Define the future cost or impact of securing versus not securing the resources.

Consider your own department and the operational plan you need to prepare to ensure that:

- It is in accordance with the overall strategy.
- It includes provisions for contingencies.
- It shows tasks, responsibilities, timeframes, performance measures and resource needs.

Including existing organisational tools for implementing strategy in the operational plan

We mentioned the importance of identifying resource needs when preparing your operational plan. Throughout the process, however, make use of organisational tools that are at your disposal. If the company has suitable technology to support your objectives, use it. If there are processes and systems in place that can enhance your performance, use them. This may take some research into what is currently available. An example of a system could be the internal performance management system. Use this as your tool for cascading strategy to an individual level.

Refer to the example of an operational plan template:

Organisational Objective	Departmental Objective	Risks and Contingencies	Tasks	Responsible?	Timeframes	Performance Measures	Resource Needs	Supporting Organisational Tools

We mentioned that the ability to operationalise strategy is a company's greatest competitive advantage. Include your people and other internal and external stakeholders in the defining of the action plan. External stakeholders could be service providers or suppliers. For example, a consulting firm involved in training, may use external facilitators. Make use of their knowledge, experience, thoughts and ideas to define your action plan. A participative process will assist you in ensuring you have all areas covered.

Elements of an Operational / Business Plan

A business plan is a document that describes an organisation's **current status** and **plans for several years into the future**. It generally projects future opportunities for the organisation and maps the financial, operations, marketing and organisational strategies that will enable the organisation **to achieve its goals**.

A business plan is a **formal statement of a set of business goals**, the reasons why they are believed attainable, and the plan for reaching those goals. It may also contain background information about the organisation or team attempting to reach those goals.

The business goals being attempted may be for-profit or non-profit. For-profit business plans typically focus on financial goals. Non-profit and government business plans tend to focus on service goals, although non-profits may also focus on maximising profit.

Experienced business owners and managers will tell you that the business plan is a very important management tool. The business plan is a written road map of where the business is going, what it has to do to get there, and what it will look like on arrival.

Business plans may also target changes in perception and branding by the customer, client, tax-payer, or larger community. A business plan having changes in perception and branding as its primary goals is called a **marketing plan.**

Business plans may be **internally or externally focused**. Externally focused plans target goals that are important to external stakeholders, particularly financial stakeholders. They typically have detailed information about the organisation or team attempting to reach the goals. With for-profit entities, external stakeholders include **investors** and **customers.**

We can simply say that a business plan is a document that details the past, present and intended future of the company.

If you have a comprehensive and well-motivated business plan, you, as well as potential investors, can obtain a thorough understanding of your existing or proposed business, your own goals and objectives and your financing requirements.

Format of a business plan

A business plan can take many forms, from a glossy, professionally-produced document to a handwritten manuscript in a file outlining the goals, objectives, strategies and tactics of the business.

The format of a business plan depends on its presentation context. It is not uncommon for businesses, especially start-ups to have three or four formats for the same business plan:

- A short, three- minute executive summary of the business plan. This is often used as a teaser to awaken the interest of potential funders, customers, or strategic partners.
- An oral presentation - a slide show and oral narrative that is meant to trigger discussion and interest potential investors in reading the written presentation. The content of the presentation is usually limited to the executive summary and a few key graphs showing financial trends and key decision-making benchmarks. If a new product is being proposed and time permits, a demonstration of the product may also be included.
- A written presentation for external stakeholders - a detailed, well-written, and clearly formatted plan targeted at external stakeholders.
- An internal operational plan - a detailed plan describing planning details that are needed by management, but may not be of interest to external stakeholders. Such plans have a somewhat higher degree of transparency and informality than the version targeted at external stakeholders.

We are going to be focusing on the written version of the business plan:

Specific attention should be given to **four key areas when writing your business plan**: the business itself, the management of the business (the entrepreneurs involved), the market in which the business operates, the financial management and planning - the risks and rewards associated with the total investment in the business.

1 EXECUTIVE SUMMARY

The executive summary is the most vital part of the business plan - it has to sell your strategy for success to the investor.

The summary is an **overview** of the entire plan and must contain the **highlights of the business plan and summaries of each section**. Therefore, although it is at the beginning of the document, it is usually **written last** to capture the essence of the plan.

2 BUSINESS OVERVIEW

Write a business profile, including the following:

- Information on the background and history of the business
- Indicate the **business form** (What is the business structure; i.e. sole proprietorship, general partnership, limited partnership, close corporation, or private company?) Who is (are) the principle(s)/ members?
- Legal registrations and any legislative compliance in relation to a new venture are explained and included in business plan (Legal registrations include but are not limited to PAYE (Pay As You Earn), VAT (Value Added Tax), RSC (Regional Services Council), COIDA, Skills Development Levy, Industry regulations)
- If a company or close corporation, state the full registered name and enclose Form CK1 or CK2 where applicable
- If a company or close corporation, state the address of the registered office
- Is it a new business, take over, expansion, or franchise?
- The **vision and mission**, and the company's **long- and short-term goals** in terms of business growth and development, as well possible exit strategies (for example: buy out investors, sell to larger company, go public, etc.)

The product or service

- Describe in full the **product or service(s)** offered by the business and the innovative **features** of these products and services, their **benefits** to your customers and the competitive edge they afford the business over rivals in the market.
- The expected **product life cycle** where applicable
- Include descriptions of key technologies employed and current and **future research and development**

Describe the location, premises and - where applicable - production facilities

- Why you have chosen your particular location? What are the attributes and/or important features of your present or desired business location, e.g. central business district, near highway, etc? Why is this a desirable area?
- What kind of building do you need? Are the premises adequate for the short to medium term?
- Why is this a desirable building?
- Does the community around which you intend to locate the business show enthusiasm for you and your business?
- What are the advantages and disadvantages of the site in terms of labour availability?
- How much space do you need?
- Do you need a long-term or short-term lease? If the premises are leased - attach a copy of the lease agreement, state the term of the lease, the date that the lease expires, whether the lease is subject to annual increases, percentage increase per annum, the monthly rental
- Is the building accessible by public transport?
- Is the building close to customers or suppliers?
- Is free or low cost parking nearby?
- If the premises are owned - the present market value, when purchased, the purchase price, amount for which the premises are insured, date that the insurance expires
- If the property is bonded - to whom, value of the bond, outstanding balance of the bond

Production and technology

- Describe production processes and capacity, identifying any possible problem areas
- Details of suppliers and sub-contractors, and any contractual arrangements governing the supply of key inputs

Elaborate on the business's past achievements and strengths and past problems and weaknesses, and critical success factors

3 COMPANY MANAGEMENT

The management structure of the business

- Show company ownership structure, business units and subsidiaries where applicable
- Attach an **organisation chart** showing the functions and responsibilities of directors, key management and staff
- Formulate remuneration, incentives, share options, and conditions of employment of key management and directors
- Analyse any deficiencies in management and how these positions are to be filled
- Comment on current and future employment levels, labour relations and union membership
- Include details of auditors, attorneys, bankers and professional advisers

Personnel

- What are your personnel needs now? In the near future (3 years)? In five years?
- What skills must they have?
- Are the people you need available?
- Will your employees be full-time or part-time?
- Will you pay salaries or hourly wages?

- Certain employee benefits are mandatory. Find out what they are.
- Will you provide additional fringe benefits? If so, which ones? Have you calculated the cost of these additional fringe benefits?
- Will you utilise overtime? If so, you will be required by law to pay time and a half, double time, and/or other extra costs.
- Will you have to train people for both operations and management? If so, at what costs to the business?

4 THE MARKET

Industry analysis

Summarise the industry in which you will compete. Find most of the facts from government statistics and trade organisations. Discuss topics such as:

- Current trends and developments in the industry
- Large and important players in the industry
- How the industry is segmented
- Problems the industry might be experiencing
- National or global events influencing the industry
- National and global growth forecasts
- How legislation affects the industry (for example, how the law limiting smoking in a restaurant affects the industry)

Market analysis

- Who exactly is your market? Describe characteristics: age, sex, profession, income, etc., of your various market segments.
- What is the present size of the market?
- What market you intend to service, the size of the market, and your expected share
- What is the market's growth potential?
- As the market grows, will your share increase or decrease?
- How are you going to satisfy the market?
- How will you attract and keep your share of the market?
- How can you expand your market?
- How are you going to price your service or product, to make a fair profit, and at the same time, be competitive?
- What price do you anticipate getting for your product or service?
- Is the price competitive?
- Why will someone pay your price?
- How did you arrive at the price? Is it profitable?
- What special advantage do you offer that may justify a higher price? (You don't necessarily have to engage in direct price competition).
- Will you offer credit to your customers (accounts receivable)? If so, is this really necessary? Can you afford to extend credit? Can you afford bad debts?
- Describe the existing market and its potential for growth

- Include a detailed analysis of the size and maturity of the market, trends and seasonality exhibited by the market, and the business's current and expected market share together with an analysis of the time, resources and actions required to achieve this desired market share
- List existing and potential customers, supported by letters of intent, orders on hand, contracts, where applicable
- Include a detailed analysis of competitors, the price and quality of their products, service and delivery, and their expected reaction to your activities
- Highlight and discuss your competitive advantage
- Why you can service that market better than your competition

Your competition

- Who are your five nearest competitors? List them by name.
- How will your operation be better than theirs?
- How is their business: steady? increasing? decreasing? Why?
- How are their operations similar and dissimilar to yours?
- What are their strengths and/or weaknesses?
- What have you learned from watching their operations?
- How do you plan to keep an eye on the competition in the future?

5 SALES AND MARKETING STRATEGY

- Describe current and planned sales and marketing strategies and promotional activities (advertising, exhibitions, promotions, public relations, etc.)
- Describe your distribution strategy and channels
- Formulate sales staffing, recruitment, remuneration and commission structures
- Include sales projections (in monetary terms) with an analysis of the time expected to reach sales targets and milestones (e.g. break-even point)
- Describe your pricing strategy and how it compares with your competition
- Where the business is a franchise, include the full marketing strategy of the franchisor
- Debtor terms that will be allowed
    - **Cash sales**
    - **30 days**
    - **60 days**
    - **90 days**
    - **over 90 days**
    - What is the industry norm?
    - When will outstanding debtors be regarded as bad debt?

6 FINANCIAL STATEMENTS AND PROJECTIONS

- Include only a summary of the financial statements and projections in the body of the business plan - attach detailed analysis as an appendix
- Include operating **budgets**, **cash flow projections**, **income statements** and **balance sheets** for at least three years (recommended five years). Provide monthly projected figures for the first and second year, quarterly figures for years three and four and annual projections thereafter.
- Where applicable, provide:

- Historical financial performance as shown by at least the last three sets of audited annual financial statements and up to date management accounts comprising income statements (monthly and year-to-date), balance sheets, and debtors and creditors age analysis
- **Costing** methodology employed, or to be employed, and detailed costings giving a full analysis of cost of sales
- **Pricing policies** giving a full analysis of theoretical and actual mark up and gross profit percentages
- **Rebates, discount structures and terms** offered to and received from customers and suppliers respectively
- **Break-even** analysis
- Details of overdraft and medium and long term loans

- Ensure that your financial projections agree with any other statements in the business plan (for example, costs involved in your proposed marketing strategy)
- Formulate and motivate your capital requirements

7 LEGAL AND REGULATORY ENVIRONMENT

Include:

- Details of any licences, copyrights, trademarks and patents registered (or in the process of being registered)
- Details of any legislation and regulations governing the industry, product and production processes

- Proof of compliance with tax and labour legislation (VAT, PAYE, RSC, UIF, COIDA, Employment Equity Act, Skills Development Act, etc.) where applicable
- Details of duties and tariffs to which inputs or products are subject if the business is a regular importer or exporter

8 SWOT ANALYSIS AND RISK/REWARD ASSESSMENT

- Discuss definite and possible strengths, weaknesses, opportunities and threats
- Give an honest assessment of the risks faced by the business, entrepreneurs and investors in relation to the potential for growth, profitability, and capital appreciation
- Discuss strategies that can be implemented to address the risk factors highlighted

9 APPENDICES AND SUPPORTING DOCUMENTATION

The following supporting documentation should be included where applicable:

- Newspaper clippings, promotional literature, product brochures, market research, trade and industry publications
- Partnership, association or shareholders' agreements
- Offers to purchase, purchase and sale agreements
- Contracts, orders, letters of intent
- Memoranda of understanding, lease, franchise, agency or distribution agreements
- Documentation relating to licences, copyrights, trademarks and patents
- Quotations or pro-forma invoices for capital items to be purchased
- Detailed personal balance sheets of the entrepreneurs
- Copies of identity documents and marriage certificates of the entrepreneurs

- Schedules of life assurance and endowment policies of the entrepreneurs
- Copies of company or close corporation certificates and registration documents
- Drawings, workflow charts, plans, factory layouts, maps, etc.
- A list of persons to whom reference can be made regarding creditworthiness, product and service quality, and the skills, abilities and integrity of the entrepreneurs

Techniques for Identifying Strengths and Weaknesses

The Situation Analysis - SWOT

The SWOT analysis can be considered as the first (or initial stage) of planning and helps stakeholders in the business to focus on the key internal and external issues affecting the business and its environment.

SWOT stands for strengths, weaknesses, opportunities and threats. Strengths and weaknesses are internal factors. Opportunities and threats are external factors. The SWOT analysis is used to understand the current situation of a company. To perform a SWOT analysis for your business, determine and summarise in point form the strengths, weaknesses, opportunities and threats of your business model relative to competitors.

Remember, even the most successful businesses have areas of weakness – acknowledging them shows a thorough analysis and understanding of your business's operating environment. Having done that, consider strategies to combat the weaknesses and threats as far as possible.

All businesses benefit from a SWOT analysis, and all businesses benefit from completing a SWOT analysis of their main competitors.

Here are some examples of what a SWOT analysis can be used to assess:

- A company (its position in the market, commercial viability, etc.)
- A product or brand
- A business idea or a potential partnership
- A strategic option, such as entering a new market or launching a new product
- An opportunity to make an acquisition or investment opportunity
- Changing a supplier or outsourcing a service, activity or resource

The SWOT analysis provides a framework by which issues can be developed into **actions:**

- **Strengths:** maintain, build and leverage
- **Opportunities:** prioritise and optimise
- **Weaknesses:** remedy or exit
- **Threats:** counter

If the SWOT analysis is being used to assess a proposition, then it could be that the analysis shows that the proposition is too weak (especially if compared with other SWOT's for alternative propositions) to warrant further investment, in which case further action planning, other than exit, is not required.

If the proposition is clearly strong (presumably you will have indicated this using other methods as well), then proceed as for a business, and translate issues into category actions with suitable ownership by team(s).

The table that follows shows the issues the SWOT analysis investigates:

Strengths	Weaknesses
• Advantages of proposition? • Capabilities? • Competitive advantages? • USP's (unique selling points)? • Resources, Assets, People? • Experience, knowledge, data? • Financial reserves, likely returns? • Marketing - reach, distribution, awareness? • Innovative aspects? • Location and geographical? • Price, value, quality? • Accreditations, qualifications, certifications? • Processes, systems, IT, communications? • Cultural, attitudinal, behavioural? • Management cover, succession?	• Disadvantages of proposition? • Gaps in capabilities? • Lack of competitive strength? • Reputation, presence and reach? • Financials? • Own known vulnerabilities? • Timescales, deadlines and pressures? • Cashflow, start-up cash-drain? • Continuity, supply chain robustness? • Effects on core activities, distraction? • Reliability of data, plan predictability? • Morale, commitment, leadership? • Accreditations, etc? • Processes and systems, etc? • Management cover, succession?
Opportunities	**Threats**
• Market developments? • Competitors' vulnerabilities? • Industry or lifestyle trends? • Technology development and innovation? • Global influences? • New markets, vertical, horizontal? • Niche target markets? • Geographical, export, import? • New USP's? • Tactics - surprise, major contracts, etc? • Business and product development? • Information and research? • Partnerships, agencies, distribution? • Volumes, production, economies? • Seasonal, weather, fashion influences?	• Political effects? • Legislative effects? • Environmental effects? • IT developments? • Competitor intentions - various? • Market demand? • New technologies, services, ideas? • Vital contracts and partners? • Sustaining internal capabilities? • Obstacles faced? • Insurmountable weaknesses? • Loss of key staff? • Sustainable financial backing? • Economy - home, abroad? • Seasonality, weather effects?

Translating SWOT into actions

Translating the SWOT issues into actions happens by breaking them down into the following six categories:

1. **Products and services** (what are we selling?)
2. **Process** (how are we selling it, how the products and services are to be made and/or assembled, including subcontracting and purchasing, labour and machinery?)
3. **Customer** (to whom are we selling; how will customers be persuaded to buy?)
4. **Distribution** (how does it reach them; how are products warehoused, transported, delivered?)
5. **Finance** (what are the prices, costs and investments; how will the cash flow be controlled?)
6. **Administration** (How the organisation will be managed, the management style, the organisation structure and the people skills required?)

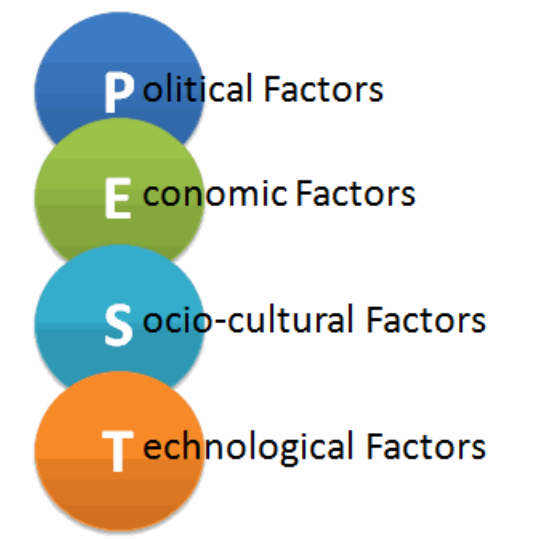
There are other ways of applying SWOT of course, depending on your circumstances and aims, for instance if concentrating on a department rather than a whole business, then it could make sense to revise the six categories to reflect the functional parts of the department, or whatever will enable the issues to be translated into manageable, accountable and owned aims.

The PEST Analysis

The PEST analysis considers the environment of the business before beginning the strategic planning process.

The company's environment for this analysis consists of the internal and external microenvironment, as well as the external macro environment.

In a PEST analysis you should take a broad view of the political, economic, socio-cultural and technological factors which impact on the business externally and then assess how these external factors have shaped and will continue to shape the internal environment.



- **Political Factors**

The political environment has a huge influence upon the regulation of businesses, as well as the spending power of consumers and other businesses.

"At the time of writing, oil is top of the agenda again. The political tensions of the Middle East, the economic development of China and India, the volatility of energy prices, and concerns about global climate change have brought attention back to the energy source upon which our automotive society most depends.

With the supply of oil uncertain and no clear consensus about alternative energy sources, the continued viability of carbon-fuelled economic development — and thus the future of our highly mobile industrial society — is being questioned"[13].

For strategic planners to understand the future of transportation and energy, even on as simple a matter as the speed with which fossil fuels are "running out," they need to consider these sources together. A forced transition away from fossil fuel dependence is almost certain, and sooner than many people expect; but on the details and impact of that transition, there are still many uncertainties.

One would consider issues like:

- How stable is the political environment?
- Will government policy influence laws that regulate or tax the business?
- What is the government's position on ethics?
- What is the government's broad economic policy?

[13] From: Engines of Change *by John Wormald*

- Does the government have a view on culture and religion?
- Is the government involved in trading agreements and how will this impact on the business?

- **Economic Factors**

All businesses operating in an economy need to carefully consider the state of an economy in both the short and long-term. Among the economic factors to be considered are:

- Issues in monetary policy set by the Reserve Bank, like interest rates, inflation targets, relative health of the currency, etc.
- Issues in fiscal policy like government spending, the annual budget, tax levels, budget deficits, etc.
- General issues like employment levels, long-term prospects for the economy, gross domestic product (GDP) per capita, the position/health of the economy on world indices, broader global economic issues and initiatives, etc.

- **Socio-cultural Factors**

The social and cultural influences on business vary from country to country. It is very important that such factors are taken into account. These factors include:

- What is the dominant religion?
- What are local attitudes to foreign products and services?
- Does language impact upon the diffusion of products onto markets?
- How much time do consumers have for leisure?
- What are the roles of men and women within society?
- What is the average life-span of the population? Is the older generation wealthy?
- Does the population have a strong/weak opinion on green/environmental issues?

- **Technological Factors**

Technology is vital for competitive advantage, and is a major driver of globalisation. When considering technological factors you should think about the following issues:

- Does technology allow for products and services to be made more cheaply and to a better standard?
- Do the technologies offer consumers and businesses more innovative products and services such as internet banking, new generation mobile telephones, etc.?
- How is distribution changed by new technologies, e.g. books via the internet, etc.?
- Does technology offer companies a new way to communicate with consumers, e.g. customer relationship management (CRM), etc.?

Validate Measurable Parameters

According to the Merriam-Webster online dictionary a parameter is "a factor that restricts what can result from a process or policy. In this use it often comes close to meaning "a limit or boundary." For example, the provisions of a zoning ordinance that limit the height or density of new construction can be reasonably likened to mathematical parameters that establish the limits of other variables".

Wikipedia define parameters as "those combinations of the properties which suffice to determine the response of the system".

If we apply these definitions to our operational plan, we can see that we need to validate the objectives and metrics (measurements) we set as targets for ourselves against proven, historical customer and unit performance requirements in order to see if they are achievable, as there is nothing as demotivating to a team as being set "impossible" targets.

The historical data and evidence will enable us to set realistic "lower" and "upper" limits to our targets.

Describe Monitoring Systems

Data are the foundation of any effective objectives-setting initiative. The collection and analysis of both quantitative and qualitative data are critical for setting priorities/targets for your unit.

All the effort you put into implementing your operational plan will be to no avail if it is not recorded and followed up. Once you have received the data, it needs to be recorded and processed, so that conclusions can be drawn from it.

There are two different techniques for measuring continuous improvement; the quantitative method and the qualitative method.

Quantitative techniques are used to gather the facts of the situation. **A tally sheet** is one such an example.

Example:

A tally sheet can be used for instance by the customer service representative who deals with customer complaints. She will never remember at the end of the day how many people complained about what, if she doesn't record it.

Here is how she could do it:

Complaint:	**Occurrence:**
A	**1 1 1 1 1 1 1**
B	**1 1 1 1**
C	**1 1**
D	**1 1 1**
E	**1 1 1 1 1 1 1 1 1 1 1**

By making a mark next to the appropriate problem, she will know exactly how many people complained about each respective problem.

Qualitative techniques depend on people's opinions. This could be responses to questions such as: "Do you get value for money from our garbage removal service?" One person would say yes, because he has had no problems with the service, but another who has had one isolated problem, would say no, although he has received the exact same quality of service as the other person.

You can gather customers' opinions through interviews, questionnaires and surveys.

The information gathered from your research should always be recorded and presented in such a way that conclusions can be drawn from it. It is usually best to represent such facts in a visual way so that you can see which aspects need urgent attention and which are satisfactory at a glance, for example in a table or pie chart.

Once you have identified the priority areas and potential indicators, a baseline must be set (may require collecting new data) to determine where the unit currently is on a given problem or indicator and set the stage for determining where it wants to be by the next month/next year/ next five years (target).

Setting targets (determining the desired amount of change over a given time interval) is the next critical step.

Finally, monitoring progress toward meeting objectives, through collection and analysis of tracking data, should be done on a scheduled basis.

You will decide which monitoring system you are going to be using in your unit:

- Why do you need to monitor performance? What are you trying to achieve? Are you "looking over your team's shoulder" or are you trying to be proactive to detect a problem before it occurs, or gets out of hand?
- How will you monitor performance? Track graphs, computer data, etc.
- How often will you track the data? Hourly, daily, weekly, monthly?
- Who is going to be responsible for tracking the data and reporting to you?

The monitoring system chosen will, of course, be in line with the system used in the organisation, but metrics will possibly be adapted to what your unit needs to measure.

Obtain Feedback on the Operational Plan

Do not simply delegate the implementation to the team and disengage from the process. The key stakeholders, which includes your team members, must be involved every step of the way.

Let your team members know that you are listening to them and acting on their feedback. Whenever possible, link the specific actions that are taken back to their recommendations.

The team also need to be informed of recommendations or expectations that cannot be implemented (at least over the short term) and the reasons why the organisation cannot meet their expectations at this time.

MODULE 2: HOW TO MAKE STRATEGIC DECISIONS

UNIT STANDARDS IN THIS MODULE	252026	APPLY A SYSTEMS APPROACH TO DECISION MAKING	
		Apply critical and analytical skills to analyse an issue or problem.	SO 1
		Engage with stakeholders in analysing the issue/problem and developing solutions.	SO 2
		Select feasible solutions through a systems approach.	SO 3
		Formulate and communicate the decision.	SO 4
		Critical and analytical skills are applied to analyse and define an issue/problem affecting the functioning of a unit.	SO 1 AC 1
		Critical and analytical skills are applied to determine factors impacting on the issue/problem and other areas in a unit and the entity affected by the issue/problem.	SO 1 AC 2
		The purpose of the consultation is communicated to stakeholders with reference to the aspects of the issue/problem and solutions to be discussed.	SO 2 AC 1
		The critical and analytical processes for analysing the issue/problem and generating ideas on addressing the issue/problem are explained with examples.	SO 2 AC 2
		The participation of stakeholders is obtained in analysing the unit's internal and external environment to identify factors relevant to the issue/problem.	SO 2 AC 3
		The participation of team members is obtained in developing solutions to the issue/problem that would contribute towards the functioning of the unit and the broader system within which it operates.	SO 2 AC 4
		The different ideas, values and perspectives of team members and stakeholders are recognised and respected in view of the value they add to the solution developed.	SO 2 AC 5
		The inputs from stakeholders are analysed to identify feasible solutions to the issue/problem that would improve the functioning of the unit and the broader system within which it operates.	SO 3 AC 1
		The identified solutions are prioritised in terms of their potential outcomes on the various processes/sections in the unit, the wider entity and external stakeholders.	SO 3 AC 2
		A solution(s) is selected that is most appropriate within a systems context taking into consideration interrelated issues that impact on the solution and areas that will be impacted upon by the implementation of the solution.	SO 3 AC 3
		The decision on addressing the issue/problem is formulated with reference to the impact of the decision on the unit and the broader system within which it operates.	SO 4 AC 1
		Actions required to implement the decision in the unit are described with reference to activities, role players, resources and time lines.	SO 4 AC 2
		Change processes that are required to support the implementation of the decision are described with reference to their impact on the success of the implementation of the decision.	SO 4 AC 3
		The decision is communicated to relevant team members in the unit and other stakeholders who will be involved in its implementation in a user-friendly format.	SO 4 AC 4

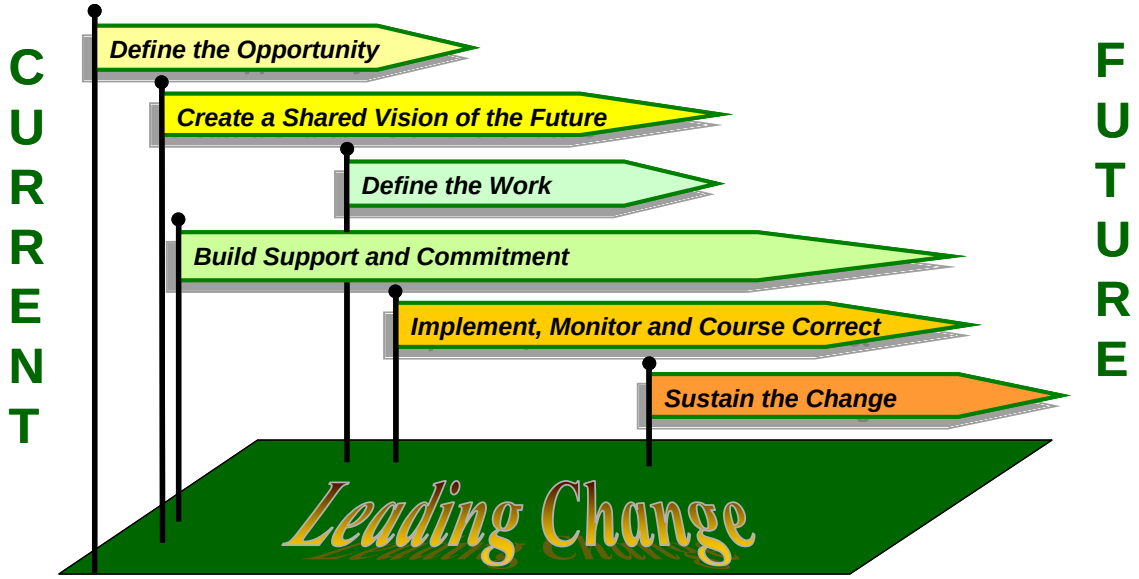
Implement the change

As mentioned before, in order to remain competitive, and to remain attractive as employers, organisations need to adapt and change constantly in accordance with the changing needs of their stakeholders.

Select a model for implementing a change management process

Understanding change, therefore, and knowing how to manage it, is a crucial part of the knowledge and skills of people managers in a successful organisation.

Change Management Methodology:

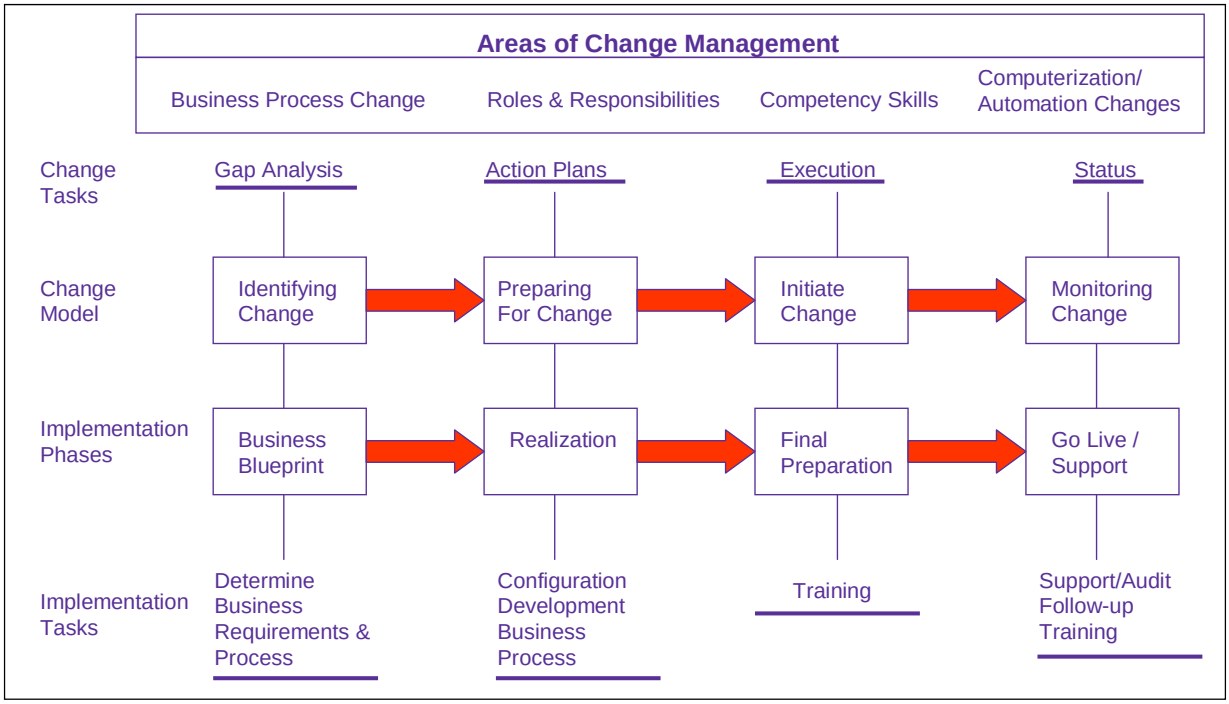


Change Management Deliverables:

	Program Vision & Focus	Solution Design	Implementation	Benefits Realization & Wrap-Up
Mobilize and Align Leaders 	▪ Case for Change ▪ Leadership Strategy	▪ Leadership Action Plans	▪ Follow-On Leadership Action Plans	▪ Lessons Learned
Engage Key Stakeholders 	▪ Project Start-Up Communications ▪ Risk Assessment & Change History ▪ Mobilization and Alignment Plan	▪ Promotional Campaign Plan ▪ Awareness Events ▪ Program Team Training	▪ Validation and Commitment Events	
Prepare and Equip the Workforce 		▪ Workforce Transition Strategy ▪ Training Strategy ▪ Workforce Transition Plan ▪ Job & Competency Requirements ▪ Training Plan	▪ Workforce Assessment & Selection ▪ Employee Support Programs ▪ Employee Deployment Plan ▪ Employee Action Plans	
Align HR Infrastructure 		▪ Organization & HR Assessment	▪ Future Organization & HR Models ▪ Performance Management Model	

Describe the characteristics of change models and theories

Change management models are used as a guideline to implementing the required change in the organisation. It can be illustrated as follows:



In order to implement change in an organisation, it is important and valuable to have an understanding of various theoretical change models, such as:

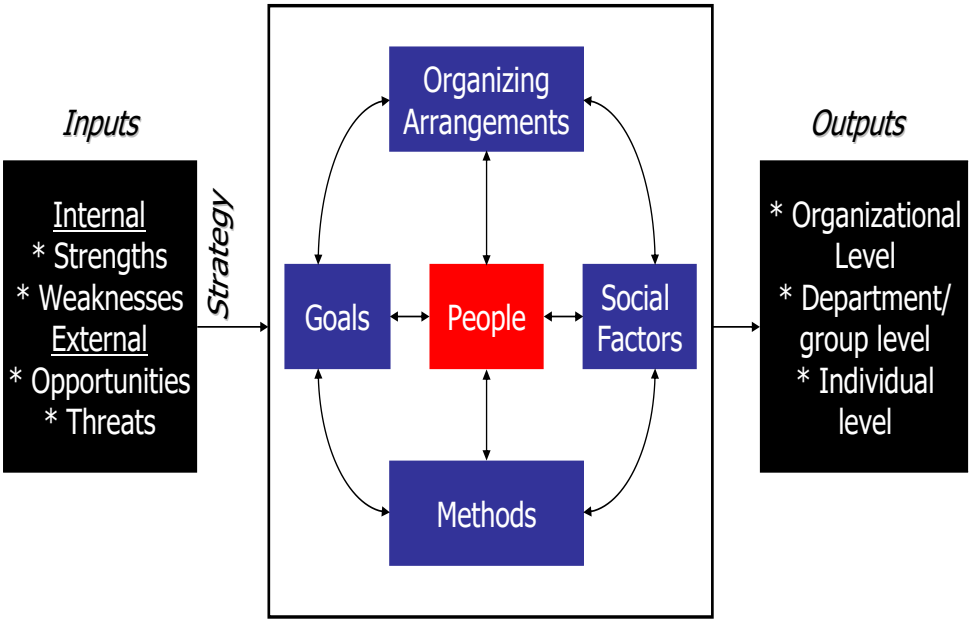
- System's Model for Change
- Kaizen Philosophy of Continuous Incremental Improvements
- Business Process Reengineering
- Capability Maturity Model (CMM)
- People Capability Maturity Model (CMM)
- Lewin's Change Model
- Ajzen Theory of Planned Behaviour (TPB)
- Malcolm Baldridge national Quality Award (MBNQA)
- Burke Litwin Model of Organisational Change
- Integrated Strategic Change Model

These models are discussed briefly in the following pages:

System's model for change

In a system there are inputs, processes and outputs. The illustration below shows the inputs (internal and external) that are then aligned to the organisation's strategy and then processed using the various target elements of change in order to provide the outputs at various levels in the organisation.

Target Elements of Change



Kaizen philosophy of continuous incremental improvements

The Kaizen method of continuous incremental improvements is an originally Japanese management concept for incremental change. Kaizen is actually a way of life *philosophy*, assuming that every aspect of our life deserves to be constantly improved. The Kaizen philosophy lies behind many Japanese management concepts such as Total Quality Control, Quality Control circles, small group activities, labour relations.

Japanese companies distinguish between innovation (radical) and Kaizen (continuous). Kaizen means literally: change (kai) to become good (zen).

Key elements of Kaizen are:

- Quality
- Effort
- Involvement of all employees
- Willingness to change
- Communication

The foundation of the Kaizen method consists of 5 founding elements:

1. Teamwork.
2. Personal discipline.
3. Improved morale.
4. Quality circles.
5. Suggestions for improvement.

Out of this foundation three key factors in Kaizen arise:

- Elimination of waste and inefficiency
- Standardisation
- The Kaizen five-S framework for good housekeeping:
    - Seiri - tidiness

- Seiton - orderliness
- Seiso - cleanliness
- Seiketsu - standardised clean-up
- Shitsuke - discipline

Although it is difficult to give generic advice on when to apply the Kaizen philosophy, it is clear that Kaizen fits well in incremental change situations that require long-term change and in collective cultures. More individual cultures that are more focused on short-term success are often more conducive to concepts such as Business Process Reengineering (see below).

When Kaizen is compared to BPR is it clear the Kaizen philosophy is more people-oriented, more easy to implement, requires long-term discipline. BPR on the other hand is harder, technology-oriented, enables radical change but requires major change management skills.

Business process re-engineering

The business process re-engineering method (BPR) is defined by Hammer and Champy as 'the fundamental reconsideration and radical redesign of organisational processes, in order to achieve drastic improvement of current performance in cost, service and speed'. Value creation for the customer is the leading factor for BPR and information technology often plays an important enabling role. (Davenport and Short, 1990 and Hammer and Champy, 1993)

Davenport (1992) prescribes a five-step approach to the business process re-engineering model:

1. Develop the business vision and process objectives: The BPR method is driven by a business vision which implies specific business objectives such as cost reduction, time reduction, output quality improvement.
2. Identify the business processes to be redesigned: most firms use the 'High- Impact' approach which focuses on the most important processes or those that conflict most with the business vision. Lesser number of firms use the 'Exhaustive approach' that attempts to identify all the processes within an organisation and then prioritise them in order of redesign urgency.
3. Understand and measure the existing processes: for avoiding the repeating of old mistakes and for providing a baseline for future improvements.
4. Identify IT levers: awareness of IT capabilities can and should influence BPR.
5. Design and build a prototype of the new process: the actual design should not be viewed as the end of the BPR process. Rather, it should be viewed as a prototype, with successive iterations. The metaphor of prototype aligns the Business Process Reengineering approach with quick delivery of results, and the involvement and satisfaction of customers.

As a 6th step of the BPR method some mention to adapt the organisational structure and governance model towards the newly designed primary process.

Although it is difficult to give generic advice on when to use BPR, some factors that can be considered are:

- Is the competition outperforming the company by factors?
- Are there many conflicts in the organisation?
- Is there an extremely high frequency of meetings?
- Excessive use of non-structured communication? (memos, emails, etc)
- Is a more continuous approach of incremental improvements not possible? (see: Kaizen)

When Kaizen is compared to the BPR method is it clear the Kaizen philosophy is more people-oriented, easier to implement, requires long-term discipline. The Business Process Reengineering approach on the other hand is harder, technology-oriented, enables radical change but requires major change management skills.

Capability maturity model (CMM)

The capability maturity model is an organisational model that describes 5 evolutionary stages (levels) in which an organisation manages its processes.

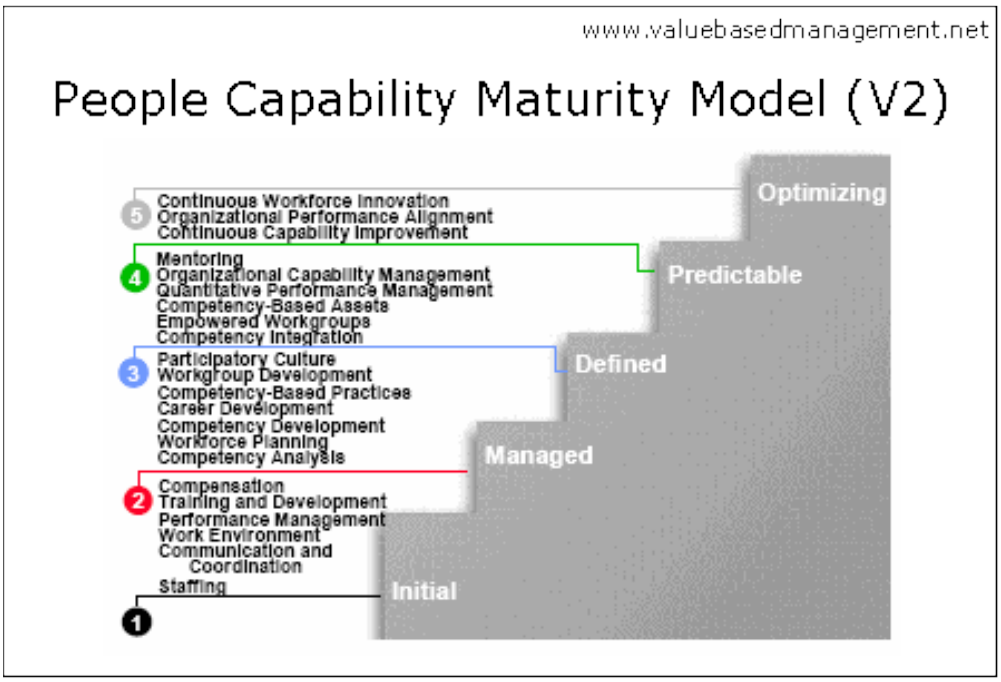
CMM describes 5 evolutionary stages in which an organisation manages its processes. The thought behind the capability maturity model, originally developed for software development, is that an organisation should be able to absorb and carry its software applications. The model also provides specific steps and activities to get from one level to the next.

The 5 stages of the Capability Maturity Model are:

1. Initial (processes are ad-hoc, chaotic, or actually few processes are defined)
2. Repeatable (basic processes are established and there is a level of discipline to stick to these processes)
3. Defined (all processes are defined, documented, standardised and integrated into each other)
4. Managed (processes are measured by collecting detailed data on the processes and their quality)
5. Optimising (continuous process improvement is adopted and in place by quantitative feedback and from piloting new ideas and technologies)

The Capability Maturity Model[14] is useful not only for software development, but also for describing evolutionary levels of organisations in general and in order to describe the level of Value Based Management that an organisation has realised or wants to aim for.

People capability maturity model (CMM)



The people capability maturity model (P-CMM) framework maintained by the Carnegie Mellon SEI helps organisations in developing their workforce maturity and in addressing their critical people issues. Based on the best current practices in fields such as human resources, knowledge management, and organisational development, P-CMM guides organisations in improving their processes for managing and developing their workforces. P-CMM helps organisations characterise the maturity of their workforce practices, establish a program of continuous workforce development, set priorities for improvement actions, integrate workforce development with process improvement, and establish a culture of excellence.

[14] For further reference and reading:

- Book: James R. Persse - Implementing the Capability Maturity Model
- Book: Mary Beth Chrissis - CMMI : Guidelines for Process Integration and Product Improvement

P-CMM provides a roadmap for implementing workforce practices that continuously improve the capability of an organisation's workforce. Since an organisation cannot implement all of the best workforce practices in an afternoon, P-CMM takes a staged approach. Each progressive level of the P-CMM produces a unique transformation in the organisation's culture by equipping it with more powerful practices for attracting, developing, organising, motivating, and retaining its workforce. Thus, P-CMM establishes an integrated system of workforce practices that matures through increasing alignment with the organisation's business objectives, performance, and changing needs.

The philosophy underlying P-CMM is based on ten principles:

1. In mature organisations, workforce capability is directly related to business performance.
2. Workforce capability is a competitive issue and a source of strategic advantage.
3. Workforce capability must be defined in relation to the organisation's strategic business objectives.
4. Knowledge-intense work shifts the focus from job elements to workforce competencies.
5. Capability can be measured and improved at multiple levels, including individuals, workgroups, workforce competencies, and the organisation.
6. An organisation should invest in improving the capability of those workforce competencies that are critical to its core competency as a business.
7. Operational management is responsible for the capability of the workforce.
8. The improvement of workforce capability can be pursued as a process composed from proven practices and procedures.
9. The organisation is responsible for providing improvement opportunities, while individuals are responsible for taking advantage of them.
10. Since technologies and organisational forms evolve rapidly, organisations must continually evolve their workforce practices and develop new workforce competencies.

The P-CMM consists of five maturity levels that establish successive foundations for continuously improving individual competencies, developing effective teams, motivating improved performance, and shaping the workforce the organisation needs to accomplish its future business plans. Each maturity level is a well-defined evolutionary plateau that institutionalises new capabilities for developing the organisation's workforce. By following the maturity framework, an organisation can avoid introducing workforce practices that its employees are unprepared to implement effectively.

The five stages of the P-CMM framework are:

P-CMM - Initial Level - Typical characteristics: Inconsistency in performing practices, Displacement of responsibility, Ritualistic practices, and Emotionally detached workforce.

P-CMM - Managed Level - Typical characteristics: Work overload, Environmental distractions, Unclear performance objectives or feedback, Lack of relevant knowledge, or skill, Poor communication, Low morale.

P-CMM - Defined Level - Although there are performing basic workforce practices, there is inconsistency in how these practices are performed across units and little synergy across the organisation. The organisation misses opportunities to standardise workforce practices because the common knowledge and skills needed for conducting its business activities have not been identified.

P-CMM - Predictable Level - The organisation manages and exploits the capability created by its framework of workforce competencies. The organisation is now able to manage its capability and performance quantitatively. The organisation is able to predict its capability for performing work because it can quantify the capability of its workforce and of the competency-based processes they use in performing their assignments.

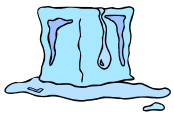
P-CMM - Optimising Level - The entire organisation is focused on continual improvement. These improvements are made to the capability of individuals and workgroups, to the performance of competency-based processes, and to workforce practices and activities. The organisation uses the results of the quantitative management activities established at Maturity Level 4 to guide improvements at Maturity Level 5. Maturity

Level 5 organisations treat change management as an ordinary business process to be performed in an orderly way on a regular basis.

Lewin's change model

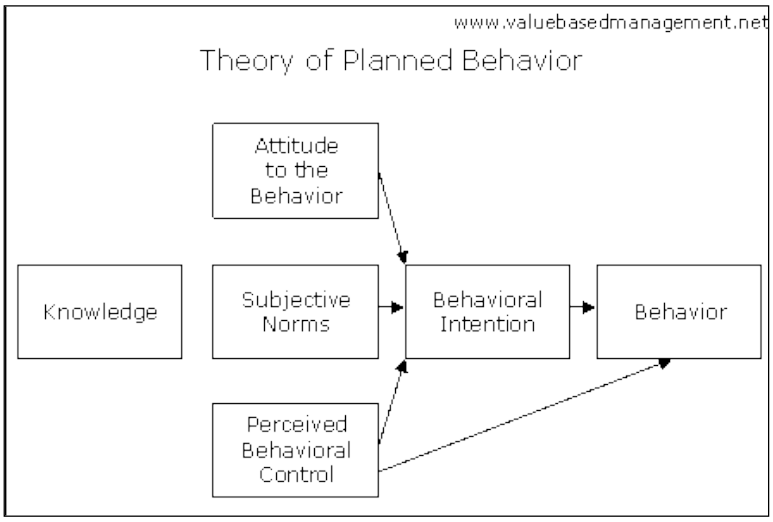
When dealing with people and change, American social psychologist Kurt Lewin observed during the 1940s that a successful change includes three progressive steps:

- Unfreezing the present level of performance
- Moving to a new level
- Freezing group life at the new level

Unfreezing 	Creates the motivation to change Encourages the replacement of old behaviours and attitudes with those desired by management Entails devising ways to reduce barriers to change Creates psychological safety
Changing 	Provides new information, new behavioural models, or new ways of looking at things Helps employees learn new concepts or points of view Role models, mentors, experts, benchmarking results and training are useful mechanisms to facilitate change
Refreezing 	Helps employees integrate the changed behaviour or attitude into their normal way of doing things Positive reinforcement is used to reinforce the desired change Coaching and modelling help reinforce the stability of change

Lewin (1947) proposed his force field analysis model to explain the driving forces and restraining forces being placed on any change effort, with equilibrium, or the present state of productivity, being reached when both forces are equal. Lewin's model points out the importance of self-assessment of both the external and internal environments to determine the positive and negative forces and drivers for an organisation.

Ajzen theory of planned behaviour (TPB)



The theory of planned behaviour (TPB)[15] of Icek Ajzen (1988, 1991) helps us to understand how we can change the behaviour of people. The TPB is a theory which predicts deliberate behaviour, because behaviour can be deliberative and planned.

TPB is the successor of the similar theory of reasoned action of Ajzen and Fishbein (1975, 1980). The succession was the result of the discovery that behaviour appeared not to be 100% voluntary and under control, which resulted in the addition of perceived behavioural control. With this addition the theory was called the theory of planned behaviour.

Briefly, according to TPB, human action is guided by three kinds of considerations:

- Behavioural Beliefs (beliefs about the likely consequences of the behaviour)
- Normative Beliefs (beliefs about the normative expectations of others)
- Control Beliefs (beliefs about the presence of factors that may facilitate or impede performance of the behaviour)

Ajzen's three considerations are crucial in circumstances / projects / programs when changing behaviour of people.

In their respective aggregates, behavioural beliefs produce a favourable or unfavourable attitude toward the behaviour, normative beliefs result in perceived social pressure or subjective norm, and control beliefs give rise to perceived behavioural control. In combination, attitude toward the behaviour, subjective norm, and perception of behavioural control lead to the formation of a behavioural intention. As a general rule, the more favourable the attitude and subjective norm and the greater the perceived control, the stronger should be the person's intention to perform the behaviour in question.

Recently (2002) Ajzen investigated Residual Effects of Past on Later Behaviour. He came to the conclusion that this factor indeed exists but cannot be described to habituation as many people think. A review of existing evidence suggests that the residual impact of past behaviour is attenuated when measures of intention and behaviour are compatible and vanishes when intentions are strong and well formed, expectations are realistic, and specific plans for intention implementation have been developed.

A research project in the travel industry resulted in the conclusion that past travel choice contributes to the prediction of later behaviour only if circumstances remain relatively stable.

Example: The Theory of Planned Behaviour of Ajzen can help to explain why advertising campaigns merely providing information do not work. Increasing knowledge alone does not help to change behaviour very much. Campaigns that aim at attitudes, perceived norms and control in making the change or buying certain goods have better results.

[15] For further reference and reading:

- Book: Icek Ajzen, Martin Fishbein - Understanding Attitudes and Predicting Social Behaviour

Malcolm Baldridge national quality award (MBNQA)

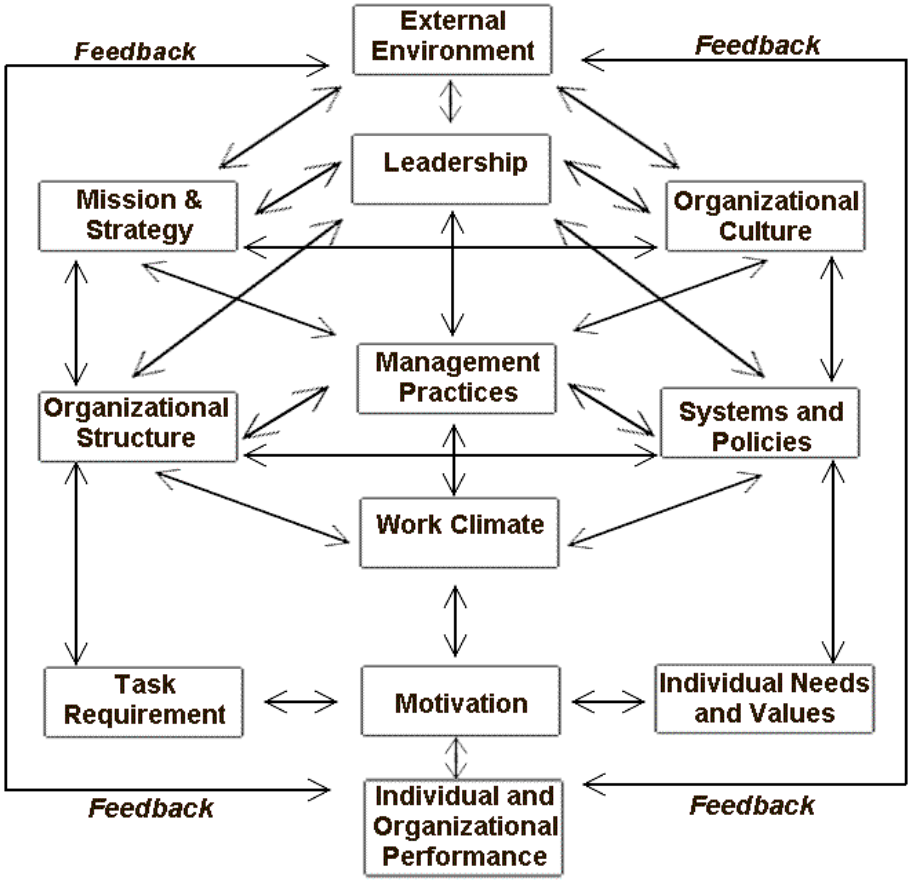
Phillips (1983) contended that management of change should begin with questioning the company's history of successful change and of key individuals' awareness of the need to change. He suggested that human resources should assess the organisation's readiness to make changes before attempting to promote organisational changes.

A popular organisational self-assessment model in the 1980's was the Malcolm Baldridge national quality award (MBNQA) which helped organisations focus their change efforts on performance excellence. The MBNQA approach uses a questionnaire to identify an organisation's strengths, weaknesses and opportunities. The MBNQA instrument focuses more on the strategic and organisational factors and not the whole system of an organisation which includes a deeper understanding of the organisation's culture, climate, commitment, capabilities and the vision of its employees towards change.

Burke-Litwin model of organisational change

In contrast to the MBNQA Model noted above, the Burke-Litwin model of organisational change presented the concepts of transactional and transformational change to assess an organisation. Transactional change is where the organisation has some feature of change but the fundamental nature of the organisation remains the same. Included in transactional is organisational climate which are people's perceptions and attitudes about the organisation. Included in transactional change are structure, management practices, and systems. Transformational change is where the organisation is fundamentally and substantially altered. Organisational culture is part of transformational change and is harder to change versus organisational climate because of its deep seated beliefs, and values. Included in transformational change are mission and strategy, leadership, and organisational culture.

The following figure presents a summary of the Burke-Litwin model.



Following principles of a systems theoretic view, the Burke-Litwin model begins with environment, from which inputs are brought into the organisation, and ends with individual and organisational performance, or the outputs. In a sense, however, the model finally ends with the environment once again, as the model also includes a feedback loop linking outputs back to environment and system inputs. The factors depicted in between environment and performance are the throughput. It is here that the model offers some specificity on the mechanisms by which the organisation does its work.

The remaining throughput factors make up the transactional variables of the model. Changing transactional factors is easier than changing transformational factors, but will have less of a long-term impact on performance if transformational factors are unaffected and remain essentially unchanged.

- **Structure** includes the formal chain of command, prescribed lines of communication, responsibilities, and decision-making relationships
- **Systems** are the standardized behavioural systems or ways of doing things, including the policies, procedures, and practices designed to facilitate the work of the organisation's members, such as reward systems and control processes (e.g., budgeting)
- **Management practices** are what managers do to use resources available to them to achieve organisational goals. These are the bureaucratic manager and transactional leader behaviours that are intended to pursue current purpose and execute existing strategy.
- **Work unit climate** is the combined sense of direction, perceived roles and responsibilities, commitment to and involvement in the organisation, and perceived equity of rewards for a group's or organisation's members. The climate of a work unit strongly affects intragroup and intergroup relations.
- **Task requirements** refers to the specific requirements of a given task, the set of tasks assigned to specific roles and job positions, and the skills and abilities of the individuals who fill those positions and complete the tasks. Ideally, jobs will be appropriately matched to the talents of the individuals expected to fill them.
- **Individual needs and values** represent the organisational factors that, at an individual level, fulfil important work-related psychosocial needs, such as a sense of autonomy and achievement, and a belief that the work - and the individual's contribution to that work - is important and worthwhile
- **Motivation** is defined by Burke as the "aroused" goal-directed behaviour of the organisation and its members. The enacted behavioural tendencies of the system stem directly from the energy generated by human motivation.

Integrated strategic change model

The Integrated Strategic Change Model16 points out that the major challenge management faces today is in its competitive environment- managing the external positioning of the firm is not enough; it requires executives to manage external and internal considerations simultaneously and to comprehend both the challenges in the marketplace and those within their organisations. Traditional approaches to organisational strategy were mainly externally focused and concerned with financial performance using measurements like return on investments, return on equity, debt ratio, economic value added and return on total assets.

<u>Describe the reasons for selecting the model</u>

Kotter published the following 8 steps to leading organisational change that could assist you in the change management process:

Step 1: Establish a sense of urgency – Unfreeze the organisation by creating a compelling reason for why change is needed

Step 2: Create the guiding coalition – Create a cross-functional, cross-level group of people with enough power to lead the change

Step 3: Develop a vision and strategy – Create a vision and strategic plan to guide the change process

[16] By Worley, Hitchin, and Ross (1996), in their book Integrated Strategic Change: How OD Builds Competitive Advantage,

Step 4: Communicate the change vision – Create an implement a communication strategy that consistently communicates the new vision and strategic plan

Step 5: Empower broad-based action – Eliminate barriers to change and use target elements of change to transform the organisation. Encourage risk taking and creative problem solving

Step 6: Generate Short-term wins – Plan for and create short-term "wins" or improvements. Recognise and reward people who contribute to the wins

Step 7: Consolidate gains and produce more change – The guiding coalition uses credibility from short-term wins to create more change. Additional people are brought into the change process as change cascades throughout the organisation. Attempts are made to reinvigorate the change process.

Step 8: Anchor new approaches in the culture - Reinforce the changes by highlighting connections between new behaviours and processes and organisational success. Develop methods to ensure leadership development and successes

Making recommendations for change

When making recommendations for change to be implemented, you need to ensure that:

- Clear, goal-directed recommendations are made for consideration by senior management
- All the key stakeholders are approached with the recommendations
- Barriers to achieving the desired future state are identified and solutions are presented to senior management

To make effective recommendations for change, you need to follow a plan for managing change.

Setting Goals / Objectives for Change

At the heart of change management lies the change problem, that is, some future state to be realised, some current state to be left behind, and some structured, organised process for getting from the one to the other. The change problem might be large or small in scope and scale, and it might focus on individuals or groups, on one or more divisions or departments, the entire organisation, or one or on more aspects of the organisation's environment.

At a conceptual level, the change problem is a matter of moving from one state ("old") to another state ("new"). Moving from "old" to "new" is typically accomplished as a result of setting up and achieving three types of goals:

Transform	Transform goals are concerned with identifying differences between the two states	"how"
Reduce	Reduce goals are concerned with determining ways of eliminating these differences	"what"
Apply	Apply goals are concerned with putting into play operators that actually effect the elimination of these differences	"why"

As these goal types suggest, the analysis of a change problem will at various times focus on defining the outcomes of the change effort, on identifying the changes necessary to produce these outcomes, and on finding and implementing ways and means of making the required changes. In simpler terms, the change problem can be treated as smaller problems having to do with the how, what, and why of change.

A clear sense of mission or purpose is essential for achieving a change.

Now that we know what we want to change (from Module 1), we need to set SMART goals / objectives for the "new" that we want after the change:

A mnemonic aid to write goals / objectives is **SMART** (**S**pecific, **M**easurable, **A**ttainable, **R**esult-oriented, **T**ime-limited).

Specific: - An objective must be specific with a single key result. If more than one result is to be accomplished, more than one objective should be written. Just knowing what is to be accomplished is a big step toward achieving it.

What is important to you? Once you clarify what you want to achieve, your attention will be focused on the objective that you deliberately set. You will be doing something important to you.

Measurable - An objective must be measurable. Only an objective that affects behaviour in a measurable way can be optimally effective. If possible, state the objective as a quantity. Some objectives are more difficult to measure than others are.

However, difficulty does not mean that they cannot be measured. Customer service could be measured by such indices as the number of complaints received, by the number of customers lost, and by customer interviews or responses to questionnaires. Development of subordinates could be measured by determining the number of tasks the subordinate has mastered. Cooperation with other functions could be measured by length of delay in providing requested information, or by peer ratings of degree of cooperation.

Avoid statements of objectives in generalities. Infinitives to avoid include to know, to understand, to enjoy, and to believe. Action verbs are observable and better communicate the intent of what is to be attempted. They include to write, to apply, to recite, to revise, to contrast, to install, to select, to assemble, to compare, to investigate, and to develop.

How will you know you've progressed?

Attainable - An objective must be attainable with the resources that are available. It must be realistic. Many objectives are realistic. Yet, the time it takes to achieve them may be unrealistic. For example, it is realistic to want to have a new customised computer system. However, it is unrealistic to want the customised computer system in one week.

What barriers stand between you and your objective? How will each barrier be overcome and within what time frame?

Result-oriented - The objective should be central to the goals of the organisation or of the change required. The successful completion of the objective should make a difference.

How will this objective help the organisation move ahead? Is the objective aligned with the mission of the organisation?

Time-limited - The objective should be traceable. Specific objectives enable time priorities to be set and time to be spent on objectives that really matter.

Are the time lines you have established realistic? Will other competing demands cause delay? Will you be able to overcome those demands to accomplish the objective you've set in the time frame you've established?

Formulate recommendations on implementing the change process

Your responsibility doesn't end with the decision. You need to turn the decision into action. The way you communicate the decision and plan for implementation will determine your success. Many managers overlook one of the most important aspects of the decision making process: communicating the decision to everyone involved in and affected by it.

It is important to make your recommendations for change to the right people. The following guidelines could assist you:

- **Present your recommendations to the appropriate people** - make your recommendations to senior managers or specialists in a way which helps them make a decision and in time to allow the decision to be put into effect
- **Amend your recommendations in the light of responses** - make appropriate alterations to your recommendations on the basis of the responses you get from senior managers and specialists

The people you notify will include everyone who is responsible for implementing the decision as well as anyone who is affected by it. Your list might also include the key stakeholders: members of your unit who were not part of the decision-making group, senior management, department supervisors, external constituents and even customers if they will see a change in the way you do business with them.

Creating an action plan to implement change

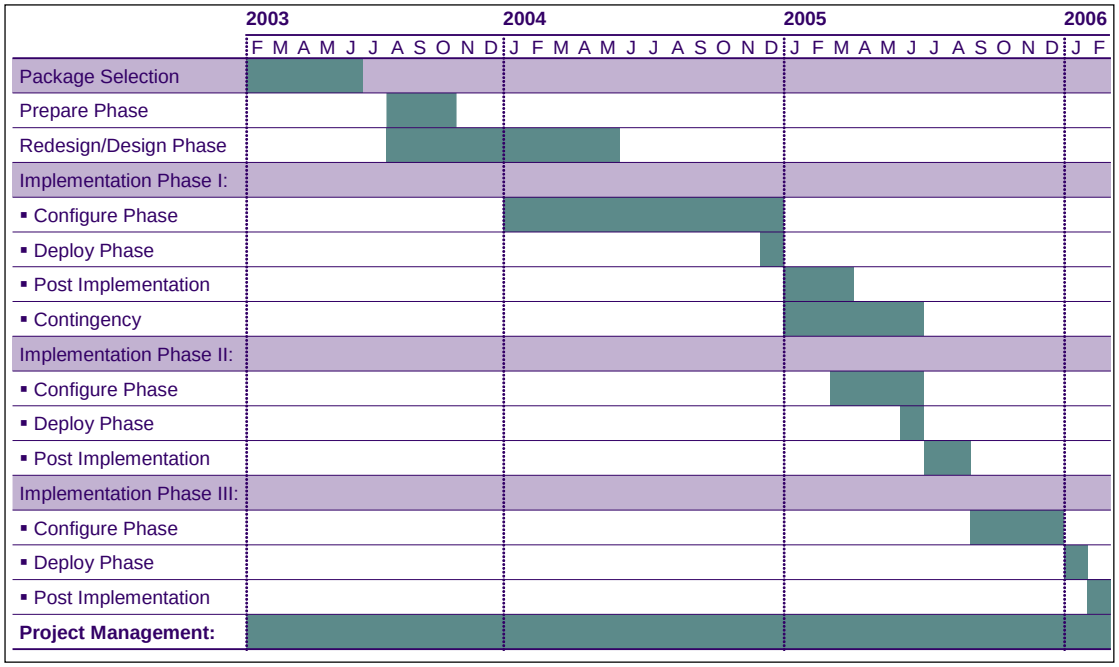
Develop a detailed plan that will include:

- The rationale
- The aim and objectives of the change
- How it will be implemented
- Who will be involved and their individual roles
- The resources required
- The time scale
- How the plan will be monitored
- How you will know that the change has been successful

To create a project plan:

- Identify the tasks that need to be done
- Identify the time that you believe it would take to complete the tasks
- Identify and assign resources to do the tasks
- Create a project plan / schedule

An example of a Change Management Plan / schedule:



Clarifying Change Roles and Responsibilities

Encourage all the relevant people to understand and participate in the changes. Explain the changes and their effects to people and gain their support. The following guidelines could be used:

- **Present details of implementation plans to all concerned** - make sure that you brief everyone involved, or affected by, the changes on their role in the changes and the possible impact on their area

- **Encourage people to seek clarification** - check on their understanding of their role and encourage them to ask questions
- **Use resources in the most effective way** - plan carefully so that you meet the new requirements as cost effectively as possible

Change tools and interventions

Change involves moving from the known ("old") to the unknown ("new") . Because the future is uncertain and may adversely affect people's competencies, worth, and coping abilities, organisational employees generally do not support change, unless compelling reasons convince them to do so. Similarly, organisations tend to be heavily invested in the status quo, and they resist changing it in the face of uncertain future benefits.

Consequently, a key issue in planning for action is how to motivate commitment to change. This requires management attention to two related tasks:

- Creating readiness for change
- Overcoming resistance to change

Change management focuses on these two tasks by proposing, designing and subsequently executing effective interventions at individual, group, organisational and environmental levels.

Interventions refer to a set of planned change activities performed by internal or external people, intended to help an organisation increase its effectiveness. Interventions, which assist in improving productivity and the quality of work life have three characteristics:

- They are based on valid information about the organisation's functioning
- They provide employees with opportunities to make free and informed choices
- They gain employee's internal commitment to these choices

Change management tools and interventions are therefore used to assist employees through the change process, by:

- Providing real, true and relevant information about the change
- Providing the opportunity for employees to safely communicate and assist in the decision-making process
- Clarifying any issues or concerns in order to gain employee commitment
- Allowing employees to accept ownership of the change intervention and take responsibility for implementing it

Using specific planned interventions, such as a "Change Roadshow" or "Tuesday Change Buzz Sessions" are very powerful tools when implementing change in an organisation. Communication keeps everyone involved. Communication about the change should be:

- Carried by management to employees (while allowing safe interaction and feedback from employees)
- Done at the employee's level (what information do they need at their level)
- Communicated face-to-face

When creating your project plan, you need to ensure that you plan to implement various interventions at various stages of the change project, so that you achieve the above outcomes of interventions. The following is a list of various interventions[17] that you might want to use creatively:

[17] For more information on each of these interventions: www.change-management-toolbook.com

Processes	Micro Intervention Tools	Macro Intervention Tools
Diagnosis	Different kind of questionnaires, organisational constellations, active listening tools, time lines, organisational history / mapping	Open space technology, future search, appreciative inquiry
Concept building	Visioning, creativity techniques (e.g. Walt-Disney-cycle), mind mapping	Project cycle management, appreciative inquiry, scenario technique
Psychosocial change	Various coaching techniques, peer mentoring, meta-mirror, working with hidden agendas, 6 thinking hats, working with limiting beliefs	Open space technology, future search conferences
Learning	Dialogue, tools for self-reflection, mentoring	Formal training or on-the-job training, open space technology, appreciative inquiry
Information	Tools for recognising and utilising different thinking styles, pacing and leading	Public relations campaigns, intranets, stakeholder forums
Implementation	General management techniques	General management techniques, real time strategic change (RTSC)
Management of all change	General management techniques	General management techniques (e.g. participatory monitoring), TQM

Formulate the decision on addressing the problem

Formulate your decision on how to address the issue/problem with reference to the impact of the decision on the unit and the broader system within which it operates.

Your decision document should include the following components:

- Statement of the issue that needed to be addressed
- Description of the objectives or decision making criteria
- The names and roles of the people involved in making the decision and why they were included
- The alternatives considered (and possibly a summary of the analysis in a table form)
- An explanation of the final decision and what it means for the key stakeholders
- The implementation plan and timeframe
- A request for feedback

Describe the actions required to implement the decision

Describe the actions required to implement the decision in the unit with reference to activities, role players, resources and time lines:

Now that you have made a choice and communicated your decision to the appropriate people, it is time to identify the tasks that will be required to put the decision into action, assign resources and establish

deadlines. Ideally, your team members will leave your final meeting knowing exactly what they're expected to do. If not, reconvene the group to identify who will be responsible for each task.

Consider the following when implementing your decision:

- Assign reasonable tasks with sufficient resources
- Clarify expectations
- Provide feedback on the implementation and recognise people's contributions

You should take five steps to ensure that the solution is implemented correctly:

- Create the action plan
- Consult the affected personnel
- Adjust the plan
- Outline the final plan to appropriate personnel
- Track the implementation

Creating the action plan

You should develop and document the action plan before implementing the solution. Attempting to implement the solution "on the fly" can permit mistakes, specifically communication errors. Documenting the action plan can help prevent communication errors.

Consulting the affected personnel

After you document the entire action plan, you should present the plan to the individuals who will implement it and will be affected by the solution. This presentation should be a collaborative effort to gain support for the plan. You should be prepared to discuss the entire problem-solving process with the affected personnel and ask for their feedback. Be ready to answer their questions about how you arrived at your solution.

Adjusting the plan

Based on the input and suggestions of the affected personnel, you might need to adjust your action plan to accommodate any worthwhile suggestions that you receive. You should consider everything that was suggested. If you decide not to accept the suggestions, be prepared to discuss and explain your rationale.

Outlining the final plan to appropriate personnel

You should present the final plan to the employees affected by the decision. Address each of the concerns that were raised during consultation and any additional concerns that might be raised at this time. It is essential that the individuals responsible for implementing the solution understand and accept it. After outlining the plan and gaining the acceptance of the responsible individuals, you are ready to implement the solution.

It is possible that some individuals will resist change. If this happens, you cannot permit their resistance to stall or cancel your plan. If these resisting individuals report to you, they will need to accept the plan based on your authority. If they report to someone else, you'll need to enlist the cooperation of that manager to ensure the completion of their responsibilities.

Track implementation

Depending on the complexity and time span of your solution, there are several ways to track its progress. The more the time and effort needed to implement a solution, the more detailed your tracking plan needs to be. You can track your solution by using these tools:

- **Meetings -** Meetings are the standard for tracking many business functions. They help you collect information from your problem-solving team or from the people affected by the solution. This

information is critical because the perception of the involved parties will determine the success of the solution.

- **Milestones -** Milestones are small goals that lead to the implementation of the solution. They are established points in time or in the process that permit you to measure the success of the implemented solution. Milestones are tasks that are specific, quantifiable and measurable. If a task is complicated and contains many steps, it should contain milestones that reflect the sub-steps needed to complete it.

Describe the change processes required to support the implementation

Describe the change processes that are required to support the implementation of the decision with reference to their impact on the success of the implementation:

- Change management entails thoughtful planning and sensitive implementation, and above all, consultation with, and involvement of, the people affected by the changes. If you force change on people, problems normally arise.
- Check that people affected by the change agree with, or at least understand, the need for change, and have a chance to decide how the change will be managed, and to be involved in the planning and implementation of the change.
- If you've done your planning properly, your envisaged change processes will be realistic, achievable and measurable.

American John P Kotter is a Harvard Business School professor and leading thinker and author on organisational change management. Kotter's highly regarded books 'Leading Change' (1995) and the follow-up 'The Heart Of Change' (2002) describe a helpful model for understanding and managing change.

Each stage acknowledges a key principle identified by Kotter relating to people's response and approach to change, in which people **see**, **feel** and then **change**.

Kotter's eight step change model[18] can be summarised as:

Step 1: Increase urgency - inspire people to move, make objectives real and relevant.

Step 2: Build the guiding team - get the right people in place with the right emotional commitment, and the right mix of skills and levels.

Step 3: Get the vision right - get the team to establish a simple vision and strategy, focus on emotional and creative aspects necessary to drive service and efficiency.

Step 4: Communicate for buy-in - Involve as many people as possible, communicate the essentials, simply, and to appeal and respond to people's needs. De-clutter communications - make technology work for you rather than against.

Step 5: Empower action - Remove obstacles, enable constructive feedback and lots of support from leaders - reward and recognise progress and achievements.

Step 6: Create short-term wins - Set aims that are easy to achieve - in bite-size chunks. Manageable numbers of initiatives. Finish current stages before starting new ones.

Step 7: Don't let up - Foster and encourage determination and persistence - ongoing change - encourage ongoing progress reporting - highlight achieved and future milestones.

Step 8: Make change stick - Reinforce the value of successful change via recruitment, promotion, new change leaders. Weave change into culture.

[18] Retrieved from: http://www.businessballs.com/changemanagement.htm

Communicate the decision: present the change management plan

Change announcement

You have spent some time thinking about:

- The purpose of the change
- What the future state will look like
- Defining what is over and what must remain
- How to capture these ideas in a change purpose statement

You should now be ready to call everyone together and inform them of the change. The thinking you have done should prepare you for the content of what you need to tell your people.

The checklist below acts as a set of prompts in setting up the Change announcement meeting:

- Who should be present at the meeting? (Everyone who is directly or indirectly affected by the change)
- Who will ensure that everyone is invited / informed about the meeting?
- Has a large enough venue been booked?
- Who needs to be present to show commitment and support for this change?
- Have we set aside enough time for a presentation as well as any questions that may need to be answered?
- Is the announcement to be delivered in total or will it be split into several announcements?
- Who should present the message?
- In what style or tone should this message be conveyed?
- What format should the message be presented in?
- What supporting media can be used to convey the message?

Communicate the decision in a user-friendly format. Refer back to Module 2 section 2.3.5 – we discussed how to communicate effectively and the fundamental rules that you should apply to written presentation of your decision.

Conclusion

Applying problem-solving techniques to make a decision or solve a problem in a real life context is a skill that can benefit every person in their personal lives and their careers. It provides you with an awareness of the differences between problems, challenges and everyday matters that need to be solved and that need you to make a decision about.

This programme also provides you with various techniques that can assist you to solve problems and make effective decisions. It provides you with techniques to become more creative and processes to become more effective and efficient in everyday life and work related issues.

Problem solving is a life skill that can be learnt and applied in various contexts. In fact, companies pay people to solve problems – that is what most JOBS are about. You will be an asset to your organisation by becoming a creative and effective problem-solver and decision-maker.

Remember that your positive attitude towards problems will benefit the outcome of a problem solving and decision making process.

Some final comment on communication during this period:

- Announce the changes as far in advance as possible
- Engage in "information overkill". Give people more information than they want. It is important that people be thinking and talking about the changes, and getting used to the idea of change itself. The normal

practice of keeping changes secret as long as possible because people may be disturbed by them is like not telling the family that one of its members is dying - on the day the person does die, the trauma is much worse than if the family had some notice! A relevant research finding is that patients given full information about the pain and discomfort they were likely to experience following a surgical procedure healed faster than those who were not so informed

- Do a lot of "MBWA" (management by walking around) and use contacts with employees to dialogue about the change. The conversations about change don't have to be particularly well done; there just need to be a lot of them.

Getting support for change

Once you have set the goals and/or objectives of the change that you want to implement, you need to get support for the change from all the various stakeholders, especially those that would be directly affected by the change.

Stakeholders would include:

- Employees
- Management
- Shareholders
- Customers, etc.

Tools for stakeholder analysis

Prepare a matrix in which you rank stakeholders according to their stake in the process versus their influence:

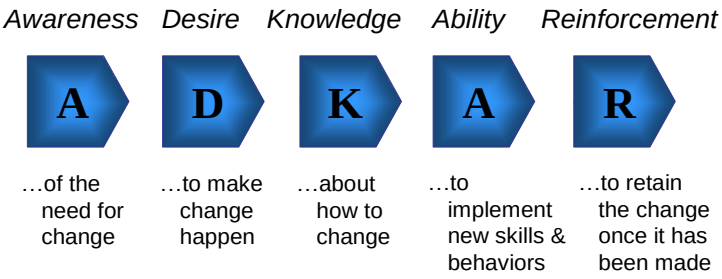
Stakeholder power / potential	High Stake / Importance	Low Stake/ Importance
High Influence / Power	Most critical stakeholder group: ***collaborate with***	Useful for decision and opinion formulation, brokering: ***mitigate impacts, defend against***
Low Influence / Power	Important stakeholder group, in need of empowerment: ***involve, build capacity and secure interests***	Least priority stakeholder group: ***monitor or ignore***

Marketing your change project has to address demanding and dangerous stakeholders and try to win dominant, dependent and definite stakeholders.

Stakeholder evaluations make preferences and expectations explicit. Evaluations help anticipate responses to change by providing data on sources of support for, indifference to, or hostility toward proposed changes. If employees give an existing practice low marks, they are likely to support a change. Conversely, if they do not support a change they will likely give an existing practice high marks. They may require new incentives to support new proposals.

People performance approach

Another way to view the change that you need to implement, would be by using the ADKAR approach. Effective management of the people dimension of change requires managing five key phases that form the basis of Prosci's ADKAR model:



From: www.prosci.com

- **A**wareness of the need to change (why)
- **D**esire to participate and support the change (choice)
- **K**nowledge of how to change (and what the change looks like)
- **A**bility to implement the change on a day-to-day basis (turning knowledge into action)
- **R**einforcement to keep the change in place (celebrating success)

The power of the ADKAR model is that it creates focus on the first element that is the root cause of failure. When you approach change using this model, you can immediately identify where the process is breaking down and which elements are being overlooked. This avoids generic conversations about the change that rarely produce actionable steps. This results-oriented approach helps focus energy on the area that will produce the highest probability for success.

ADKAR can help you plan effectively for a new change or diagnose why a current change is failing. In some cases, corrective action can be taken and the change successfully implemented.

The following shows the ADKAR Model mapped to enablers and management activities:

A	**Awareness of the need for change**	Management communications Customer input Marketplace change Ready-access to information
D	**Desire to participate and support the change**	Fear of job loss Discontent with the current state Imminent negative consequence Enhanced job security Affiliation and sense of belonging Career advancement Acquisition of power or position Incentive or compensation Trust and respect for leadership Hope in future state
K	**Knowledge on how to change**	Training and education Information access Examples and role models
A	**Ability to implement required skills and behaviours**	Practice applying new skills or using new processes and tools Coaching Mentoring Removal of barriers
R	**Reinforcement to sustain the change**	Incentives and rewards Compensation changes Celebrations Personal recognition

Propose actions for managing the anticipated human responses to the change process

It is human nature to resist change. It is important that the leader understands that it is perfectly normal for individuals to resist change.

Causes of Resistance to Change would include:

- Assault on the status quo which alters organisational norms
- Loss of organisational control
- Redistribution of authority
- Clash of ideologies
- Personal threat
- Worry, fear, distrust, uncertainty about job
- Disagreement how objectives should be achieved
- Costs
- Disagreement about specifications, technical procedures and performance

People resist change because they perceive some threat to themselves and those they care about:

- Threat to one's self-esteem
- Physical threat
- Economic threat
- Threat to autonomy, power, status
- Threat to stability

People often resist change because the change or need for the change hasn't been sufficiently explained.

Human responses to change

Employee resistance

We have already seen that change happens continuously, and often at rapid speed. Because change has become an everyday part of organisational dynamics, employees who resist change can actually cripple an organisation.

In its usual description change resistance refers to change within organisations, although it is also found elsewhere in other forms.

In order to understand the concept of **employee resistance**, it is critical to define what is meant by the term resistance. Zander defines resistance to change as "behaviour which is intended to protect an individual from the effects of real or imagined change"[19] Resistance to change is the action taken by individuals and groups when they perceive a change that is occurring as a threat to themselves.

Key words here are 'perceive' and 'threat'. The threat need not be real or large for resistance to occur.

Resistance can also be defined as "any conduct that serves to maintain the status quo in the face of pressure to alter the status quo"[20]

According to Dent and Goldberg (1999), individuals aren't really resisting the change, but rather they may be resisting the loss of status, loss of pay, or loss of comfort. They claim that, "it is time that we dispense with the phrase resistance to change and find a more useful and appropriate model for describing what the phrase has come to mean - employees are not wholeheartedly embracing a change that management wants to implement" (p. 26).

[19] Alvin Zander (1950), (cited in Dent & Goldberg, 1999, p. 34)
[20] Zaltman & Duncan (1977),(cited in Bradley, 2000, p. 76).

Resistance is an inevitable response to any major change. Individuals naturally rush to defend the status quo if they feel their security or status is threatened.

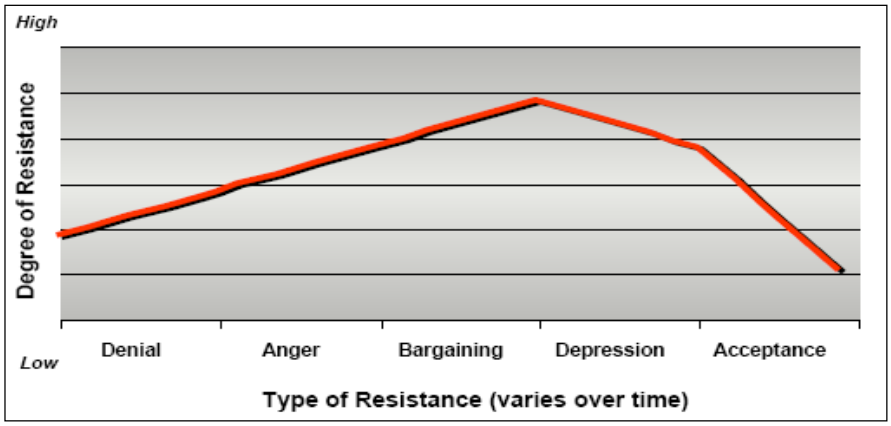
"Organisational change can generate scepticism and resistance in employees, making it sometimes difficult or impossible to implement organisational improvements"[21]

Resistance may take many forms, including active or passive, overt or covert, individual or organised, aggressive or timid. Symptoms are the specific behaviours individuals exhibit when they are resistant to change.

According to Hultman (1995), it is important to distinguish between the symptoms of resistance to change, and the causes behind it. These behaviours fall into two categories: active-resistance or passive-resistance. Symptoms of active-resistance include finding fault, ridiculing, appealing to fear, subtle acts of non-cooperation, manipulating and even industrial sabotage. Passive-resistance symptoms include agreeing verbally but not following through, feigning ignorance and withholding information.

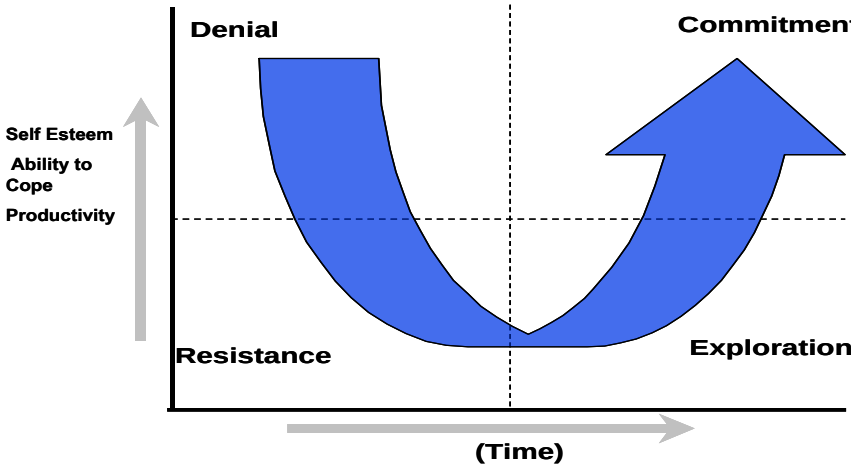
These different types of resistance would vary at different times during the implementation of change.

This is illustrated below:

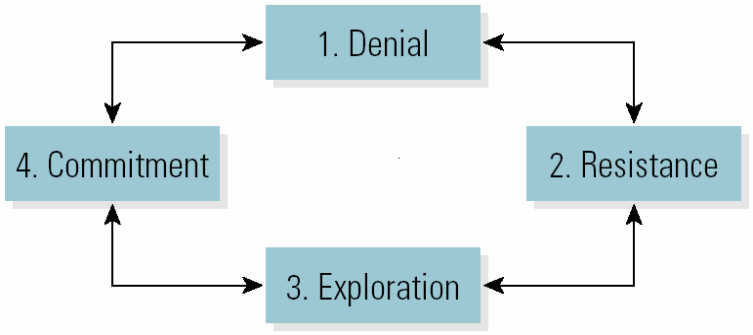


In order to assist individuals to overcome resistance to change, you need to understand the transition process that people experience during change. The following is an illustration thereof:

[21] Folger & Skarlicki (1999), p 25



Even though the illustrations show that the reactions to change seem to follow a process over time, it is natural for a person to go forward and backward as per the illustration below:



If management does not understand, accept and make an effort to work with resistance, it can undermine even the most well-intentioned and well-conceived change efforts. "Any management's ability to achieve maximum benefits from change depends in part on how effectively they create and maintain a climate that minimises resistant behaviour and encourages acceptance and support"[22]

In order to facilitate a smooth transition from the old to the new, organisations must be competent in effective change management. The process of change management consists of getting those involved and affected to accept the introduced changes as well as manage any resistance to them.

Top ten reasons people resist change:[23]

Reason 1: The risk of change is seen as greater than the risk of standing still

Making a change requires a kind of leap of faith: you decide to move in the direction of the unknown on the promise that something will be better for you. But you have no proof. Taking that leap of faith is risky, and people will only take active steps toward the unknown if they genuinely believe – and perhaps more importantly, feel – that the risks of standing still are greater than those of moving forward in a new direction. Making a change is all about managing risk. If you are making the case for change, be sure to set out in stark, truthful terms why you believe the risk situation favours change. Use numbers whenever you can, because most people pay attention to numbers. At the very least, numbers get our attention, and then, when the rational mind is engaged, the emotional mind (which is typically most decisive) can begin to grapple with the prospect of change. But if you only sell your idea of change based on idealistic, unseen

[22] Coetsee (1999), p 205

[23] Overcoming Resistance to Change: Top Ten Reasons for Change Resistance *by A. J. Schuler, Psy. D.* Permission is granted to copy this article as long as the following: information is included: Dr. A. J. Schuler is an expert in leadership and organisational change. To find out more about his programs and services, visit www.SchulerSolutions.com or call (703) 370-6545.

promises of reward, you won't be nearly as effective in moving people to action. The power of the human fight-or-flight response can be activated to fight for change, but that begins with the perception of risk.

Reason 2: People feel connected to other people who are identified with the "old way"

We are a social species. We become, and like to remain, connected to those we know, those who have taught us, those with whom we are familiar – even at times to our own detriment. Loyalty certainly helped our ancestors hunt antelope and defend against the aggressions of hostile tribes, and so we are wired to form emotional bonds of loyalty. If you ask people in an organisation to do things in a new way, as rational as that new way may seem to you, you will be setting yourself up against all that wiring, all those emotional connections to those who taught your audience the old way - and that's not trivial. At the very least, as you design your change message, you should make statements that honour the work and contributions of those who brought such success to the organisation in the past, because on a very human but seldom articulated level, your audience will feel asked to betray their former mentors (whether those people remain in the organisation or not). A little good diplomacy at the outset can stave off a lot of resistance.

Reason 3: People have no role models for the new activity

Never underestimate the power of observational learning. If you see yourself as a change agent, you probably are something of a dreamer, someone who uses the imagination to create new possibilities that do not currently exist. Well, most people don't operate that way. It's great to be a visionary, but communicating a vision is not enough. Get some people on board with your idea, so that you or they can demonstrate how the new way can work. Operationally, this can mean setting up effective pilot programs that model a change and work out the kinks before taking your innovation "on the road." For most people, seeing is believing. Less rhetoric and more demonstration can go a long way toward overcoming resistance, changing people's objections from the "It can't be done!" variety to the "How can we get it done?" category.

Reason 4: People are afraid that they lack the competence to change

This is a fear people will seldom admit. But sometimes, change in organisations necessitates changes in skills, and some people will feel that they won't be able to make the transition very well. They don't think that they, as individuals, can do it. Some of them may be right, but in many cases, their fears will be unfounded, and that's why part of moving people toward change requires you to be an effective motivator. Even more, a successful change campaign includes effective new training programs, typically staged from the broad to the specific. This could mean that initial events should be town-hall type information events, presenting the rationale and plan for change, specifying the next steps, outlining future communication channels for questions, etc., and specifying how people will learn the specifics of what will be required of them, from whom, and when. Then, training programs must be implemented and evaluated over time. In this way, you can minimise the initial fear of a lack of personal competence for change by showing how people will be brought to competence throughout the change process.

Reason 5: People feel overloaded and overwhelmed

Fatigue can really kill a change effort, for an individual or for an organisation. If, for example, you believe you should quit smoking, but you've got ten projects going and four kids to support, it can be easy to put off your personal health improvement project (until your first heart attack or cancer scare, when suddenly the risks of standing still seem greater than the risks of change!). When you're introducing a change effort, be aware of fatigue as a factor in keeping people from moving forward, even if they are telling you they believe in the wisdom of your idea. If an organisation has been through a lot of upheaval, people may resist change just because they are tired and overwhelmed, perhaps at precisely the time when more radical change is most needed! That's when you need to do two things: re-emphasise the risk scenario that forms the rationale for change (as in the cancer scare example), and also be very generous and continuously attentive with praise, and with understanding for people's complaints, throughout the change process. When you re-emphasise the risk scenario, you're activating people's fears, the basic fight-or-flight response we all possess. But that's not enough, and fear can produce its own fatigue. You've got to

motivate and praise accomplishments as well, and be patient enough to let people vent (without getting too caught up in attending to unproductive negativity).

Reason 6: People have a healthy scepticism and want to be sure that the new ideas are sound

It's important to remember that few worthwhile changes are conceived in their final, best form at the outset. Healthy sceptics perform an important social function: to vet the change idea or process so that it can be improved upon along the road to becoming reality. So listen to your sceptics, and pay attention, because some percentage of what they have to say will prompt genuine improvements to your change idea (even if some of the criticism you will hear will be based more on fear and anger than substance).

Reason 7: People fear hidden agendas among would-be reformers

If you seek to promote change in an organisation, not only can you expect to encounter resentment for upsetting the established order and for thinking you know better than everyone else, but you may also be suspected of wanted to increase your own power, or even eliminate potential opposition through later stages of change.

What's the solution? If you want to minimise and overcome resistance, you'd better be as open with information and communication as you possibly can be, without reacting unduly to accusations and provocations, in order to show your good faith, and your genuine interest in the greater good of the organisation. And if your change project will imply reductions in workforce, then be open about that and create an orderly process for outplacement and in-house retraining. Avoid the drip-drip-drip of bad news coming out in stages, or through indirect communication or rumour. Get as much information out there as fast as you can and create a process to allow everyone to move on and stay focused on the change effort.

Reason 8: People feel the proposed change threatens their notions of themselves

Sometimes change on the job gets right to a person's sense of identity. When a factory worker begins to do less with her hands and more with the monitoring of automated instruments, she may lose her sense of herself as a craftsperson, and may genuinely feel that the very things that attracted her to the work in the first place have been lost.

Change can get right to a person's sense of identity, the sense of self as a professional. As a result, people may feel that the intrinsic rewards that brought them to a particular line of work will be lost with the change. And in some cases, they may be absolutely right. The only answer is to help people see and understand the new rewards that may come with a new work process, or to see how their own underlying sense of mission and values can still be realised under the new way of operating. When resistance springs from these identity-related roots, it is deep and powerful, and to minimise its force, change leaders must be able to understand it and then address it, acknowledging that change does have costs, but also, (hopefully) larger benefits.

Reason 9: People anticipate a loss of status or quality of life

Real change reshuffles the deck a bit. Reshuffling the deck can bring winners . . . and losers. Some people, most likely, will gain in status, job security, quality of life, etc. with the proposed change, and some will likely lose a bit. Change does not have to be a zero sum game, and change can (and should) bring more advantage to more people than disadvantage. But we all live in the real world, and let's face it – if there were no obstacles (read: people and their interests) aligned against change, then special efforts to promote change would be unnecessary.

Some people will, in part, be aligned against change because they will clearly, and in some cases correctly, view the change as being contrary to their interests. There are various strategies for minimising this, and for dealing with steadfast obstacles to change in the form of people and their interests, but the short answer for dealing with this problem is to do what you can to present the inevitability of the change given the risk landscape, and offer to help people to adjust. It may result in some people choosing to leave

the organisation, and sometimes that's best for all concerned. When the organisation changes, it won't be to everyone's liking, and in that case, it's best for everyone to be adult about it and move on.

Reason 10: People genuinely believe that the proposed change is a bad idea

Sometimes people are not being difficult, or afraid, or muddle-headed, or nasty, or foolish when they resist. They just see that the change is wrong. So it's important not to ignore people who have genuine, rational reservations or objections.

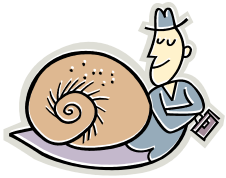
Not all resistance is about emotion. To win people's commitment for change, you must engage them on both a rational level and an emotional level. A failure to listen to and respond to people's rational objections and beliefs is ultimately disrespectful to them.

The resistance zoo[24]

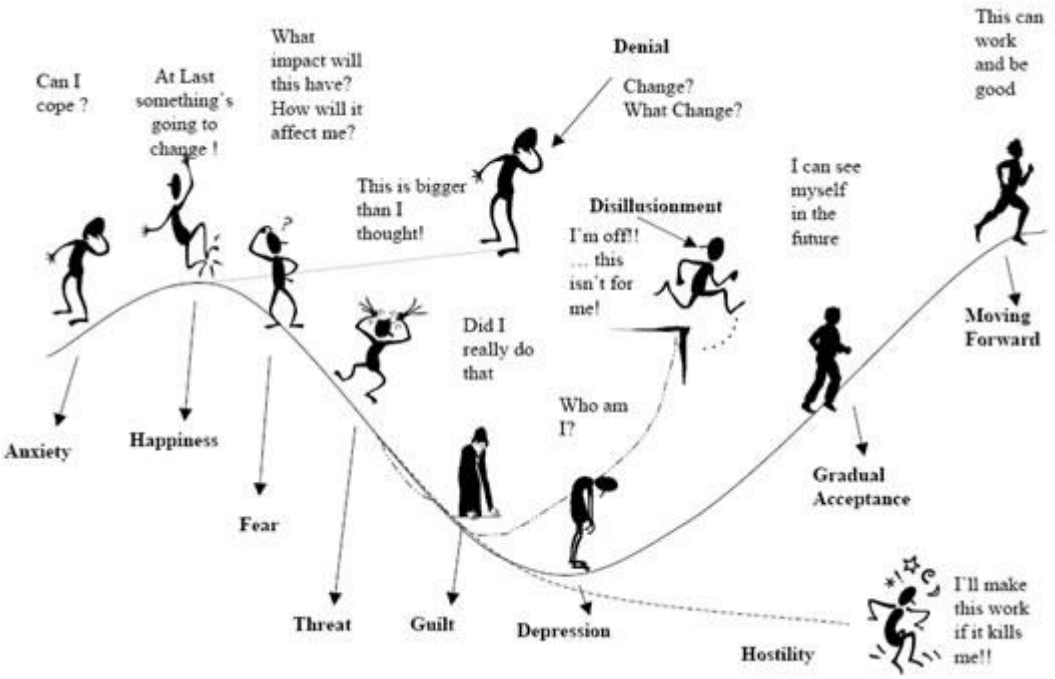
This is a bit of fun and a lot of serious. It is surprising how many animals you can spot in change. Using animals is an entertaining and useful metaphor that you can use in many situations to break the ice and tell home truths:

Ostriches 	The ostrich famously puts its head in the sand when faced with danger. Like a small child, they work on the principle that if they cannot see the predator then the predator cannot see them. This does not seem to be a very good survival strategy. Fortunately, the ostrich also has long legs and can run away very fast.
Moles 	Moles are dark and difficult to see. They burrow underground and are hard to find. Then they pop up when you think everything has been completed and the change is complete. They make a horrible mess of things and are very destructive.
Tigers 	Tigers fight tooth and claw all the way. They are powerful -- or at least that is what they want you to believe. Hurt them only a little and they will seek to hurt you a whole lot more. Their message is this: mess with me at your peril. Go make your change elsewhere little person.
Dogs 	Dogs know that, although they are not bad fighters by themselves, they are far more powerful in a pack. They seek one another out and attack en masse. They are not fearless but know that together they create even more fear. They will fight dirty and nip at you until you are down and then rip you apart.
Owls 	Owls are wise and knowledgeable people. They sit up on their branches in their tree, pontificating and pointing down at the trivial world below. They know better than you and are not slow to point this out, as well as pointing out all the little faults in your change project (which is, in their opinion, somewhat below them).

[24] From: www.changingminds.com

 **Snails**	Well, you know, those old snails, they just go soo slooww. They creep along at, well, a snail's pace and hope that you will leave them to their own devices.

Dealing with negative resistance to change



Kotter and Schlesinger set out the following six (6) change approaches to deal with negative resistance to change:

- **Education and communication** - Where there is a lack of information or inaccurate information and analysis. One of the best ways to overcome resistance to change is to educate people about the change effort beforehand. Up-front communication and education helps employees see the logic in the change effort. This reduces unfounded and incorrect rumours concerning the effects of change in the organisation.
- **Participation and involvement** - Where the initiators do not have all the information they need to design the change and where others have considerable power to resist. When employees are involved in the change effort they are more likely to buy into change rather than resist it. This approach is likely to lower resistance and those who merely acquiesce to change.
- **Facilitation and support** - Where people are resisting change due to adjustment problems. Managers can head-off potential resistance by being supportive of employees during difficult times. Managerial support helps employees deal with fear and anxiety during a transition period. The basis of resistance to change is likely to be the perception that there some form of detrimental effect occasioned by the change in the organisation. This approach is concerned with provision of special training, counselling, time off work.
- **Negotiation and agreement** - Where someone or some group may lose out in a change and where that individual or group has considerable power to resist. Managers can combat resistance by offering incentives to employees not to resist change. This can be done by allowing change resistors to veto elements of change that are threatening, or change resistors can be offered incentives to leave the company through early buyouts or retirements in order to avoid having to experience the change effort. This approach will be appropriate where those resisting change are in a position of power.

- **Manipulation and Co-option** - Where other tactics will not work or are too expensive. Kotter and Schlesinger suggest that an effective manipulation technique is to co-opt with resisters. Co-option involves the patronising gesture in bringing a person into a change management planning group for the sake of appearances rather than their substantive contribution. This often involves selecting leaders of the resisters to participate in the change effort. These leaders can be given a symbolic role in decision making without threatening the change effort. Still, if these leaders feel they are being tricked they are likely to push resistance even further than if they were never included in the change effort leadership. Manipulation can be a tempting solution, but is morally questionable and, if employees sense what you are doing, it could lead to a very dangerous backlash. Only consider this when change is necessary in the short term and all other avenues have been explored.
- **Explicit and implicit coercion** – This is even more extreme than subtle manipulation. This is where the manager can explicitly or implicitly force employees into accepting change by making it clear that resisting change can lead to losing jobs, transferring or not promoting employees. One sits the employee down and makes overt threats, for example that if they do not comply they will lose their jobs. This should only be used when speed is of the essence or when the other persons themselves have taken to public and damaging actions.

Dealing with positive Resistance

Managers often perceive resistance negatively, and employees who resist are viewed as disobedient and obstacles the organisation must overcome in order to achieve the new goals. However, in certain instances, employee resistance may play a positive and useful role in organisational change. Insightful and well-intended debate, criticism, or disagreement do not necessarily equate to negative resistance, but rather may be intended to produce better understanding as well as additional options and solutions. "The idea that anyone who questions the need for change has an attitude problem is simply wrong, not only because it discounts past achievements, but also because it makes us vulnerable to indiscriminate and ill-advised change"[25]

Piderit (2000) points out that what some managers may perceive as disrespectful or unfounded resistance to change might be motivated by an individual's ethical principles or by the desire to protect what they feel are the best interests of the organisation. Employee resistance may force management to rethink or re-evaluate a proposed change initiative. It also can act as a gateway or filter, which can help organisations select from all possible changes the one that is most appropriate to the current situation.

<u>Motivate the role and competencies of the change leader</u>

Most senior and executive managers strongly support their major change projects, but many fail to take the proper steps to communicate that support. A survey of 57 companies showed that excellent executive sponsorship was one of the primary reasons projects succeed. A change management benchmarking study involving 102 companies from 20 countries captured those activities that executive managers should do at each phase of their change initiatives.

What top-management sponsors should do during the planning phase:

- Explain why the change is happening; discuss the business reasons for the change and the costs or risks of not changing
- Define and communicate the project objectives and scope; tell employees what they can expect to happen and when
- Help select the right people for the team and ensure adequate time availability of these resources; provide the needed budget for the design phase
- Enlist the support of other senior managers and stakeholders in the project objectives and scope; provide a channel for key managers to provide direction at key decision points in the process
- Help the project team select their approach and timeline, and resolve start-up issues for the team

[25] De Jager (2001), p 25

What top-management sponsors should be doing during the design phase:

- Reinforce why the change is happening; help employees understand the business reasons for the change
- Listen and respond to feedback from the organisation; actively seek input from all levels of management
- Create a positive network of conversation about the project with peers and managers at all levels
- Provide updates on the project's progress; let employees know what they can expect and when
- Stay engaged and up-to-date on the project; attend key project meetings and training sessions
- Keep other senior managers and stakeholders informed on project status and issues; help clear calendars for key decision-making meetings with these stakeholders
- Enable employees to attend change management training; personally attend as well
- Remove obstacles encountered by the team

What top-management sponsors should be doing during the implementation phase:

- Reinforce why the change is happening; explain the business reasons and the priority for the business.
- Share the change with all levels in the organisation.
- Provide answers to, "What does this change mean to me?" and "What is expected of me?"
- Listen to resistance and respond to feedback from the organisation.
- Create a positive network of conversation about the project with peers and project stakeholders.
- Actively participate in implementation planning; stay involved with the project; monitor progress and remove obstacles.
- Ensure that adequate resources are available or adjust the implementation plan to fit available resources.
- Engage middle managers in transition planning; define their role for the transition and set clear expectations.
- Keep other senior managers and stakeholders informed on project status and issues.
- Recognise behaviour and results that are consistent with the change and reward role models.
- Expect results and measure performance toward results.

The role of the change manager

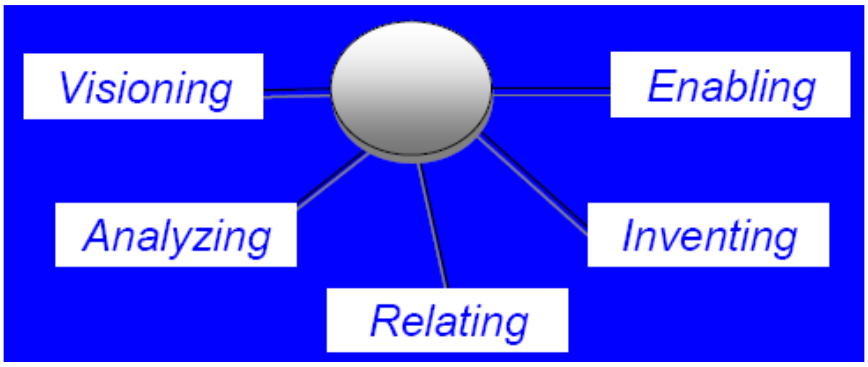
The following table describes the role of the change manager by focusing on two main areas: Project and Change Management:

Project Management	Change Management
Project scope and definition of project goals and objectives	Understanding of what people are to expect so they fulfil their roles
Milestones, timelines, work breakdown structure and schedule	Clarity of what will change and how it will affect each person on a day to day basis.
Template for a project plan based on what is needed to be accomplished by what date	Change plan activities based on assessment so that the organisation's unique needs are addressed so that it can successfully accomplish the change
Accountability for specific project activities	Impact on stakeholders and recognition of what is needed to obtain their support
Status, update and progress of schedule	Communications, feedback and participation of those involved
Milestone accomplishment	Rewarding the behaviours that are supporting the change.

Leadership and change[26]

"Leadership requires integrity and courage"

As a leader that needs to manage change, you need to ensure that you are comfortable with the 5 core leadership capabilities, as described in the Sloane Model for Leadership:



- **Visioning** – Fostering individual and collective aspiration toward a shared vision
- **Analysing** – Sense-making and strategic planning in complex and conflicting settings
- **Relating** – Building relationships and negotiating change across multiple stakeholders
- **Inventing** – Inventing new ways of working together – social and technical systems
- **Enabling** – Ensuring the tools and resources to implement and sustain the shared visions

[26] Adapted from: Distributed Leadership Workshop Group, Deborah Ancona, Tom Malone, Wanda Orlikowski, Peter Senge – July 2001

Management styles during change

Working with a broad selection of the target population adds time and cost to the project. The degree to which you involve them will depend on the magnitude of the change. A straightforward non-controversial change may require no previous contact. If, for example, you are simply introducing a new set of expense codes you can publish the message "with effect from 1st April, new codes must be used as per the attached book". Conversely, if you are making huge changes to the job and lifestyle of the target population you will need to work with them to gain their co-operation, for example, if you wish them to re-locate voluntarily and re-train for substantially altered jobs.

Some change management styles that may be appropriate include:

- **Collaborative** - The target population are engaged in the change process, typically through cascading workshops or meetings. They will be kept up to date on the issues. Their views will be actively sought and acted upon. Feedback will demonstrate how their input has been acted upon.
- **Consultative** - The target population is informed about the changes and their views are sought
- **Directive** - The workforce is informed about the changes and why those changes are important
- **Coercive** - The workforce is told that they must obey the new instructions

A conclusion analogy

This analogy is about being 'bound to the past'.

When elephant trainers shackle a young elephant to a stake in the ground, the elephant learns to stay in place, giving up any attempt to pull up the stake. After a while, all that is required to keep the elephant in its place is a small metal bracelet around one of its feet, even when it is not attached to any stake at all. Having once got the idea the bracelet is chained to a stake; the elephant will stay - all because of an inconsequential bracelet.

Organisations, like elephants, are often bound by restraints, however insignificant they may be. Research has shown that individuals and organisations resist change, especially as they get older.

MODULE 3: PROJECT PLANNING

UNIT STANDARDS IN THIS MODULE	252022	DEVELOP, IMPLEMENT AND EVALUATE A PROJECT PLAN	
	Select a work-based project for a unit.		SO 1
	Scope a work-based project for a unit.		SO 2
	Develop a project plan.		SO 3
	Develop tools to measure key performance parameters.		SO 4
	Implement the plan and evaluate project progress.		SO 5
	Project alternatives are considered in relation to their viability in achieving unit objectives.		SO 1 AC 1
	The decision on the preferred alternative is motivated in terms of viability, cost and results.		SO 1 AC 2
	The scope of work and deliverables are defined in relation to the unit objectives.		SO 2 AC 1
	The principal work activities are determined that will be required to achieve the unit objectives.		SO 2 AC 2
	The potential risks are identified and analysed in relation to the likelihood of risks materialising.		SO 2 AC 3
	Change processes that are essential to project success are described in terms of their contribution to the project results.		SO 2 AC 4
	The overall objectives of the plan are described with reference to the achievement of unit objectives.		SO 3 AC 1
	The sponsor, project team and other stakeholders are described with their contributions to the project.		SO 3 AC 2
	A work breakdown structure (WBS) is developed to describe the main activities of the project and the interrelationship between them.		SO 3 AC 3
	The project activities, required performance levels and quality criteria are stipulated and communicated to team members and other stakeholders to promote quality and effectiveness.		SO 3 AC 4
	The project plan is checked for accuracy, completeness and compliance to internal and external requirements.		SO 3 AC 5
	A gantt chart is developed for managing and evaluating the time dimension.		SO 4 AC 1
	A budget is developed for managing and evaluating the cost dimension.		SO 4 AC 2
	Quality parameters are developed for managing and evaluating quality.		SO 4 AC 3
	The measurement tools are communicated to team members to promote a common understanding of requirements.		SO 4 AC 4
	Project implementation is monitored and evaluated against the plan, the stipulated performance criteria and quality requirements.		SO 5 AC 1
	Project results are monitored to establish progress and effectiveness.		SO 5 AC 2
	Deviations from the project plan are identified and analysed in order to take corrective action.		SO 5 AC 3
	Corrective actions are implemented to ensure the achievement of project objectives.		SO 5 AC 4
	Results are evaluated against the scope and objectives of the project.		SO 5 AC 5

DEVELOP A PROJECT PLAN

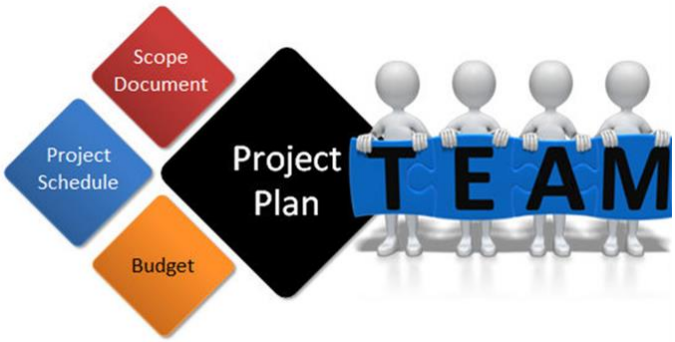
The word *project* [27]comes from the Latin word *projectum*, *"to throw something forwards"*, which is made up of the prefix *pro-*, which denotes something that precedes the action of the next part of the word in time and *jacere*, "to throw". Thus the original meaning of "project" is something that has, in a figurative sense, been thrown forward, i.e. a proposal. The meaning has gradually been extended to include the *process of realising or actualising the proposal*, as well as the *people* who perform the realisation.

We can therefore see that the concept of *people working together* or "organisation" forms an integral part of the definition of a project. The *kind of tasks* solved by the organisation of people working together distinguishes a project from other organisational units.

APM[28] define a project as follows:

> "…a unique set of co-ordinated activities, with definite starting and finishing points, undertaken by an individual or organisation to meet specific objectives within defined time, cost and performance parameters….human, material and financial resources are organised in a novel way to deliver a unique scope of work of given specification, often within constraints of cost and time, and to achieve beneficial change defined by quantitative and qualitative objectives."

In this Module we are going to investigate how to identify a unique and complex task that requires us to develop a project plan.



Select a work-based project for a unit – implementing the operational plan

Based on the definitions of a project in the introduction, we can see that we need to consider the following when selecting a project:

- Is there a problem that is affecting you/your workplace/your team, or is there an opportunity to make an improvement?
- Is it one that you are motivated to complete?
- Is it critical or of strategic importance?
- Consider feasibility. What are the time constraints, risk issues and politics involved?

Finding a problem to solve should not be too difficult as there is not a single workplace that is not plagued by problems- both big and small. The challenge lies in finding the "right" problem to solve:

- How do you know it is a problem (what are the data or indicators)?
- Define the problem in terms of causes not solutions. What are the causal factors?
- Deal with the problem and not the symptoms.

[27] Retrieved from "http://en.wikipedia.org/wiki/Project"

[28] Association of Project Managers: www.apm.org.uk

Case Study[29]: Alan Sharples, Managing Director for both Dexter Paints Ltd., and Dexter Biofuels Ltd.

Alan's work-based project was aimed at improving the efficiency of his manufacturing unit by implementing action research techniques within the department.

Alan says "In doing so we developed a totally new Action Research based system for a number of projects that led to significant cost savings. However possibly of greater value was the cultural change brought about by the inclusive and democratic nature of the methodology. Although less easy to quantify I feel that this cultural change may prove to outlast and be of greater benefit than shorter term cost savings".

Consider Project Alternatives

Projects are started because a problem creates a need. In order to solve the problem or fulfil the need, you need to formulate a measurable goal. Once a goal is set, you can develop a strategy to meet it. A project is the strategy to meet this goal.

Therefore, we can say that a project is a temporary endeavour undertaken to achieve a particular aim.

Projects can range from a relatively simple relocation to another section of the building to a complete overhaul of processes and procedures:

	Type of Project	Product of Project (Examples)
1.	Administrative	Installing a new accounting system
2.	Construction	A building or road
3.	Computer Software Development	A new computer program
4.	Design of Plans	Architectural or engineering plans
5.	Equipment or System Installation	A telephone system or IT system
6.	Event or Relocation	Soccer World Cup or a move into a new building
7.	Maintenance of Process Industries	Petro-chemical plant or electricity generating station
8.	New Product Development	A new drug or defence product
9.	Research	A feasibility study or investigating a chemical

When considering project alternatives, you and your team need to firstly decide which of the work unit's problems is both urgent and important and requires an innovative solution.

Variables that you will have to take into account are:

- Size of the intended project
- Duration (Length of project time)
- Number of workers that will be involved
- Cost (do you have the budget, or will you be able to motivate the expenditure?)
- Complexity of the implementation

The collective activities associated with building the project deliverables are referred to as the project life cycle.

The project life cycle can be defined as "the complete set of time periods through which a project passes sequentially in a logical and orderly manner".

[29] http://www.zoominfo.com/people/Sharples_Alan_1224241436.aspx

While there are many different versions of the project life cycle, all essentially contain the steps of:

- Germination of the idea
- Proposal and initiation
- Design and appraisal
- Mobilisation of the team
- Execution and control
- Integration of the team and their work
- Testing
- Handover of the project's product
- Closeout of the work.

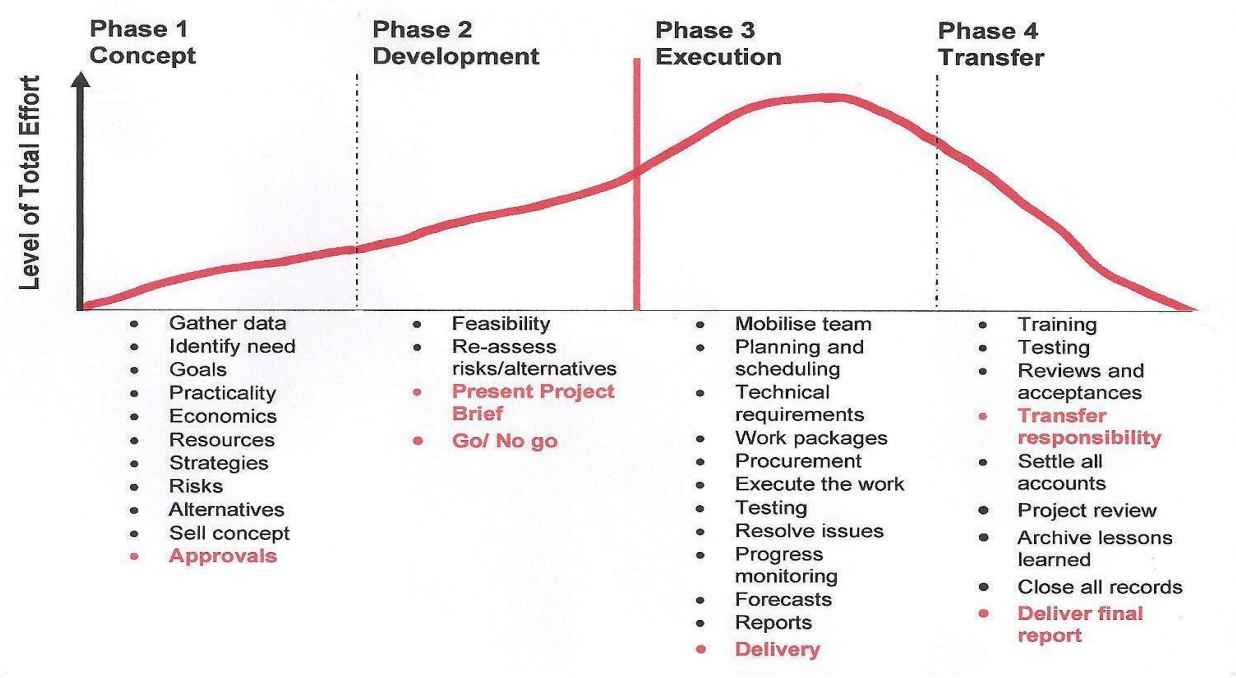
In its simplest form the life cycle consists of four major periods or phases:

- Concept (the project concept as a need solution is selected and defined)
- Development/ Definition (the concept is verified and developed into a workable plan for implementation)
- Implementation (the implementation plan is carried out)
- Closeout (the project process is completed and documented, and the finished product is transferred to the care, custody and control of the owner).

This model provides a basic outline that can be used on any project. You start off understanding the requirement of the solution, designing a solution, building and testing a solution and then implementing the solution. Each of these major areas of focus is called a phase.

The figure below[30] shows a typical project life cycle separated into its generally accepted four fundamental phases. The figure also lists the activities to be expected in each phase.

The phase separations correspond to key decision points for purposes of executive level control.



[30] Adams, J. R. and Barndt, S. E. "*Organisational Life Cycle Implications for Major Projects*." Project Management Quarterly, Vol. IX, No. 4, Dec. 1978

Not all projects, of course, conform rigorously to the stages shown and the activities within each may vary somewhat. However, less than satisfactory project performance and lack of control can frequently be traced to significant departures from the division of activities as shown.

The simple model described above can be applied to all projects. Even if you have a small project, you still have to go through these basic steps, although some of them may only be a mental exercise.

When you receive some type of service request, it describes the work required (analysis and requirements), which you take and mentally map into the work to be performed (design). You then make the changes required, test them (test) and implement them (construct, test, implement).

This approach is the life cycle model you would probably end up with even if you knew nothing about methodology and just had to build a project work plan from scratch.

The important point is that a common, scalable project management process can be used effectively on all your projects. The detailed work to build your deliverables is referred to as the "project life cycle".

Based on our model above, you can see that you and your team now need to do a proper needs analysis, gathering data to determine what the root causes are that will need to be addressed.

Steps in the problem-solving process include:

1. Identify the problem
2. Clearly define the problem
3. Define the options
4. Identify possible solutions
5. Implement and evaluate the results.

1. Identify the Problem

The first step in the problem-solving process is to identify or acknowledge that there is a problem. This may be a problem such as missing stock, poor turnaround times in service delivery, continuous errors, not getting things right the first time, bad behaviour, problems with technology etc. Once the problem has been identified, the next step is to clearly define the problem.

2. Clearly Define the Problem

In order to clearly define a problem you need to gather information and evidence. Ask questions to determine the true source of the problem. For example, if a customer phones in to say that his calls are not being returned by a staff member, the immediate response is to attribute the problem to the staff member. However, upon investigation, you may establish that the call answer facility on the PABX is faulty and does not save messages.

You can use one or a combination of the many problem-solving techniques available, e.g.:

- Root cause analysis
- Ishikawa or fishbone diagram.

Root cause analysis

A technique that can be used to identify the root cause of a problem is to use the 5 Why's. When you use this technique you look at a situation, or at a person's behaviour and you ask *why* a situation or behaviour has occurred. You continue to ask the question why, until you get to the root cause of the problem.

The following example [31]demonstrates the basic process:

- My car will not start. (the problem)

1. *Why?* - The battery is dead. (first why)

[31] Retrieved from: http://en.wikipedia.org/wiki/5_Whys

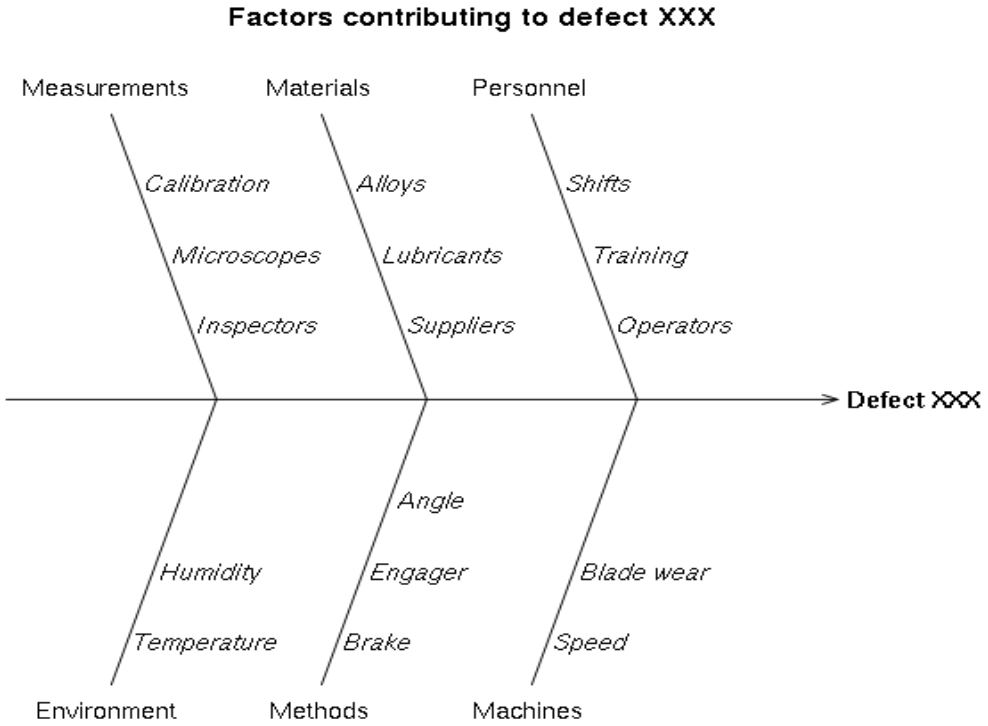
2. *Why?* - The alternator is not functioning. (second why)
3. *Why?* - The alternator belt has broken. (third why)
4. *Why?* - The alternator belt was well beyond its useful service life and has never been replaced. (fourth why)
5. *Why?* - I have not been maintaining my car according to the recommended service schedule. (fifth why, a root cause)
6. *Why?* - Replacement parts are not available because of the extreme age of my vehicle.(sixth why, optional footnote)

- I will start maintaining my car according to the recommended service schedule. (solution)

Ishikawa or fishbone diagram

Ishikawa diagrams (also called fishbone diagrams or cause-and-effect diagrams) are diagrams that show the causes of a certain event. Common uses of the Ishikawa diagram are product design and quality defect prevention, to identify potential factors causing an overall effect. Each cause or reason for imperfection is a source of variation. Causes are usually grouped into major categories to identify these sources of variation. The categories typically include:

- People: Anyone involved with the process
- Methods: How the process is performed and the specific requirements for doing it, such as policies, procedures, rules, regulations and laws
- Machines: Any equipment, computers, tools etc. required to accomplish the job
- Materials: Raw materials, parts, pens, paper, etc. used to produce the final product
- Measurements: Data generated from the process that are used to evaluate its quality
- Environment: The conditions, such as location, time, temperature, and culture in which the process operates



Information and diagram retrieved from: http://en.wikipedia.org/wiki/Ishikawa_diagram

3. Define the Options

Once you've determined the root causes of the problem, you need to come up with solutions to each cause, to determine which solutions will be do-able and sustainable.

Brainstorming

Brainstorming[32] can be an effective way to generate lots of ideas on a specific issue and then determine which idea is the best solution. Brainstorming is most effective with groups of 8-12 people from various departments across the organisation, who have different backgrounds and expertise. Even in specialist areas, outsiders can bring fresh ideas that can inspire the experts.

Define your problem or issue as a creative challenge. A well designed creative challenge generates the best ideas to solve your problem. Creative challenges typically start with: "In what ways might we...?" or "How could we...?" Your creative challenge should be concise, to the point and exclude any information other than the challenge itself. For example: "In what ways might we improve product X?"

Once your brainstorming session is concluded, select the five ideas which you like best. Make sure everyone involved in the brainstorming session is in agreement.

Write down about five criteria for judging which ideas best solve your problem. Criteria should start with the word "should", for example, "it should be cost effective", "it should be legal", "it should be possible to finish before July 15", etc.

Give each idea a score of 0 to 5 points depending on how well it meets each criterion. Once all of the ideas have been scored for each criterion, add up the scores.

The idea with the highest score will best solve your problem. But you should keep a record of all of your best ideas and their scores in case your first-choice best idea turns out not to be workable.

Once you have narrowed all the possible solutions down into one preferred solution, you need to determine how to *achieve* that solution. Which activities will lead to the achievement of your objective in the most cost-effective and efficient manner?

Several important considerations should be made when developing the range of alternative actions:

- **Number of alternatives:** A limited number of alternatives (e.g., 10) should be analysed and presented to the decision-maker. These alternatives should span as wide a range of management scenarios as possible. (If decision-makers are interested in an alternative that is intermediate between two or more of those presented, they can request it as they narrow their preference of alternatives.)
- **Uncertainty and alternatives:** An alternative should not be rejected from consideration because its effects on some objectives are uncertain, as shall be discussed later.
- **Standard alternatives:** In addition to a creative range of alternatives, several standard alternatives can be presented and analysed. These alternatives help "bound" the extremes of management alternatives. Examples include:
    - a "no action" alternative, in which no active management occurs;
    - a "continue previous action" alternative, in which the previous management plan (formal or informal) is continued;
    - alternatives which maximise single objectives of concerned, single-issue stakeholders.
- **Naming alternatives:** Value-neutral names (e.g., Alternative A, Alternative B) should be used. This will help decision-makers and stakeholders focus on the consequences of the alternatives.

[32] Adapted from: http://www.jpb.com/creative/brainstorming.php

Example: Capetonia Department of Transportation

The following alternatives are currently under consideration:

Alternative A proposes to **construct a new highway** west of the State Route 58/99 interchange. The alignment would travel in a westerly direction for approximately one mile on the south side of Stockdale Highway, at which point it would turn in a north-westerly direction and span the Carrier Canal, Truxtun Avenue, and the Kern River. The proposed route would then connect to the Westside Parkway alignment between Mohawk Street and Coffee Road. The total length of the project from the existing State Route 99/State Route 58 interchange to Interstate 5 utilising Alternative A would be approximately **128 kilometres**.

Alternative B proposes to **construct a new highway** west of the State Route 58/99 interchange. The alignment would travel in a westerly direction for approximately one-half mile on the south side of Stockdale Highway, at which point it would turn to the northwest, span the Carrier Canal, Truxtun Avenue, and the Kern River. Alternative B would connect to the Westside Parkway alignment at the Mohawk Street interchange. The total length of the project from the existing State Route 99/State Route 58 interchange to Interstate 5 utilising Alternative B is approximately **115 kilometres**.

Alternative C proposes to connect existing State Route 58 to the Westside Parkway by means of **routing new lanes adjacent and parallel to existing State Route 99**. These additional lanes would run parallel to and independent of State Route 99. Movements between State Route 58, State Route 99 and the Westside Parkway would likely be facilitated by braided ramps and highway-to-highway connector ramps. The total length of the project from State Route 99 to Interstate 5 utilising Alternative C is approximately **205 kilometres**.

Alternative D proposes to **construct a new highway** in the vicinity of Union Avenue (State Route 204). The roadway would extend north from State Route 58 for approximately one mile, where it would turn to the west and run parallel to the Burlington Northern Santa Fe railroad tracks. Alternative D would connect to the Westside Parkway alignment at the new interchange at Mohawk Street. The total length of the project from State Route 58 at Union Avenue to Interstate 5 is approximately **198 kilometres**.

Alternative M would evaluate Transit and Transportation Systems Management (TSM) improvements. TSM focuses on low capital, environmentally-responsive improvements that **maximise efficiency of existing facilities**. An example of TSM improvements would be providing signal interconnects to facilitate the flow of traffic or providing bus turn-out bays to minimise the interruption of buses along a specific route. Specific transit and TSM measures have not been developed at this point. Preliminary traffic data is required to determine the most effective transit and TSM measures. Once the traffic data is available it would be determined if transit and TSM improvements would be separate alternatives or if it is more effective to evaluate a single alternative that includes both transit and TSM improvements.

The "No Build" alternative, would **not construct any improvements**. State Route 58 - East would continue to end at State Route 99 where it would jog to the north to tie into State Route 58 – West (Rosedale Highway). The Westside Parkway would be constructed as a local facility, but would not connect to State Route 58, State Route 99, or Interstate 5.

Adapted from: http://www.dot.ca.gov/dist6/environmental/projects/centennial/project_alternatives.html

Motivate the Decision on the Preferred Alternative

Determine how well each alternative meets each objective

A matrix showing the relation of each alternative to each objective with the summary values listed where the question marks are shown is a useful tool for evaluating the alternatives and making a decision as to the most suitable alternative[33]:

[33] Retrieved from: http://silvae.cfr.washington.edu/ecosystem-management/Decisionmaking.html

	Alternative	Alternative	Alternative	Alternative
Objectives	**A**	**B**	**C**	**D**
Quality	?	?	?	?
Duration	?	?	?	?
Viability	?	?	?	?
Cost	?	?	?	?
Wind Safety	?	?	?	?
Fire Safety	?	?	?	?
Net Present Value	?	?	?	?
Cash Flow Stability	?	?	?	?
Total Employment	?	?	?	?
Stable Employment	?	?	?	?

The interpretation of how well each alternative meets each objective is judged by specialists - people who are learned in various subsystems and have a clear conception of how the subsystems will react when treated with various, alternative inputs.

Specialists use tools, such as computer models and decision keys, and their expert opinion ("mental models") in providing their assessment of the relation of each action to meeting a given objective. The necessary qualifications of the experts depend on the significance of the decision being made. For a relatively non-contentious decision, a unit manager may serve as the expert on all objectives- from economics to processes.

For more potentially contentious decisions, experts from a range of disciplines may be required. Since all analysis tools are imperfect, the expert is responsible for interpretation of the results and, thus, should know the relative strengths and weaknesses of different analysis tools and is responsible for appropriately addressing uncertainty in the consequences of each alternative.

The best analysis occurs if the experts maintain their objectivity regarding the eventual choice of alternatives: the driving force should be which alternative is best for achieving the unit's goals and not "which is *my* preferred alternative?"

Note: The following steps in the problem solving process are covered later in this manual:

- Identify possible solutions
- Implement and evaluate the results.

SCOPE A WORK-BASED PROJECT FOR A UNIT

Projects deliver outputs/ deliverables/ products. These outputs blend together over time to deliver outcomes. For a project to be effectively planned and controlled, i.e. managed, it needs to be broken down (decomposed) into a detailed and measurable plan of the management and control processes involved in the completion of the project.

Running a project without a plan is foolish. It is like trying to find your way in a strange city without a map. Working without knowing where you are going and how you are going to get there is likely to lead to problems and possible failure: "If you fail to plan, you are planning to fail."

Methods and Techniques for the Planning of Projects

Clear and accurate definition of a project is one of the most important actions you can take to ensure the project's success. The clearer the target, the more likely you are to hit it. Defining a project is a process of selection and reduction of the ideas and perspectives of those involved into a set of clearly defined objectives, key success criteria and evaluated risks.

This definition process should culminate in the production of a Project Definition document, sometimes called a Project Charter.

The Project Definition document should be approved and issued by a manager with the authority to apply organisational resources to the project activities. Therefore, the seniority of the manager or the management team will be commensurate with the size, cost and business value of the project.

As a minimum, the Project Definition should include a statement of the business need that the project seeks to address and the description of the product, service or deliverable business objectives that will be its output.

The way to define a project is to ask a standard set of questions of yourself (as project leader) the project team, colleagues with particular expertise and senior managers. The questions fall into the categories given below:

The Purpose (or Mission)

This is the reason for doing the project

- What is the project about in broad terms?
- Who wants it done and why?
- What is its title?

The Goals

These are the targets we want to meet

- What is it we want to achieve?
- When do we want to achieve it?
- What are our specific aims?
- Why are these goals essential to the project?

Goals are high-level statements that provide the overall context for what the project is trying to accomplish. For example one of the goals of a project might be to "*increase the overall satisfaction levels for clients calling the company helpdesk with support needs*".

A goal may take more than one project to achieve. In the above example, for instance, there may be a technology component to increasing client satisfaction. There may also be new procedures, new training classes, reorganisation of the helpdesk department and modification of the company rewards system. It may take many projects over a long period of time to achieve the goal.

The goal should reference the business benefit in terms of cost, speed and / or quality. In this example, the focus is on quality of service.

Even if the project is not directly in support of the business, there should be an indirect tie. For instance, an IT infrastructure project to install new web servers may ultimately allow faster client response, better performance or some other business benefit. If there is no business value to the project, the project should not be started.

The Beneficial Gains or Scope

This is how our business unit will gain. Here we define our performance criteria and set our quality standards for the project.

- How will things be different if the project is successfully completed?
- Is there a clear need and can it be quantified?
- Who will benefit, how will they benefit and what will they gain?
- Do the beneficiaries agree about the need and the proposed solution?
- Is the project to identify that need and/or that solution?
- How will they react to that solution?

- What are the alternatives?
- Are those alternatives more or less acceptable (satisfactory)?
- Is how we are going to achieve the goals an important part of the beneficial gain?
- What is it worth to you or to others to have the need satisfied?

Objectives

Objectives are concrete statements that describe the things the project is trying to achieve. An objective should be written at a lower level, so that it can be evaluated at the conclusion of a project to see whether it was achieved.

Goal statements are generally rather vague. A well-worded objective will be **Specific, Measurable, Attainable/Achievable, Realistic and Time-bound (SMART).**

(Remember, SMART is a technique for wording the objective. An objective does not absolutely have to be SMART to be valid.)

An example of an objective statement might be to "*upgrade the helpdesk telephone system by December 31 to achieve average client wait times of no more than two minutes*".

- The objective is **measurable** in terms of the average client wait times the new phone system is trying to achieve.
- You can assume that the objective is **achievable** and **realistic.**
- The objective is **time-bound**, and should be completed by December 31.

Objectives should refer to the deliverables of the project. In this case, the objective refers to the upgrade of the telephone system.

If you cannot determine the deliverables that are created to achieve the objective, the objective may be written at too high a level.

On the other hand, if an objective describes the characteristics of the deliverables, it is written at too low a level. If the statements describe the features and functions, they are requirements, not objectives.

If the project is a part of a larger program, the objectives of all the underlying projects should be in alignment with the program objectives.

The project objectives and the business goals they support should be defined and agreed upon before the project starts. The deliverables of the project are created based on the objectives – not the other way around. That is, you don't agree on the deliverables first and then establish objectives to match. You must understand the objectives of a project and then determine what deliverables are needed to achieve them.

From our list of specific goals for the project we must develop a set of measurable objectives that will confirm that we have reached certain project milestones (or way points) including the final one of project completion.

The measurable objectives (when achieved) demonstrate the extent to which the beneficial gains have been achieved, the goals have been met and the purpose of the project has been achieved.

Key Success Criteria (KSC)

These are the objectives that, if all else fails, we must meet and/or those that we must meet for the project to be deemed successful even if other objectives are met and achieved.

From the list of objectives, select those that are critical or key to the success of the project. These are the items that are critical to those who will benefit from the project and those with the responsibilities for judging success criteria (Managers, Customers, Members, Shareholders, Stakeholders, etc.).

The purpose of this is twofold. Firstly, to clarify in the minds of the project team and managers what the essential benefits that the project will deliver are.

Secondly, if circumstances change within the life of the project, then it is often extremely useful to see what the agreed success criteria were at the start of the project.

The project may then be replanned to ensure the KSC are met, or the KSC may be formally changed (by Senior Managers in the light of changed circumstances) and the project redefined and replanned to ensure they are met.

Define the Scope of Work and Deliverables

Defining scope is perhaps the most important part of the upfront definition and planning process. If you don't know for sure what you are delivering and what the boundaries of the project are, you have no chance for success. If you have not done a good job of defining scope, managing scope will be almost impossible.

The purpose of defining scope is to clearly describe and gain agreement on the logical boundaries of your project.

Scope statements are used to define what is within the boundaries of the project and what is outside those boundaries. The more aspects of scope you can identify, the better off your project will be.

In the project context, the term **scope** refers to:

- **Product scope:** The features and functions that characterise a product, service, or result
- **Project scope:** The work that needs to be accomplished to deliver a product, service, or result with the specified features and functions.

Scope is used to define what the project will deliver and what it will not deliver. For larger projects, it can include the affected organisations, the transactions impacted, the data types included, etc.

Project Scope Management[34] includes the processes required to ensure that the project includes **all the work required, and only the work required**, to complete the project successfully. Project scope management is primarily concerned with defining and controlling what is and is not included in the project.

Defining and managing the project scope influences the project's overall success. Each project requires a careful balance of tools, data sources, methodologies, processes and procedures, and other factors to ensure that the effort expended on scoping activities corresponds with the project's size, complexity, and importance. For example, a critical project would require formal, thorough, and time-intensive scoping activities, while a routine project could require much less documentation and examination.

The project management team documents these scope management decisions in the project scope management plan.

The **project scope management plan** is a planning tool describing how the team will:

- Define the project scope
- Develop the detailed project scope statement
- Define and develop the work breakdown structure (WBS)
- Verify the project scope, and
- Control the project scope.

The project scope management plan provides guidance on how project scope will be defined, documented, verified, managed and controlled by the project management team.

[34]Adapted from: http://www.tensteppb.com/5.0ProjectScopeManagement.htm

The components of a project scope management plan include:

- A process to prepare a detailed project scope statement based upon the preliminary project scope statement
- A process that enables the creation of the WBS from the detailed project scope statement, and establishes how the WBS will be maintained and approved
- A process that specifies how formal verification and acceptance of the completed project deliverables will be obtained
- A process to control how requests for changes to the detailed project scope statement will be processed. A project scope management plan is contained in, or is a subsidiary of, the project management plan. The project scope management plan can be informal and broadly framed, or formal and highly detailed, based on the needs of the project.

The preparation of a detailed project scope statement is critical to project success and builds upon the major deliverables, assumptions, and constraints that are documented during **project initiation** in the preliminary project scope statement.

During planning, the project scope is defined and described with greater specificity because more information about the project is known. **Stakeholder needs, wants, and expectations are analysed and converted into requirements**. The assumptions and constraints are analysed for completeness, with additional assumptions and constraints added as necessary.

All projects should spend time up-front in a **definition step**. There is not a lot of information required to define a small project and therefore this work is usually pretty short. However, as the project becomes bigger and bigger, the need to fully understand what is being requested is more important, and gaining agreement on what is to be delivered is more difficult. Therefore, more time needs to be spent planning the work.

It should make sense that small projects need a shorter planning cycle and larger projects need a longer planning cycle. The effort required to plan the project depends on the amount of information, and the level of detail, that needs to be understood and documented. The duration required to define the work depends on the length of time necessary to discover and document the information, as well as the time required to gain agreement and approval from the client. At times, the project manager can get frustrated because of the difficulty in gaining agreement with the client on scope, timeline and cost. But that is exactly the reason this work is done ahead of time. Think of the problems you will encounter trying to gain agreement with the client on scope, schedule or cost when the work has started and the deliverables are actually being produced.

Before the project lifecycle begins (analysis, design, construct, etc.), a number of items need to be in place. For smaller projects, many of these conditions are met informally or implicitly. However, the larger a project gets, the more important it is that these criteria be met formally and explicitly.

- **Client gives approval to begin planning.** Normally, implicit approval is assumed to have occurred for the project to even get this far to begin with. However, if the project did not have a business case prepared and if it did not go through an authorisation process, then explicit approval should be sought before project planning begins.
- **Project is formally defined**. This is documented in the Project Definition, which contains objectives, scope, assumptions, deliverables, budget, etc. (For medium or small projects, this might be the Abbreviated Project Definition or a Service Request.)
- **Project work plan (schedule) is created.** A work plan must be prepared and used to manage the effort. This includes checkpoints, or milestones, when the project can be evaluated to ensure that it is appropriate to continue.
- **Client gives approval to begin project.** This is signified through an approved Project Definition. The Sponsor should sign the document to ensure agreement.

- **Project Management Procedures are defined and approved.** Procedures must be in place to describe how the project manager will manage issues, communication, risks, quality, scope, etc. This is especially true for large projects and less important as a project gets smaller.
- **Project team resources are assigned.** You must have the right people to staff and execute the project. Sometimes valid, approved projects must be delayed because people with the right skills are not available.

The project scope statement describes, in detail, the **project's deliverables and the work required to create those deliverables**. The project scope statement also provides a common understanding of the project scope among all project stakeholders and describes the project's **major objectives**.

Deliverables

The fundamental objective of a project is to deliver something new.

It is not always easy to distinguish between aims (goals), objectives and deliverables. If the project is to create new products or modify existing ones, then the list of deliverable items may be as simple as a set of part or product numbers. It may be 3 sets: new parts or products, obsolete parts or products and products or parts not affected by the project. These deliverables are easily distinguishable from the **goal;** which may be to increase market share by 7%, and the **objectives;** to have the product shipping by the 3rd quarter of the year, at a works cost price of R300, with shipments reaching or exceeding 5000 per month by end of the year.

However, the deliverable items may be less easy to distinguish in some projects. A project to deliver the implementation of a new integrated housing management computer system will deliver parameter set-up, data transfer, staff training, etc. But these look very little different from the objectives; parameter set-up by 30th March, data conversion by 15th June, and staff training by the end of July.

In the first example, a new product will have a specification (or a set of specifications) which defines its essential elements, its functions, its quality standards, its marketing requirements, etc. These will form part of the project's deliverables, or they may have been deliverables of a previous research project. Thus the deliverables may be reduced to a simple set of inventory numbers.

The deliverables of the second project should concentrate on the qualitative and quantitative aspect of the project. In effect, the deliverables list becomes a set of specified outputs (a quantity and quality specification) for each milestone or way point of the project.

Determine the Principal Work Activities

An **activity** is any subdivision of project tasks. The set of activities defined for a project should be **comprehensive** or completely **exhaustive** so that all necessary work tasks are included in one or more activities. Typically, each design element in the planned

project will have one or more associated project activities. Execution of an activity requires time and resources, including manpower and equipment.

Each phase of a project is composed of a number of major activities that will lead to achieving one or more deliverables. Activities are composed of a series of tasks that are the lowest level of detail that can comfortably be managed. Team members who will be performing the tasks should be involved in the activity/task planning process.

The time required to perform an activity is called the **duration** of the activity. The beginning and the end of activities are signposts or **milestones**, indicating the progress of the project.

Occasionally, it is useful to define activities which have no duration to mark important events. For example, receipt of equipment on site may be defined as an activity since other activities would depend upon the equipment availability and the project manager might appreciate formal notice of the arrival. Similarly, receipt of regulatory approvals would also be specially marked in the project plan.

Estimates of time to complete each task should be based on typical work effort required and then may be adjusted to reflect "real world" conditions.

How much detail is enough?

The ultimate goal in breaking the work tasks down is to ensure that all of the work that is needed to meet the project's objectives is recognised and planned for accurately from the beginning

The following are guidelines to establish how much detail is required:

- **One owner per task:** The tasks must be defined such that they can be assigned to one person who will be doing that work.
- **Clear measurable deliverable with measurement specified:** The tasks must be defined such that the task owner can be given completion criteria that are clear and measurable.
- **Small enough task duration for tracking:** Task duration at lowest level should be less than 5% of total project time, to ensure visibility into task progress, at a small enough resolution to recognise quickly if the project is off track (e.g. 2 weeks if 1 year; 2 days if 2 months).

Greater levels of detail are generally required for projects which are:

- Larger
- More risky
- Dissimilar to past projects
- Difficult to define (susceptible to change)
- Performed by internal work groups
- Planned for the near future

The extent of work involved in any one activity can vary tremendously in project plans. Indeed, it is common to begin with fairly coarse definitions of activities and then to further sub-divide tasks as the plan becomes better defined.

As a result, the definition of activities evolves during the preparation of the plan. A result of this process is a natural **hierarchy** of activities with large, abstract functional activities repeatedly sub-divided into more and more **specific sub-tasks**.

For example, in the construction industry the problem of placing concrete on site would have sub-activities associated with placing forms, installing reinforcing steel, pouring concrete, finishing the concrete, removing forms and others.

Even more specifically, sub-tasks such as removal and cleaning of forms after concrete placement can be defined. Even further, the sub-task "clean concrete forms" could be subdivided into the various operations, as follows:

- Transport forms from on-site storage and unload onto the cleaning station.
- Position forms on the cleaning station.
- Wash forms with water.
- Clean concrete debris from the form's surface.
- Coat the form surface with an oil release agent for the next use.
- Unload the form from the cleaning station and transport to the storage location.

This detailed task breakdown of the activity "clean concrete forms" would not generally be done in standard construction planning, but it is essential in the process of programming or designing a **robot or computerised machine** to undertake this activity, since the various specific tasks must be well defined for robot implementation; it would also be necessary with an inexperienced, new team on a new project.

The number and detail of the activities in a project plan is a matter of judgment or convention. Project plans can easily range between less than a hundred to many thousand defined tasks, depending on the planner's decisions and the scope of the project.

It is useful to define separate work tasks for:

- Those activities which involve different resources, or
- Those activities which do not require continuous performance.

For example, the activity "prepare and check drawings" should be divided into a task for preparation and a task for checking since different individuals are involved in the two tasks and there may be a time lag between preparation and checking.

It is important to keep in mind that task definition will serve as the basis for scheduling, for communicating the project plan and for project monitoring. Completion of tasks will also often serve as a basis for progress payments from the client. Thus, more detailed task definitions can be quite useful. But more detailed task breakdowns are only valuable to the extent that the resources required, durations and activity relationships are realistically estimated for each activity.

Providing detailed work task breakdowns is not helpful without a commensurate effort to provide realistic resource requirement estimates.

Identify and Analyse the Potential Risks

We need to identify, quantify and make contingency plans to deal with project risks.

The **constraints** on a project are one form of risk. The project may well have specific constraints that lead to identifiable risks.

What do we mean by project risk? A risk is anything that will have a negative impact on any one or all of the primary project constraints, namely **time, resources and Performance Criteria.**

Some examples might be:

- A key person with specialist skills is required for several projects. If one of those projects over runs then that person will be required to work on several projects at the same time. If this is not practical, then the other projects will be delayed.
- A person selected to do work on a project may not have the skills to do the work. If this risk is identified then the project plan can allow for training time and learning curve time. Alternatively, another resource may be identified.
- A vital machine may be scheduled for maintenance during the time it is required for the project. The maintenance schedule must be known and the effect of early or late maintenance or even machine substitution must be assessed and built into the project plan.

Let's take the example of a new computer system implementation and look at what is often one of the most time-consuming tasks (one that is so often prone to increased duration) and see how we might reduce the associated risks:

When implementing a new computer system the quantity and difficulty of data transfer (extracting data from the existing system, reformatting it and importing it into the new system) is often grossly underestimated.

The time the work will take has a great sensitivity to:

- IT staff programming skills, their technical knowledge of both systems as well as their knowledge about how the old and new systems will be operated
- The similarity of previous transfers by the supplier for other customers (even similar ones will not be exactly the same)
- The similarity between the data in the old and new systems
- The quality of the data to be transferred
- The knowledge and skill of the staff who must validate the transferred data.
- The importance of historic data to the satisfactory operation of the new system or the service level provision to customers.

All of these will almost certainly be untried to some extent. The greater the quantity and type of data transferred, the greater the work in constructing the data transfer programs and in validating the take-on data.

What are the risks?

- That the cost of data transfer will increase.
- That the 'live' date will be delayed.
- That the system may not operate correctly.
- That the customers will be dissatisfied.
- That, in consequence, the organisation will lose income or market share.

Risk can be reduced by analysing what is essential data, what is accurate data and what is merely nice to have.

Risk is minimised by transferring only essential data that is also accurate. Re-enter essential but inaccurate data and store the rest on CD-ROM when the data transfer part of the project is complete. You may never use this data but you will feel more secure for having done it.

Obviously, putting only your best people on the project will also substantially reduce the risk of delay and the consequences of having inaccurate data.

Describe the Change Processes essential to the Project Success

If you look at the reasons that projects fail, it is usually the result of two problems. Either the team did not spend enough time defining the work and/or there was a lack of scope management. Even if the project manager did a good job of defining scope, the hard part comes in having to manage the project to that agreed-upon scope.

The purpose of scope change management is to protect the viability of the approved Project Definition and the approved business requirements.

In other words, the Project Definition defines the overall scope of the project, and the business requirements define the deliverables in detail.

The project team committed to a deadline and budget based on this high-level and detailed scope definition. If the deliverables change during the project (and usually this means that the client wants additional items), the estimates for cost, effort and duration may no longer be valid.

If the sponsor agrees to include the new work into the project scope, the project manager has the right to expect that the current budget and deadline will be modified (usually increased) to reflect this additional work. This new estimated cost, effort and duration now become the approved target.

Sometimes the project manager thinks that scope management means having to tell the client 'no'. That makes the project manager nervous and uncomfortable. However, the good news is that managing scope is all about getting the sponsor to make the decisions that will result in changes to project scope.

This is very important. Few clients can see and express every requirement up-front. Therefore, there are usually changes that need to be introduced during the project. These changes may be very necessary for the solution and there may be valid business reasons why they should be included.

The project manager and project team must recognise when these changes are requested. Then they must follow a **predefined scope change process**.

This process ultimately brings the appropriate information to the project sponsor and allows the sponsor to decide if the modification should be approved based on the business value and the impact to the project in terms of cost and schedule.

DEVELOP A PROJECT PLAN

The Project Planning Phase is the most important phase in project management. The effort spent in planning can save countless hours of confusion and rework in the subsequent phases.

The second phase should include a detailed identification and assignment of each task until the end of the project. It should also include a risk analysis and a definition of criteria for the successful completion of each deliverable. The governance process is defined, stake holders identified and reporting frequency and channels agreed.

The main purpose of project planning is to guide execution.

Describe the Overall Objectives of the Plan

You need to plan how you are going to manage the project, by planning to:

- **Assign people, explain tasks and allocate responsibilities for deliverables:** In the planning phase you already plan the human resources required. You will see that the phases do overlap, because in this phase you need to be sure that your team are aware of what it is each one needs to accomplish to achieve their part of the project.

  It is important to encourage questions and concerns from team members until everyone is comfortable that their roles and expectations are feasible and appropriate

- **Define how the team will perform together:** Develop procedures that you and your team will use to support your day-to-day work. These procedures allow people to effectively and efficiently perform their tasks, as well as contribute to a positive team atmosphere. At a minimum develop procedures for the following:

  Communication:

  - When and how to use email to share project information
  - Which types of information should be in writing
  - When and how to document informal discussions
  - How to set up regular scheduled reports and meetings to record and review progress
  - How to address special issues that arise

  Conflict Resolution

  - Standard approaches that you would encourage people to develop a mutually agreeable solution
  - Escalation procedures (steps you take if the people involved can't readily resolve their differences.

  Decision-making:

  - How will team decisions be made according to the situation? Majority rule, consensus, Nominal Group Technique, decision by technical expert, etc.
  - **Set up tracking systems:** Effective project control means ving accurate and timely information to help you identify problems promptly to take corrective action. Throughout the project you need to track the following information:

- Schedule achievement: How well you are meeting established dates?
- Personnel resource use: The level of effort people are spending on their assignments
- Financial expenditure: Funds you're spending of project resources.

Furthermore you need to satisfy your information needs and those of your project audience. To this end schedules of reports and meetings will be helpful:

- Reports that will be issued
- Meetings that will be held and their specific purposes
- When reports will be issued and meetings will be held
- Who will receive the reports and attend the meetings
- The formats and content of the reports and meetings

- **Plan to communicate the start and progress of the project:** Notify the key project audience (team members, drivers and supporters) that the project has been approved and when it will start. Announce it to others who may be interested – Stakeholders. Consider one or more of the following approaches:
  - Email selected individuals or departments
  - Announcement in organisation's newsletter
  - A flyer on a prominent bulletin board
  - A formal kick-off meeting
  - Tell them the purpose and scope, intended outcomes and results and key dates. Invite them to contact you if they have questions or require detailed information
- **Plan to do a phase review at the end of major phases / milestones in the project:** At the end of every phase of a project it is important to have a record of progress and issues as well and how they have or will be dealt with. The End Stage Report will assist you achieve this purpose. Summarise progress to date, the overall project situation and sufficient information to; for example, ask for a Project Board decision on what to do next with the project.

Topic
Current Stage Plan: Actual performance against agreed results
Project Outlook: Plan review. Business case review, risk review, etc.
Statistics: Project issues, situation, stats
Other Events: Any events that affect stage performance

The key outputs of the planning phase include:

- A team contract
- A finalised scope statement
- A work breakdown structure (WBS)- see 3.3.3
- A project schedule, in the form of a Gantt chart with all dependencies and resources entered- see 3.4.1
- A list of prioritised risks.

Describe the Project Stakeholders

Projects are strongly stakeholder-driven. It's their wishes, fears, dreams, their "stakes" that determine and drive the course of projects. For successful projects, it's not enough to deliver on the customer's demand; projects have to meet all stakeholder expectations.

Identifying stakeholders is a primary task because all the important decisions during the initiation, planning and execution stages of the project are made by these stakeholders.

Project stakeholders are individuals and organisations that are actively involved in the project, or whose interests may be affected as a result of project execution or project completion. Stakeholders may also exert influence over the project's objectives and outcomes.

A stakeholder can be a project team member, an employee of the user organisation, or a senior manager; *anyone* who has an interest in the project.

The following are **examples of project stakeholders**[35] :

- **Project leader** (or project manager) – The person responsible for managing the project; the head of the project; defines, plans, controls, and leads the project
- **Project team members** – The group that is performing the work of the project; they produce the outputs (deliverables) for the project; participate in the project management process; contribute their skills and effort to perform tasks
- **Sponsor** (or upper manager) – The person or group that provides the financial resources, in cash or in kind, for the project; the person with formal authority who is ultimately responsible for the project; oversees the project; acts as a liaison between the upper management team and the project leader; provides authority, guidance, and maintains project priority
- **Project customer** – The person or organisation that will use the project's product; the person or group whose needs and requirements drive the project; receives the final output(s) that the project produces; provides product requirements and funding. There may be multiple layers of customers. For example, the customers for a new pharmaceutical product can include the doctors who prescribe it, the patients who take it and the insurers who pay for it. In some application areas, customer and user are synonymous, while in others, customer refers to the entity acquiring the project's product and users are those who will directly utilise the project's product.
- **Functional managers** (also known as resource managers or line managers) – provide company policy and resources, particularly people who are involved in the project
- **Performing organisation.** The enterprise whose employees are most directly involved in doing the work of the project.
- **Project management team.** The members of the project team who are directly involved in project management activities.
- **Influencers.** People or groups that are not directly related to the acquisition or use of the project's product, but due to an individual's position in the customer organisation or performing organisation, can influence, positively or negatively, the course of the project.

In addition to these key stakeholders, there are many different names and categories of project stakeholders, including internal and external, owners and investors, sellers and contractors, team members and their families, government agencies and media outlets, individual citizens, temporary or permanent lobbying organisations, and society-at-large. The naming or grouping of stakeholders is primarily an aid to identifying which individuals and organisations view themselves as stakeholders. Stakeholder roles and responsibilities can overlap, such as when an engineering firm provides financing for a plant that it is designing.

Stakeholders have varying levels of responsibility and authority when participating on a project and these can change over the course of the project's life cycle. Their responsibility and authority range from occasional contributions in surveys and focus groups to full project sponsorship, which includes providing financial and political support. Stakeholders who ignore this responsibility can have a damaging impact on the project objectives. Likewise, project managers who ignore stakeholders can expect a damaging impact on project outcomes.

[35] Retrieved from "http://en.wikipedia.org/wiki/Project_stakeholders"

The **stakes** are the wants or needs of the holders. They stick to them; they defend them; they are married to them. The stakeholders will take all actions necessary to defend their stakes, or to get as near to their realisation as possible.

Stakes can be two-fold: they can either relate to stakeholder **fears or wishes**. With the former, there is something to lose; with the latter, there is something to gain. Either way, stakes are important to the stakeholders and no-one, not even the project manager, should ignore or underestimate them.

Therefore, the project management team must identify the stakeholders, determine their requirements and expectations, and, as far as possible, manage their influence in relation to the requirements to ensure a successful project.

Develop a Work Breakdown Structure

The WBS is a deliverable-oriented hierarchical decomposition of the work to be executed by the project team, to accomplish the project objectives and create the required deliverables.

- The WBS organises and defines the total scope of the project.
- The WBS subdivides the project work into smaller, more manageable pieces of work, with each descending level of the WBS representing an increasingly detailed definition of the project work.

The planned work contained within the lowest-level WBS components, which are called **work packages**, can be scheduled, cost estimated, monitored, and controlled.

The WBS represents the work specified in the current approved project scope statement. Components comprising the WBS assist the stakeholders in viewing the deliverables of the project.

Although each project is unique, a WBS from a previous project can often be used as a template for a new project, since some projects will resemble another prior project to some extent. For example, most projects within a given organisation will have the same or similar project life cycles and, therefore, have the same or similar deliverables required from each phase. Many application areas or performing organisations have standard WBS templates.

The *Project Management Institute Practice Standard for Work Breakdown Structures* provides guidance for the generation, development, and application of work breakdown structures. This publication contains industry-specific examples of WBS templates that can be tailored to specific projects in a particular application area.

Decomposition

Decomposition is the subdivision of project deliverables into smaller, more manageable components until the work and deliverables are defined to the work package level. The work package level is the lowest level in the WBS, and is the point at which the cost and schedule for the work can be reliably estimated. The level of detail for work packages will vary with the size and complexity of the project.

Decomposition may not be possible for a deliverable or subproject that will be accomplished far into the future. The project management team usually waits until the deliverable or subproject is clarified so the details of the WBS can be developed. This technique is sometimes referred to as rolling wave planning.

Different deliverables can have different levels of decomposition. To arrive at a manageable work effort (i.e., a work package), the work for some deliverables needs to be decomposed only to the next level, while others need more levels of decomposition. As the work is decomposed to lower levels of detail, the ability to plan, manage, and control the work is enhanced. However, **excessive decomposition** can lead to non-productive management effort, inefficient use of resources, and decreased efficiency in performing the work. The project team needs to seek a balance between too little and too much in the level of WBS planning detail.

Decomposition of the total project work generally involves the following activities:

- Identifying the deliverables and related work
- Structuring and organising the WBS
- Decomposing the upper WBS levels into lower level detailed components
- Developing and assigning identification codes to the WBS components
- Verifying that the degree of decomposition of the work is necessary and sufficient.

Identifying the major deliverables of the project and the work needed to produce those deliverables requires analysing the detailed project scope statement. This analysis requires a degree of expert judgment to identify all the work including project management deliverables and those deliverables required by contract.

Structuring and organising the deliverables and associated project work into a WBS that can meet the control and management requirements of the project management team is an analytical technique that may be done with the use of a **WBS template** or even using **Post-Its**:

It might surprise you to know the number of people that use yellow sticky pads and a blank wall to create the first draft of the Work Breakdown Structure. This technique is very easy. You first get the appropriate people into the same room. These are the project team members and clients who have the expertise to build the WBS. Typically you start off by writing the names of the major deliverables on Post-it notes – one deliverable per note. Make sure the attendees agree on the major deliverables to begin with. If any of the deliverables are very large, you can create new Post-it notes that describe the deliverables at a lower level, or individual work products. These are arranged under the higher-level deliverable. The deliverable needs to be identified at a level low enough that you understand what it takes to build it. In general two levels should be enough. One level is typical.

Next, for each deliverable, describe the activities that must take place to complete it. Each activity goes on a separate Post-it note. Again, these are arranged under the specific deliverable they refer to. If you have a sense for the order that the activities need to be completed, you can arrange the Post-it notes sequentially. However, this is not important at this point. The important thing is to identify all the work.

Look at the activities that are required to build each deliverable (or work product) and estimate the work associated with each activity. If the effort associated with an activity is larger than your estimating threshold, identify the more detailed activities that make up the higher-level one. Each of these activities is represented by new Post-it notes under the higher-level activity (which now becomes a summary activity). Continue with this process until the work required to complete all of the deliverables is defined, as best you know today. The levels of activities will not be the same for each deliverable. Some simple deliverables may meet the threshold criteria in one or two levels. Others may take three or four, or more.

The advantage of this approach is that your team can visually see the work and they can help ensure all the work is identified to complete the project. The Post-it sheets also give you the ability to easily move things around. If you add an activity and then decide to remove it, you just pick up the Post-it sheet. Likewise, if a deliverable or group of activities is in the wrong place, you just move the Post-it notes to where they need to be.

When you are all done, you can enter the summary and detailed work activities into your work plan management tool.

The resulting structure can take a number of forms, such as:

- Using the major deliverables and subprojects as the first level of decomposition
- Using subprojects, where the subprojects may be developed by organisations outside the project team. For example, in some application areas, the project WBS can be defined and developed in multiple parts, such as a project summary WBS with multiple subprojects within the WBS that can be

contracted out. The seller then develops the supporting contract work breakdown structure as part of the contracted work.

- Using the phases of the project life cycle as the first level of decomposition, with the project deliverables inserted at the second level.
- Using different approaches within each branch of the WBS, where test and evaluation is a phase, the air vehicle is a product, and training is a supporting service.

Decomposition of the upper level WBS components requires subdividing the work for each of the deliverables or subprojects into its fundamental components, where the WBS components represent verifiable products, services, or results.

Each component should be clearly and completely defined and assigned to a specific performing organisational unit that accepts responsibility for the WBS component's completion.

The components are defined in terms of how the work of the project will actually be executed and controlled. For example, the status reporting component of project management could include weekly status reports, while a product to be manufactured might include several individual physical components plus the final assembly.

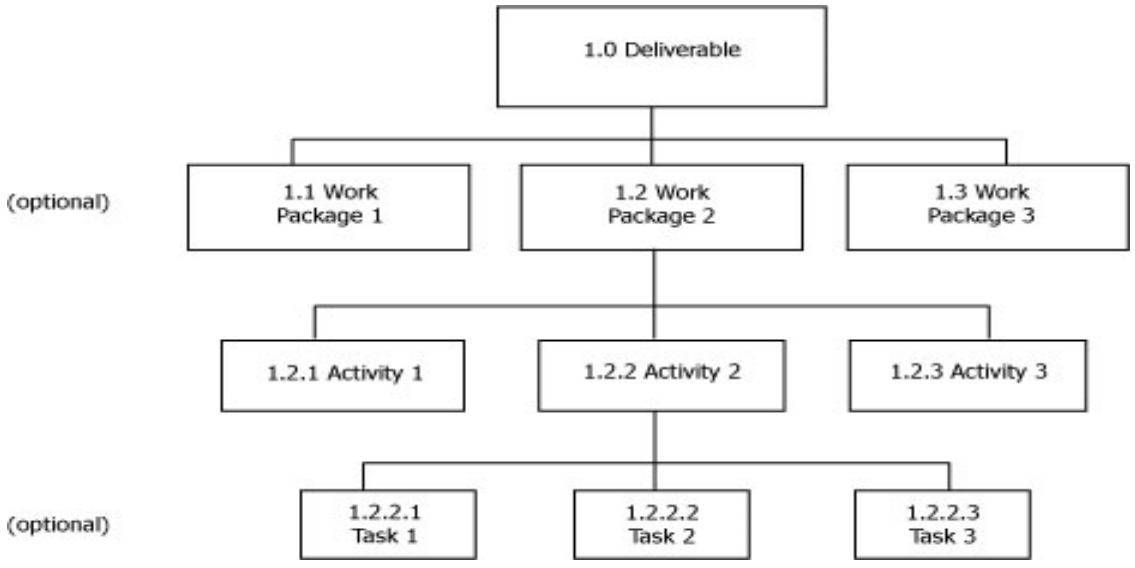
Verifying the correctness of the decomposition requires determining that the lower-level WBS components are those that are necessary and sufficient for completion of the corresponding higher-level deliverables.

Note: There are a number of ways to create the Work Breakdown Structure (WBS). Remember that the WBS is the first step toward creating the project work plan. It is not the work plan itself. It is important to use the WBS to identify all the major work to be done. It is not important to break the work down into levels or patterns that provide a sense for the timing and sequencing. This will all be done later.

Here are some examples of how the WBS can be structured.

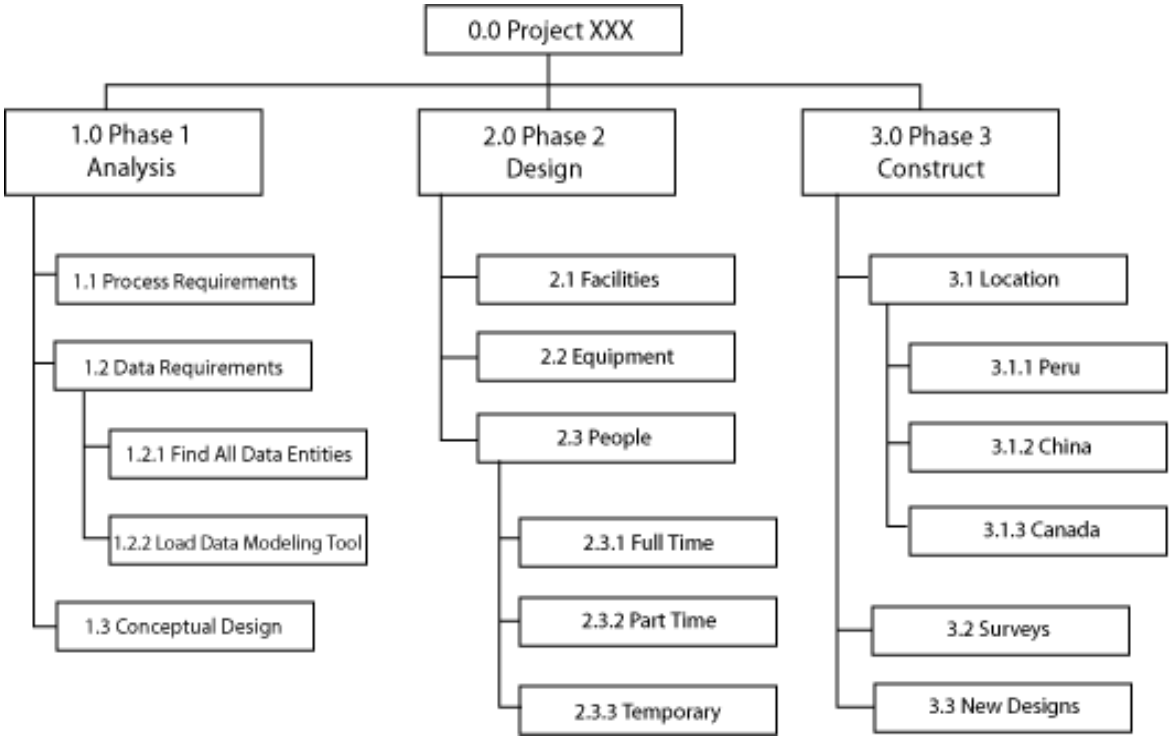
- **Generic (classic) WBS:**

This example shows a generic example of breaking down a deliverable into work packages, and then breaking work components into activities, and then breaking activities down into tasks. Remember that you can break the work into deliverables first or into other categories first. However, regardless of how you start the top level WBS, you will have to transition to deliverables and then to activities. The activities of the project are usually for the purpose of building deliverables, so at some point this deliverable activity breakdown needs to occur. Notice that the Work Package level and the Task level are both optional. Your WBS may go from deliverable to activities and stop there.



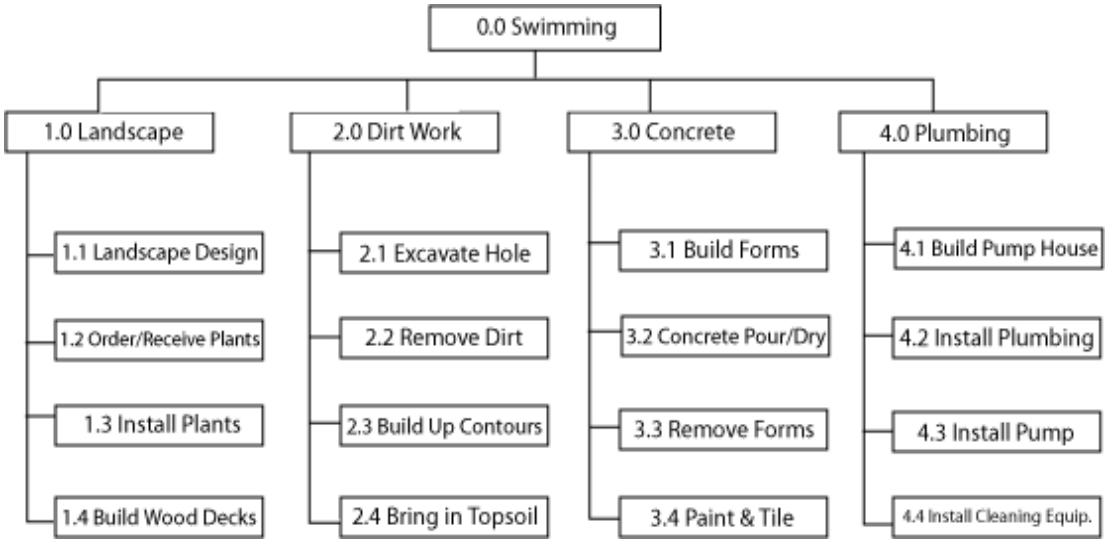
- **WBS by major project phase or stage**

This example shows the major phases required for a project. They do not have to be in the correct time-sequence. Just determine what the major pieces of work are and break each one down further. (Many of these boxes will be broken down much further into the activities required to execute the work.)



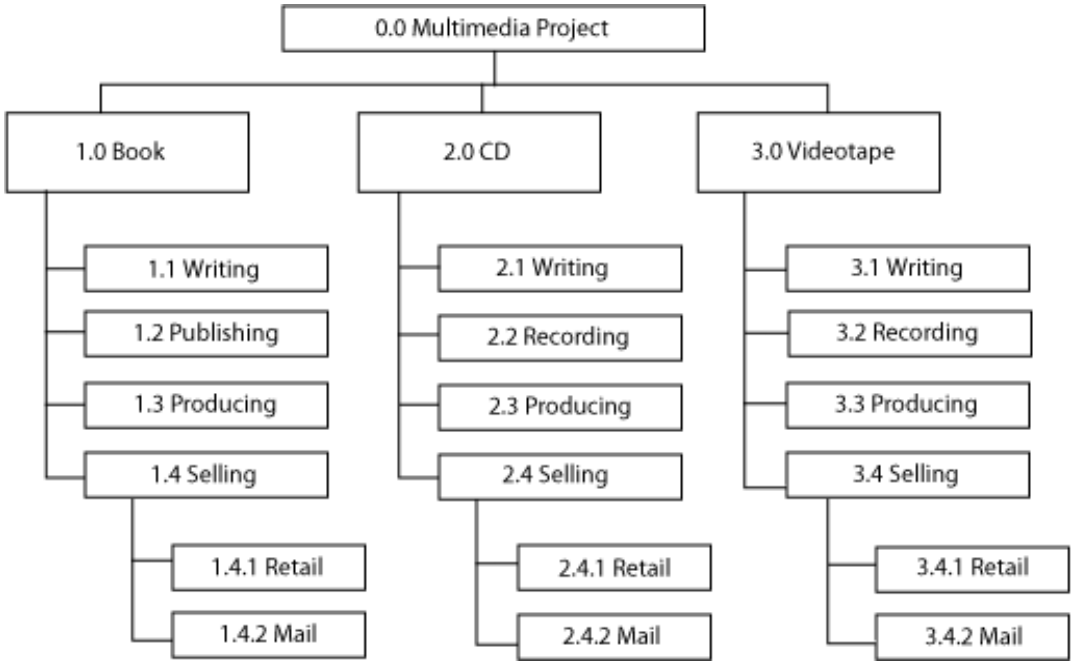
- **WBS by timeline**

In this example, the team has built a WBS-based on the order in which the major work components should be performed. This may be easier to think through in some projects where there is some experience in knowing how the timeline will lay out.



- **WBS by deliverable**

First determine all the deliverables that the project will produce, and then break them down into the work required. Again, this does not imply sequencing. Many of these activities may end up being executed in parallel.



Stipulate and Communicate the Project Activities, Performance Levels and Quality Criteria

Communicating regularly and effectively is a key to successful projects. This entails sharing the **right** information with the **right** people in a **timely** manner. Informative communication supports the following:

- Continued buy-in and support from key audiences and team members
- Prompt problem identification and decision-making
- A clear project focus
- Ongoing recognition of project achievements
- Productive working relationships among team members.

Design a communication plan by asking the following questions:

- Who needs to receive information?
- What kind of information is required?
- When is the information needed?
- How should the information be presented?
- How is the team going to work together?
- How are status meetings going to run?

The following is an example of planning for communication:

Deliverable / Description	Type (Man / Mktg / Info)	Target Audience	Delivery Method	Delivery Frequency	Who Responsible?
Status Reports	Mandatory	Sponsor Managers Steering committee	Project Status Report template e-mailed to audience.	Monthly	Project manager
Local Awareness-Building Sessions Inform people of the project and the deliverables that will impact them.	Info	Local user community	Stand-up presentations.	Schedule twice weekly until all users covered	Lead analyst
Project Pins Pins will be given out to all people attending the awareness presentations to build enthusiasm and brand image.	Marketing	All users, customers and stakeholders	Hand out to those that attend the awareness presentations. Send pin in inter-company mail to those that attend Webcasts.	Same frequency as awareness sessions	Terry Allen—Project administrator

Choosing the appropriate medium

Project communication comes in two forms:

- **Formal communications** are pre-planned, conducted in a standard format in accordance with an established schedule. Examples include weekly team meeting and monthly progress reports.
- **Informal meetings** occur as people think of information that needs to be shared. These forms of communication occur during the normal course of business and include brief conversations in the corridor, emails, and chats over lunch. Take note of the following guidelines:
    - Confirm in writing any important information shared in informal discussions.
    - Avoid informal discussions with only some of the people who are involved in the topic.

Manage Quality

Quality is ultimately defined by the customer and represents how close the project and deliverables came to meeting the customer's requirements and expectations. Our goal is to meet the customer's requirements and expectations. This is a critical point. Sometimes there is a tendency to think that 'quality' means the best material, the best equipment and absolutely zero defects.

However, in most cases, the customer does not expect and cannot afford a perfect solution.

- The purpose of the quality management step is to first understand the actual expectations of the customer in terms of quality and then put a proactive plan and process in place to meet those expectations. A faulty process cannot produce a consistently high quality product.

- There needs to be a repetitive cycle of measuring quality, updating processes, measuring, updating processes, etc. To make the quality management process work, collecting metrics is vital.

- One of the purposes of quality management is to find errors and defects as early in the project as possible. Therefore, a good quality management process will end up taking more effort hours and cost up-front in the project. However, there will be a large payback as the project progresses.

- Small projects do not require much more than basic quality control, but for medium and large projects, a Quality Plan should be constructed to make sure that the project is being completed to standards.

Choosing the appropriate format

Key Roles in Project	Names of People In the Roles

Project Objectives and Performance Criteria

Customer Objectives and Quality Criteria

Provider Objectives

Deliverables to be Provided	Review Process	Completion Date

Milestones	Baseline Target Date	Actual Result Date	Estimated Effort	Actual Effort

[List any special practices or processes used by this project. Include new types of risk management, project estimating, progress review, management review, customer interactions, or other practices not used on projects in the past. Describe an item in additional text, if needed to explain the item.]

Special Processes or Practices Used in This Project	Value (if already used)

Adapted from: www.dir.state.tx.us/eod/qa/download.htm

Check the Project Plan

The end result of your planning phase is a document called the project plan.

Once the Project Plan has been drawn up, it must be checked for accuracy, completeness and compliance to internal and external requirements.

Your project plan needs to include enough information to make sure that you know exactly what processes and procedures need to be followed and who needs to be involved.

A Guide to the Project Management Body of Knowledge (PMBOK Guide) says that the project plan in made up of lots of subsidiary plans. These include:

- A plan for managing the human resources on the team both in terms of availability and skills
- A plan for managing costs and the budgeting elements of the project including any procurements or supplier engagements you might have.
- A communications plan setting out who is going to receive messages about the project, when and in what format
- A plan for dealing with project risk including the processes for logging and tracking risks
- A quality plan that specifies the quality targets for the project.

Get your project plan approved by your stakeholders and project sponsor, as well as the team themselves, so there are no surprises later.

DEVELOP TOOLS TO MEASURE KEY PERFORMANCE PARAMETERS

Performance measurement is the process whereby a project team establishes the parameters within which they can measure if the project is achieving the desired results. The purpose behind measuring is to improve performance. Behn[36] gives the following reasons for adopting performance measurements:

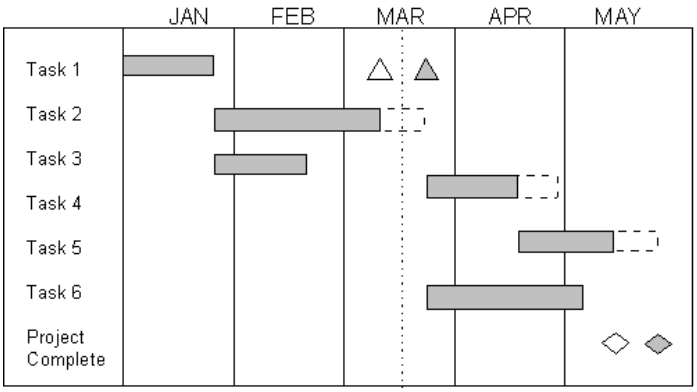
- **To evaluate how well the initiative is performing** - In order for the project team to evaluate its performance it requires standards to compare its actual performance against past performance/ / industry standards/client expectations.
- **To Control** - Managers need to ensure that their subordinates are doing the right thing.
- **To Budget** - Budgets can be tools in improving performance. Sometimes budget increases could be the answer to improving performance; for example, purchasing better technology because the current technology is outdated and affects operational processes negatively.
- **To Motivate** - Giving people significant goals to achieve and then use performance measures- including interim targets- to focus people's thinking and work, and to provide a periodic sense of accomplishment. Performance targets may also encourage creativity in developing better ways to achieve the goal.
- **To Celebrate** - People need to commemorate their accomplishments- such rituals bind people together, and give them a sense of their individual and collective relevance.

[36] Behn (2003); Quoted in: http://en.wikipedia.org/wiki/Performance_measurement

- **To Learn** - By analysing information, the project team is able to understand the reasons behind its poor or good performance.
- **To Improve** - What exactly should the team do differently to improve performance?

Develop a Gantt Chart

The Gantt chart is a graphic planning and control method in which a project is broken down into separate tasks. Estimates are then made of how much time each task requires, as well as the total time needed to complete the whole project. The planner also indicates the start and end dates of the tasks on this chart.



The basic Gantt chart is an easy way to document schedules. It is shows **activity start, duration, and completion.** It shows the **connection between events and the calendar**, and provides a graphical analogue of the activity duration.

The Gantt schedule can illustrate the relationship between work activities having duration, events without duration that indicate a significant completion and milestones that represent major achievements, or decision points. Various annotations can be used to communicate the progress of the project effort compared to the baseline plan, as well as to depict in a graphical way areas where there are modified expectations from the baseline plan.

Once a Gantt schedule has been established for a project, progress should be periodically plotted against the baseline schedule. If different functional areas are involved in a project, each area may need its own detailed schedules to support the project master schedule. In such cases, it is important that working schedules be linked to a common master schedule in a way that they can be easily updated. Each activity or event on the schedule should have a responsible individual assigned, so there is clear ownership and so schedule status can be updated without a lot of fuss.

During World War 1 Henry Laurence Gantt, an industrial engineer, developed the first production control chart. To this day, most organisations use some or other form of it to plan and chart output performance.

Example:

The planning for a training session was broken up into the essential activities.

These are depicted on the vertical axis in the figure that follows:

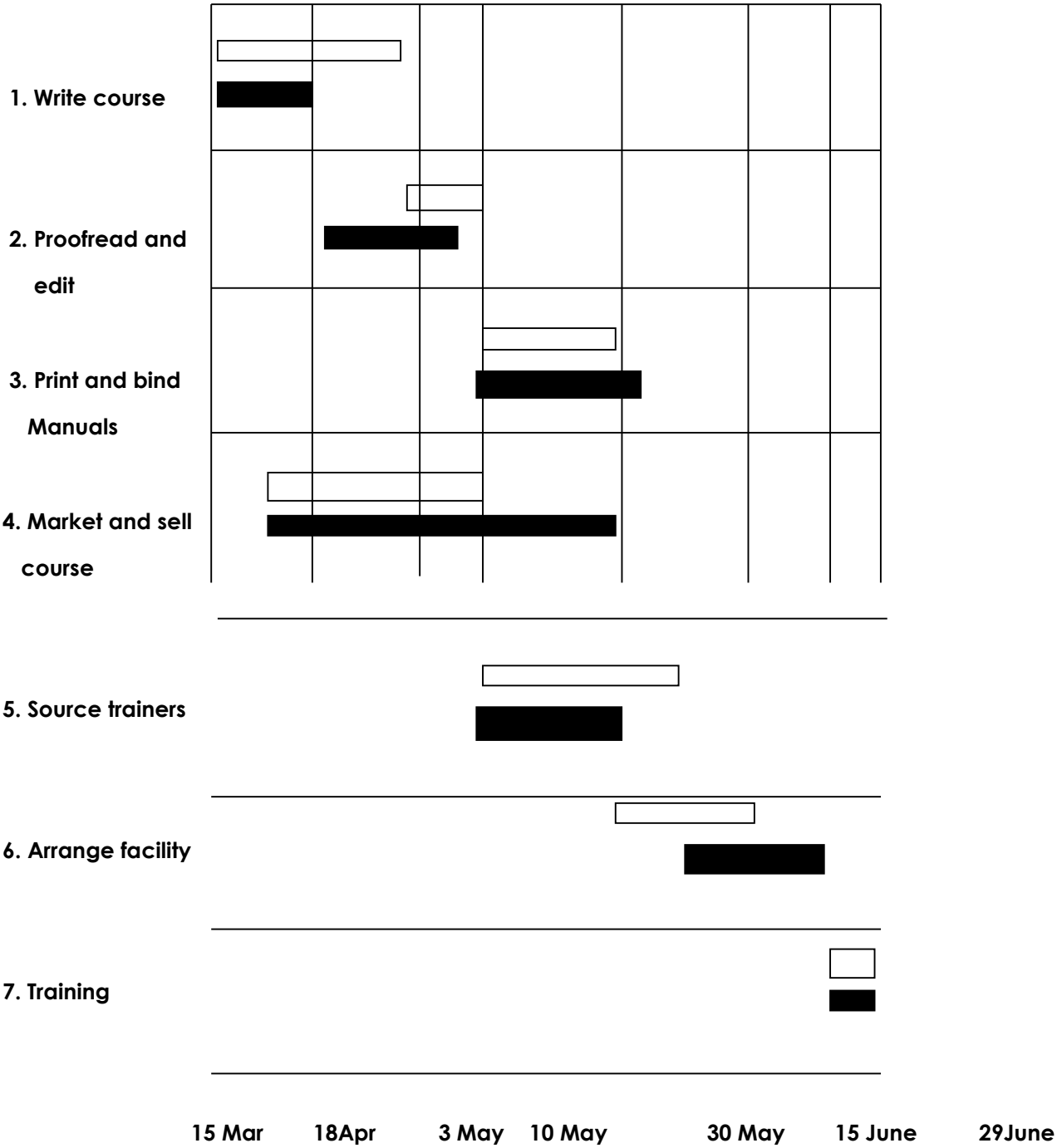
- Writing
- Proofreading and editing
- Printing and binding
- Marketing and selling the course
- Sourcing trainers
- Arranging the facility
- Training

It is clear from the chart that some of the activities require the completion of other activities before they can begin (for example, the course must be written before it can be edited and proofread).

Once the basic activities have been determined, a **target completion date** must be set. This is depicted on the **horizontal axis**.

The next step is to determine the **duration** of each activity. If the training is scheduled for 29 June, the venue must be booked at least a month in advance. Therefore 29 May is the latest date for booking the venue.

Once the activities, activity duration, completion time and latest starting time have been determined, the Gantt chart can be drawn. You can monitor the progress of a project by comparing **actual progress** with **planned progress** .



Now you can see at a glance:

- Where the activities are ahead of schedule
- Where the activities are behind schedule
- Where the activities are exactly on schedule

To construct a Gantt chart:

- Identify the list of tasks to be completed
- Determine the duration of each task and when it must start and end
- Determine which tasks overlap and which are dependent on one another
- Number and list the tasks down the left (vertical) axis
- Write the time period in days, weeks, or months under the horizontal axis
- For each task draw a white horizontal bar to show when each task starts and ends
- When an activity is completed, fill in a black bar. One will be able to see at a glance how the project is progressing.

Develop a Budget

For a project to be successful, it is important that the four basic elements of a project, namely resources, time, money and scope are managed correctly, because all these elements are interrelated. For this, you need to remember that:

- Resources include people, equipment and material.
- Time includes task durations.
- Money refers to costs, contingencies and profit.
- Scope refers to the project definition, the size of the project, goals and the requirements needed to accomplish the project within a budget.

The key issues that must be considered with regard to project finances are:

- **Resource Planning** - determining what resources (people, equipment, materials) and what quantities of each should be used to perform project activities.
- **Cost Estimating** - developing an approximation (estimate) of the costs of the resources needed to complete project activities.
- **Cost Budgeting** - allocating the overall cost estimate to individual work items.
- **Cost Control** - controlling changes to the project budget.

Project cost management requires an understanding of basic principles of revenues and expenses. It includes the processes required to ensure that the project is completed within an approved budget.

There are several types of costs to understand in project cost management.

Direct Costs

Direct costs are costs that can be traced back to specific project activities. Examples of direct costs are costs for materials used on the project and costs for labour expended in project-related activities. Direct costs are:

- Labour (the cost of people that are working on the project)
- Materials (cost of items purchased for use in carrying out the project)
- Supplies and equipment (cost of items consumed by the project)
- Training (specifically in relation to the project – to ensure the project is successful)

- Travel and miscellaneous costs

Indirect Costs

Indirect costs are costs that cannot be traced back to specific project activities. These costs are often called the "cost of doing business". Examples of indirect costs are the costs associated with lighting and heating (or cooling) the workplace. Another indirect cost is the everyday cost of doing all the administrative tasks associated with running a business (e.g., paperwork related to human resources management or filing taxes).

It is natural to tend to focus on direct costs, but the allocation of indirect costs to projects can determine which projects are initiated.

There are many ways to allocate a company's indirect costs, so the total "cost" of a project can vary depending on the accounting method employed. Indirect costs include the following:

- Fringe benefits (this is the non-payroll portion of the workers' salaries for the project, e.g. medical aid, pension, etc.)
- General and Administrative (costs of management and support services, e.g. secretarial services, purchasing department, legal services, human resources, etc.

Fixed Costs

A fixed cost does not vary with quantity. In making a new product, there are large costs in setting up the project and especially if there are not many units. For example, if it costs R500,000.00 for a manufacturing machine, and one only builds three units, the fixed cost is still R500,000.00 to set-up, whereas if one builds 1,000,000 units, the fixed cost is still R500,000.00, but it is worthwhile because the cost is counted against all the units manufactured. Obviously it is important when deciding on what project to undertake to consider the fixed costs that will have to be incurred.

Variable Costs

Variable costs are those costs that vary with the number of units that are produced, because there are some costs associated with material for each item, the production time for each unit, as well as the cost of assembling an item.

A **budget checklist** provides a list of possible costs chargeable to a sponsored project. In order to avoid costly omissions when preparing application/proposal budgets, be sure to consider the following:

- Salaries
- Fringe benefits
- Equipment (non-expendable equipment, accessories, freight, installation)
- Consultants (fees, travel)
- Supplies and expendable equipment (questionnaires, chemicals, glassware, electronic components, brochures and announcements, audio and video tapes, film and film processing supplies, etc.)
- Travel (domestic and foreign, field work, conferences, subsistence costs, transportation)
- Publications
- Sub-contracts
- Other direct costs (space or equipment rental, alterations or renovations, human subjects or informant fees, service contracts, communications, stipends for participants, vehicle lease or purchase)
- Facilities and Administrative costs (on-site and off-site).

Let's look at some of these costs in more detail:

Resource rates

- The cost of a work resource based on the amount of time that the resource spends working.
- The budget should include all direct costs, including personnel, equipment, supplies, travel and other costs for activities required for the project.
- Most costs may be adjusted for inflation in future project years.
- In most instances, equipment purchases are made toward the beginning of the project.

Project Personnel:

Personnel costs are usually the largest component of a budget, so this section warrants the most attention. Once you have a specific idea of what you hope to accomplish, determine what types and levels of personnel you will need to accomplish your goals.

Benefit Rates:

Benefit rates include:

- Unemployment insurance
- Workers' compensation insurance.

Equipment

Equipment is defined as tangible assets with a useful life of more than one year. Shipping and transportation costs associated with the equipment are treated as part of the total equipment cost. Examples: chairs, desks, computers, filing cabinets, fax machines, printers, refrigerators, microscopes, incubators, projectors, computer software; office furnishings; scientific or medical equipment; alarm/monitoring system hardware, etc.

Materials and Supplies

Supplies should be subdivided into major categories: state the type, the number to be used, their unit purchase cost, etc.

Travel

An individual on the project might have to travel to present data, or to attend a conference or class.

Properly preparing your budget will show how cash flows in and out of your project. Also, it may then be used in planning your short-term credit needs. In today's financial world, you are required by most financial institutions to prepare budgets before making capital expenditures for new assets, as well as for expenditures associated with any planned expansion.

The budget determines your future ability to pay debts as well as expenses. For example, preliminary budget estimates may reveal that your disbursements are lumped together and that, with more careful planning, you can spread your payments to creditors more evenly throughout the course of the project. As a result, less bank credit will be needed and interest costs will be lower. Banks and other credit-granting institutions are more inclined to grant loans under favourable terms if the loan request is supported by a methodical cash plan.

Similarly, a project that is run on a casual day-to-day basis is more likely to borrow funds at inopportune times and in excessive amounts. Without planning, there is no certainty that you will be able to repay your loans on schedule. However, once you've carefully mapped out a budget, you will be able to compare it to the actual cash inflows and outflows of your project. You will also find that this comparison will go a long way in assisting you during future budget preparation. Also, a monthly budget helps pinpoint estimated cash balances at the end of each month which may foresee short-term cash shortfalls.

To draw up your project budget, you can use the WBS to:

- Partition the major project deliverables into smaller components to improve the accuracy of cost estimates
- Provide a mechanism for collecting and organising actual costs
- Provide a mechanism for performance measurement and control.

The following is an example of a simple cash budget for the first 90 days of a 6-month project:

CASH BUDGET FOR 90 DAYS	
Beginning cash balance	**R1 520 000**
Deduct:	
Estimated payments to suppliers	R 700 000
Estimated cash expenses	R 150 000
	R850 000
Estimated ending cash balance	**R 670 000**

Frequently, the demand for cash is not spread evenly throughout the duration of the project. Several large payments may become due in one particular month, particularly in the execution phase of the project life cycle. It is unlikely that disbursements will be made in every instance when costs are incurred or when materials and services are used. Insurance and rent, for example, are often paid in advance with the cost being absorbed against future operations. A debt of cash disbursements is made by scheduling payments required for materials, labour, other operating costs, debt service, and so forth.

Budgeted cash receipts and disbursements are brought together to form a total cash budget. From this summary of estimated cash flow, it is possible to anticipate future cash balances. In some months, receipts may not be large enough to cover disbursements. If this happens, the cash balance will have to be reduced. If the outflow of cash is too great, plans will have to be made to borrow funds. In other months, when receipts are greater than disbursements, loans can be repaid and cash balances can be built up.

It must be remembered that if you have done several projects, the estimation of each cost element is easier, but if the project and tasks are new, cost estimation is more difficult. For any estimate to be correct for a project, it is important to know these critical points:

1. The work elements need to be identified and extracted from verifiable data.
2. Cost elements need to be identified and agreed with either the financial or project management authorities.
3. Unit costs to be used for cost estimating need to be agreed with all relevant authorities before the project commences.
4. The resource requirements for work elements need to be determined in terms of type, quantity and unit cost, and documented in an agreed format.

Before working on the budget, it is important to compile all the estimates into one table, which is basically a summary table of all the figures gathered from different sources. Below is an example:

WBS	**Labour**	**Material**	**Machinery**	**Transport**	**Budget**
1.1					
1.2					

1.3					
1.4					
1.5					
Project Office					
Sub-total					
Profit					
TOTAL					

Source: Burke, R. 2006, *Project Management Planning and Control Techniques,* p88

An example of a **proposed project expenditure or cost budget** is provided here (remember to include an explanation of how you calculated the cost for each budget item). In the example below, the project manager has to justify each amount s/he intends spending and will request more than the budgeted amount to make provision for contingencies:

Budget Item	**Budgeted Cost (R)**	**Amount Requested (R)**
Travel		
1 trip to X @ R0.00	R00.00	R00.00
2 trips to Y @ R0.00	R00.00	R00.00
Publicity:		
poster printing @ R0.00 per thousand	R00.00	R00.00
poster distribution @ R0.00 per hour	R00.00	R00.00
Salaries:		
2 staff members @ R0.00 per month for duration of the project	R00.00	R00.00
Facilities:		
rental on storefront @ R0.00 per month for the duration of the project	R00.00	R00.00
maintenance and operations @ R0.00 per	R00.00	R00.00
Materials:		
Boxes of printed stationery @ R0.00 per box	R00.00	R00.00
Printing @R0.00 per thousand	R00.00	R00.00
Other (specify):	R00.00	R00.00
TOTAL:	R00.00	R00.00

In the following budget (see below), the quantities and cost per unit have been calculated in great detail:

Cost budget for Summer 201X: TBD
Upcoming Purchases: 2 Flight Transmitters, 2 Flight Receivers

Cost Budget as of 15 December 201X			
Item	**quantity**	**unit cost**	**total cost**
		R	**R**
TL-5930-T Lithium Primary Cells	180	13	2340
TA-51 Exciter	6	169	1014
Crystal (145.82 MHz)	6	14	84
A 28 Coil Alignment Tool	1	2.5	2.5
A 2 Capacity Alignment Tool	1	3	3
R100	6	189	1134
Crystal (145.825 MHz)	6	14	84
DVR-1	6	99	594
LNP Preselector	6	39	234
TD-2 Module, wire & tested	6	129	774
		TOTAL:	**6263.5**
TL-5930-T Lithium Primary Cells	180	13	2340
TA-51 Exciter	3	169	507
Crystal (145.82 MHz)	3	14	42
A 28 Coil Alignment Tool	1	2.5	2.5
A 2 Capacity Alignment Tool	1	3	3
R100	3	189	567
Crystal (145.825 MHz)	3	14	42
DVR-1	3	99	297
LNP Preselector	3	39	117
TD-2 Module, wire & tested	3	129	387
		TOTAL:	**4304.5**
TA-51 Exciter	3	169	507
Crystal (145.82 MHz)	3	14	42
R100	3	189	567
Crystal (145.825 MHz)	3	14	42
DVR-1	3	99	297
LNP Pre-selector	3	39	117
TD-2 Module, wire & tested	3	129	387
		TOTAL:	**1959**

Remember, the budget is not an invoice, so when you have determined the figures involved, leave it up to the organisation's executive board to make adjustments for profits. The budget is only an estimate until it is approved, and then finalised.

Develop Quality Parameters

Quality and project management are inter-related because there must be a relationship between the supplier and client with regards to project deliverables. The aim should be to:

- Establish processes and procedures that will focus on efficiency and effectiveness.
- Utilise the art of inspection to ensure quality.

- Focus on continually improving processes as opposed to accepting that products are lacking in quality as a normal practice.
- Establish close relationships with suppliers that involve trust and an attitude of "can do".

The aim of quality in project management should be to strive to deliver higher quality, more reliable products and services, even when the resources may become scarce. Quality should also be the framework utilised to enhance negotiations between the client and the suppliers.

Quality in project management is frequently considered to be "conformance to stated requirements." This necessitates that **requirements are adequately stated in the scope of work in project documents, together with a means of demonstrating compliance with requirements.**

A Project Quality Plan can be defined as a set of activities planned at the beginning of the project that helps achieve quality in the project being executed.

The purpose of the Project Quality Plan is to define these activities / tasks that are intended to deliver products while focusing on achieving the customer's quality expectations. These activities / tasks are defined on the basis of the quality standards set by the organisation delivering the product.

A Project Quality Plan identifies which quality standards are relevant to the project and determines how they can be satisfied. It includes the implementation of Quality Events (such as peer reviews, checklist execution) by using various Quality Materials (such as templates, standards and checklists) available within the organisation.

The holding of the Quality Event is referred to as Quality Control. As an output of the various activities, Quality Metrics or Measurements are captured which assist in continuous improvement of quality thus adding to the inventory of Lessons Learned. Quality Assurance, on the other hand, deals with the preparation of the Quality Plan and formulation of organisation-wide standards.

The following definitions will help us understand the different components of the Project Quality Plan:

Term	Definition
Quality Materials	The artefacts used within an organisation to assist a Project Manager improve quality in the project e.g. Templates, Standards, Checklists. These materials are used in "Quality Events"
Quality Events	How the "Quality Materials" are applied to a project. They are the activities undertaken using "Quality Materials" to validate the quality of the project.
Quality Plan	A plan as to how and when "Quality Events" and "Quality Materials" are applied to a project.
Quality Control	The implementation of the "Quality Events" in the "Quality Plan"
Quality Assurance	QA is an umbrella term. It refers to the processes used within an organisation, to verify that deliverables are of acceptable quality and that they meet the completeness and correctness criteria established. QA does not refer to specific deliverables. • The preparation of a "Quality Plan" for a project is part of QA • The development of standards is part of QA • The holding of a "Quality Event" is part of QA
Quality Metrics	Statistics captured during the various activities undertaken as part of "Quality Assurance". Metrics are captured to: • Identify areas where quality improvements can be made • Measure the effectiveness of quality improvement activities
Continuous Quality Improvement	Use of captured metrics, and lessons learnt to continually improve quality. They are the main reason for capturing statistics around quality.

"Well-Engineered" versus "Correct"	The purpose of quality assurance is to ensure outputs of an organisation are both well engineered and correct. • Well-engineered means the construction is sound and reliable. It does not necessarily mean it is correct. • Correct means the end results are an accurate reflection of the requirements. It does not necessarily mean it is well engineered. Many systems are well engineered but fail to meet the business need. On the other hand, there are also systems that meet the business need, but are unstable and expensive to run. Similarly a document can be well constructed, but the content could be deficient. Alternatively, the information can be there, but it is difficult to interpret.

Quality Materials

The following are examples of **"Quality Materials"** that might be used in a quality plan:

Quality Materials	Description
Standards	"Standards" are instruction documents that detail how a particular aspect of the project must be undertaken. There can be no deviation from "Standards" unless a formal variation process is undertaken, and approval granted.
Guidelines	Unlike "Standards", "Guidelines" are not compulsory. They are intended to guide a project rather than dictate how it must be undertaken. Variations do not require formal approval.
Checklists	"Checklists" are lists that can be used as a prompt when undertaking a particular activity. They tend to be accumulated wisdom from many projects.
Templates	"Templates" are blank documents to be used in particular stages of a project. They will usually contain some examples and instructions.
Procedures	"Procedures" outline the steps that should be undertaken in a particular area of a project such as managing risks, or managing time.
Process	A description of how something works. It is different to a "Procedure" in that a "Procedure" is a list of steps - the what and when. A "Process" contains explanations of why and how.
User Guides	"User Guides" provide the theory, principles and detailed instructions as to how to apply the procedures to the project. They contain such information as definitions, reasons for undertaking the steps in the procedure, and roles and responsibilities. They also have example templates.
Example Documents	These are examples from prior projects that are good indicators of the type of information, and level of detail that is required in the completed document.
Methodology	A methodology is a collection of processes, procedures, templates and tools to guide a team through the project in a manner suitable for the organisation.

Example Quality Plan

A typical quality plan for a simple project may look something like this:

Deliverable	Quality Event	Quality Materials	Purpose
Preliminary Business Case	Expert Review	Template for Business Case Approved Business Case for Project ABC	Ensure the information is accurate and well-constructed prior to submission to Steering Committee
Final Business Case	Formal Inspection by Sponsor	Template for Business Case	Ensure the Business Case is in a fit state to be submitted to the Finance Review Committee
Project Definition	Walk-through of early draft	Template for Project Definition	Review early draft for completeness
	Peer Review of final draft		Review final draft for completeness and construction
Database Design	Expert Review of physical model	Standard for Database Design	Compliance with standard General accuracy
Etc.			

For quality assurance to be effective, two things must be ensured:

- The Project Quality plan must be sufficient to achieve the required quality standards expected of the organisation. In this regard the plan must not only be **specific and detailed**, listing all **quality requirements and standards**, but also include all the **steps** taken to ensure that those requirements and standards are met.
- Quality assurance (i.e. final product testing) should be **independent** of the project itself (as well as the project manager). This comes down from the project management guidelines for effective quality assurance, and builds on a broad-based, organisational approach to standards-based product testing.

Communicate the Measurement Tools

Once the measurement tools have been determined, they must be communicated to team members to promote a common understanding of the requirements. Ideally, of course, team members have been involved in drawing up the parameters from the outset and have thus committed to them already.

IMPLEMENT, MONITOR, MEASURE AND EVALUATE AN OPERATIONAL PLAN

The implementation of the operational plan goes hand in hand with measurement, monitoring and evaluation, as implementation requires management to regularly monitor achievement and exert control to reduce any variance from the plan.

This control by managers will involve:

- Investigating on a regular basis what has been achieved, and what has not
- Implementing corrective action where tasks are not achieved, or achieved on time
- Checking that resources will be available when needed
- Supervising, supporting and motivating the people of the organisation to ensure that tasks are undertaken
- Adjusting the operational plan if there is a need
- Reporting problems to superiors, e.g. directors, committee personnel, the Board Members of the organisation.

Monitoring and evaluation enable you to assess the quality and impact of work done, against action and strategic plans.

In this Module we will see that monitoring and evaluation are invaluable internal management tools: If you don't assess how well you are doing against targets and indicators, you may go on using resources to no useful end, without changing the situation you have identified as a problem at all. Monitoring and evaluation enable you to make that assessment.

Implement an operational plan

The greatest strategic plans and business action plans are not likely to be successful if they are not communicated to your employees. The communication plan should have an equal weighting to the actual strategy!

Communicate the operational plan

Communication is a vital element of a well-managed project. There are two main groups of people with whom the project manager needs to ensure clear and effective communication: the stakeholders and the project team. Every project will be sponsored by a part of the business with a stake in the outcome. They will likely be represented on the project board, which sets the objectives for the project and monitors progress over time. The project board will include others with a stake in the outcome, for example, those who will need to implement the project outcomes and those who will need to supply resources once the project outcomes have been met. All of these stakeholders will need regular updates, and it is imperative that communication with them is planned to be regular, clear and complete.

Begin by building your communication plan as a strategy.

- Define your strategic communication goal and objectives. Based on stakeholder analysis, the project manager and the project team can determine the communications that are needed. There is no advantage to supplying stakeholders with information that isn't needed or desired, and the time spent creating and delivering such information is a waste of resources.
- Define a feedback loop to measure results and make improvements.

A communications management plan can organise and document the process, types, and expectations of communications. It provides the following:

- The stakeholder communications requirements in order to communicate the appropriate information as demanded by the stakeholders.
- Information on what is to be communicated. This plan includes the expected format, content, and detail—thinks project reports versus quick e-mail updates.

- Details on how needed information flows through the project to the correct individuals. The communication structure documents where the information will originate, to whom the information will be sent, and in what modality the information is acceptable.
- Appropriate methods for communicating include e-mails, memos, reports, and even press releases.
- Schedules of when the various types of communication should occur. Some communications, such as status meetings, should happen on a regular schedule, while other communications may be prompted by conditions within the project.
- Escalation processes and timeframes for moving issues upwards in the organisation when they can't be solved at lower levels.
- Methods to retrieve information as needed.
- Instructions on how the communications management plan can be updated as the project progresses.
- A project glossary.

The communications plan may also include information and guidelines for project status meetings, team meetings, electronic meetings and even e-mail. Setting expectations for communications and meetings early in the project establishes guidelines for the project team and stakeholders.

There may be times when knowing whom to contact and with what information could be a security risk. Plan for this possible scenario when crafting your communication plan.

Understanding the communication channels

The project manager may need to be in touch with people in the same location or various other locations in which project work is being performed. It is the project manager's duty to determine how to do this information sharing; he or she should categorise the means of communication:

- In person - The best communication is still face-to-face. The project manager can determine the person's body language and get their tone and nuances. Very importantly, this often tells more about what is going on in the project.
- Telephone - The tone of the voice can be heard. Note that you should always smile into the telephone, which gives a feeling of upbeat and confidence in the project.
- Videoconferencing - This is very useful in saving travel costs.
- E-mail - The most popular of these is obviously e-mail next to the telephone. It is amazing that people are taught how to use an e-mail system, but are not provided with any guidelines on effective use. Here are some specific guidelines that would help to increase the efficiency of communication via e-mail:
  - Avoid using email for any sensitive topics;
  - Assume that everyone in the company will read your emails;
  - Think about what medium to use for communications before you resort to e-mail;
  - Make sure that the title of the email is either very specific or very general; and
  - Avoid using email to discuss an issue in any depth. E-mail was never intended to be used as groupware.

Remember:

- Explore and recognise the limitations of various channels
- Match the channel to your desired level of interaction
- Select multiple channels where necessary.

Packaging the communication plan correctly

- Use language at the level of the recipient
- Reinforce corporate culture through the communication medium.

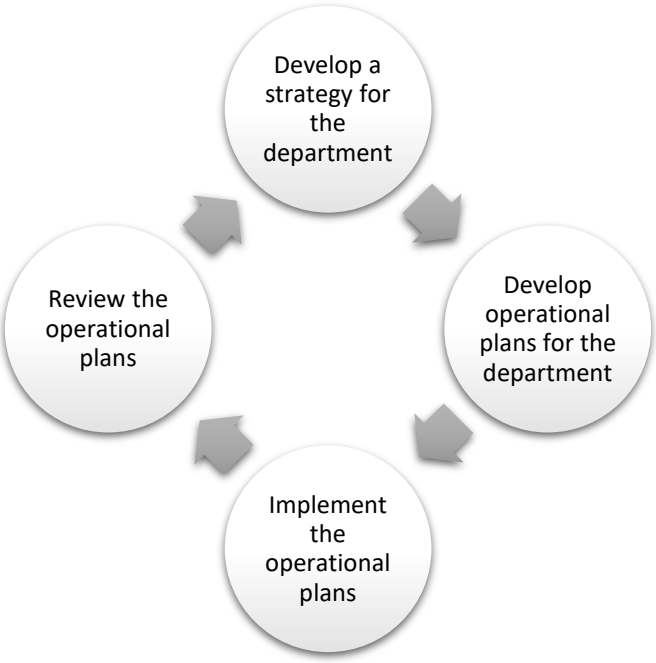
Consider your own communication strategy for your department. Refer to the example below:

Example of a communication plan template

Stakeholder Group	Key Message Objective	Communication Medium	Frequency	Responsible

Meet the specified goals, objectives and performance standards

Once your strategy and operational plan have been communicated, you are in a position to implement the operational plan to meet the specified goals, objectives and performance standards.



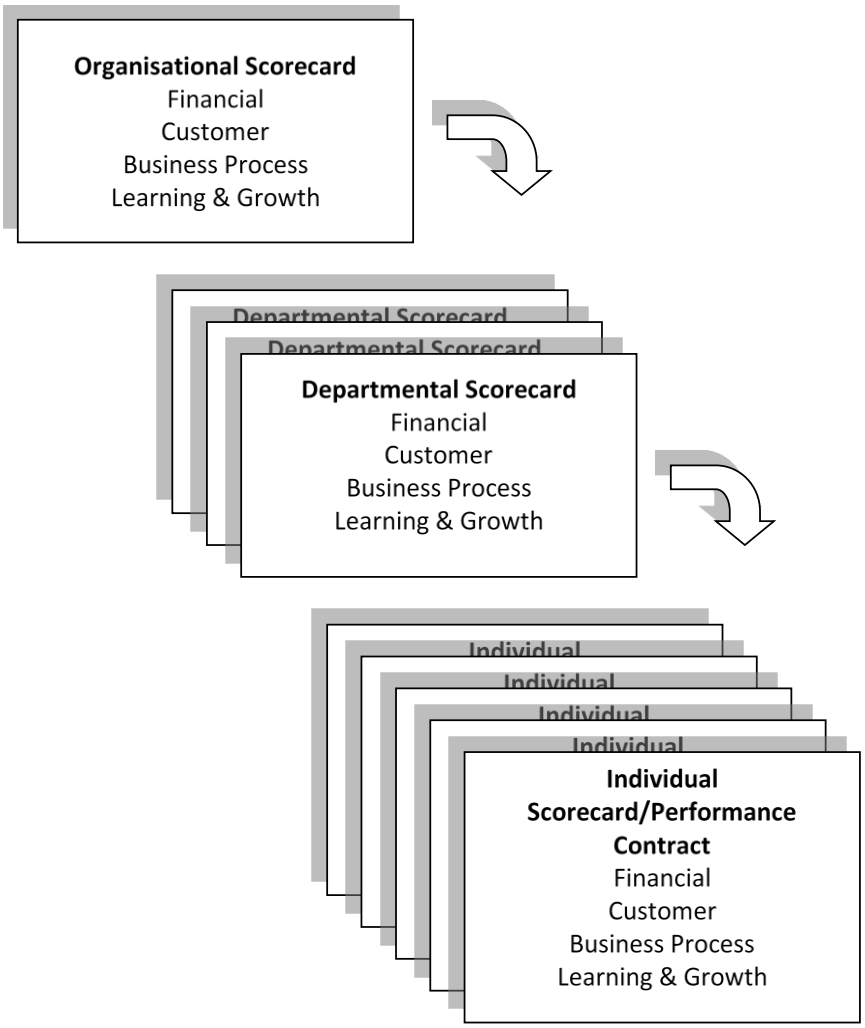
Approaches to and Tools for Implementing Actions

You can align individual performance to the departmental action plan through your existing performance management system, or through the use of a performance contract, or by simply preparing individual action plans. We will look at the example of the balanced scorecard and a performance contract.

The objectives set for your Department as a whole will be achieved through the focused activities of individuals. Therefore, the broad objectives for the business unit must be translated into specific measurable

objectives for your department. These objectives in turn are translated into measurable objectives for each job function.

The diagram that follows illustrates how objectives cascade down through the organisation:



From this we can clearly see how the use of a balanced scorecard focuses the efforts of everyone in the organisation on the same overall objectives. The balanced scorecard eliminates the risk that the efforts of one person might be inadvertently countered by someone else, who is working towards a valid, but very different objective.

The individual scorecard is usually more operationally-based than those of the department. For example, your organisation may have a strategic objective of minimising expenditure. This strategic objective translates into tactical objectives for departments. The tactical objectives in turn translate into day-to-day operational objectives for each individual.

For example, you could be given the objective of "decrease expenditure", and all departments adopt the objective of "reducing costs". In terms of individual objectives, an administrator could have "decreasing stationery costs" as "reducing costs" objectives.

In other words, at each level of the scorecard we say, "This is WHAT we want to do", and then produce the objectives for the next level down by asking, "HOW will we do it?"

Use available resources optimally

During the implementation of your action plan you should work towards making optimal use of your resources. This will ensure you are working both effectively and efficiently.

Preparing a resource plan

A resource plan can be prepared to manage your resources to ensure they are doing the right things right, and you are getting the best out of them. Start by preparing a resource inventory that details all the resources you will require to implement your action plan. Include staff, equipment and physical resources.

Then prepare a list of existing resources, including specifications, quantity and location. Compare the lists and highlight any deficiencies then explore your options for accessing these resources.

- Can equipment and physical resources be hired, borrowed or rented as opposed to being purchased?
- Can you use temporary staff or contract workers?

Your resource plan should be monitored and updated regularly according to current and future needs.

Example of a template for a resource plan

Objective	Resource Required	Do we have it?	Do we need it?	Cost implications	Option

Labour plan

You can also make use of a labour plan to specifically manage your people resources. Measure the volume of work that each person can manage and allocate responsibilities accordingly. Be wary of performance punishment. In other words, do not overload your good performers because you know they will get the job done, rather delegate responsibility across the team.

Example of a template for a labour plan

Projected resources	January	February	March	April	May	June	Total
Tasks							
X							
X							
X							
X							

Actual resources available	January	February	March	April	May	June	Total
X							
X							
X							
X							
X							
Variance	- or +						

If there is a negative variance (-) you will require people, if there is a positive variance (+), you will have a surplus of resources that can be better allocated.

Encourage the use of Control Measures

Selecting Measures

The objectives set for the department as a whole will be achieved through the focused activities of individuals. Therefore, the broad objectives for the organisation must be translated into specific measurable objectives for your department. These objectives in turn are translated into measurable objectives for each job function.

Measures

Measures provide information that assists us in measuring the accomplishment of results. Some business objectives may have one measure while others may need two or three to truly reflect performance.

Measures should be defined in a manner that makes them measurable. They should include quality, quantity, timeliness and cost measures. Very importantly, measure what really matters and keep it simple. People behaviour is determined by what is measured, so make sure you are measuring the right things!

- Quantity measures how much work should be done in a specific amount of time
- Quality describes how well the work should be accomplished
- Timeliness looks at "by when?" "how soon?" or within what period
- Cost looks at money saved, waste reduced, within or under budget.

Formulating Targets

Measures and targets often combine into one. A target should:

- Have an appropriate time frame
- Be challenging
- Be understood by everybody in the organisation
- Be communicated to everyone in the organisation.

An example of a template for a performance contract

Departmental Objective	Individual Objective	Measures	Targets
		Quantity Quality Timeliness Cost	Timeframe Must be demanding

Your performance contract should be set up in conjunction with the individual once the departmental mission, objectives and action plan have been communicated and understood.

Steps for setting up a Performance Contract[37]

Step 1: Plan

- Look at your business goals for the year ahead. Think about individual performance goals for each employee that will help your business unit reach its goals.
- Create a performance agreement template. Prepare some main points to help remember what you want to cover when you meet with each employee.

Step 2: Discuss

- Meet with each employee to discuss their individual goals – these should be specific, measurable, realistic and relevant to the employee's duties.
- Agree on and record these goals in a performance agreement, along with the support you'll provide to help the employee reach their goals (e.g. training).
- Set a realistic timeframe for the employees to work towards their goals, and a time for you and the employees to meet to review their performance.
- Both you and the employee should keep a copy of the employee's performance agreement.

Step 3: Monitor

- Monitor your employees' performance and support them while they work towards their goals.
- Give regular feedback (both positive and constructive) to the employee, and deal with any performance issues as soon as them come up.
- Follow the 'AID' approach when giving feedback:
    - Action – describe the specific actions you want to give feedback on (ie. the 'what,' 'when' and 'where').
    - Impact – explain the impact of the employee's actions (eg. on their work, co-workers, customers or the business itself).
    - Desired outcome – explain what you would like to see continuing or changing. Where change is required, explore with the employee how they can make this change and how you can support them.
- Think about the impression that your body language gives – face the employee, adopt an open posture, maintain good eye contact and try to be relaxed.

Step 4: Review

- Conduct a review with each employee every 6 or 12 months to assess their performance against their goals and set goals for the new performance cycle.
- Arrange to meet with the employee at a time and in a place where you won't be interrupted, overheard or rushed.
- Make sure both you and each employee have time to prepare for the review. You should both read through the employee's performance agreement and think about how they've performed against their goals.
- Prepare some main points to help remember what you want to cover in the review.
- Ask the employees how they think they've performed against each of their goals.
- Give the employees feedback about how you think they've performed – both what they've done well and what they can do to improve. Your feedback shouldn't come as a surprise to an employee.
- Give the employees a chance to share any feedback or concerns they have as well.
- You may also want to discuss the employee's career goals and future within the business.

[37] Source: www.fairwork.gov.au

- Finally, agree on and record goals for the next performance cycle (these might be the same goals or new ones) in a new performance agreement.

In summary, why do we need an individual performance contract or action plan?

The individual scorecard or action plan allows us to take the business goals, plans and strategies and operationalise them so that they have meaning and relevance to each individual within the business. The business strategy is defined as business objectives and cascaded down to a department level and then an individual level, ensuring that each employee has clearly defined objectives and measures, which define performance.

Implement the plan and evaluate project progress

The process of evaluation comes in two parts: formative and summative.

Formative evaluation occurs along the developmental path, it helps keep the project on track to a successful completion.

Summative evaluation comes after the implementation of the project and provides the data needed for decision makers to recommend how to improve the product or service delivery in future projects.

Formative evaluation can take many forms, from focus groups to surveys, but all forms have the common goal of testing the end products as they are developed. It is a sort of on-the-fly indicator to revise and improve.

While formative evaluation is ongoing throughout the production stage, it should also continue in the implementation stage.

Summative evaluation is used to gather, analyse, and present data about the effectiveness of the product or service. The results of this evaluation can be used to report to sponsors, and to decision makers who will recommend the adoption of, or the continued use of, the product or service.

Evaluation is definitely the project manager's friend in spite of the fact it is a tremendous amount of work.

Methods and techniques for the implementation of Projects

The project implementation phase consists of the following steps:

1. Mobilise the team
2. Implement planning and scheduling
3. Specify technical requirements
4. Allocate work packages
5. Procure goods and services
6. Execute the work
7. Test the product or service
8. Resolve issues
9. Monitor progress
10. Forecast outcomes
11. Report progress.

In order for the project operations to start up smoothly, you would need to ensure that you have set realistic time frames and allocated sufficient and sufficiently skilled and qualified personnel. If this isn't possible, the timeframe will either have to be extended, or you will have to add additional resources (if these resources are available), both forcing additional costs for the project.

Delegation of Authority, Responsibility and Accountability

We may define delegation as an assignment to another person of formal authority and responsibility for carrying out specific activities. Authority and responsibility can be delegated.

Authority, responsibility and accountability reflect the degree to which people are authorised and encouraged to use their initiative in day-to-day activities as well as assigning the limits to their authority:

- Are policies in place that describe business practices, particularly those in relation to risk and compliance?
- Do job descriptions specify roles, responsibilities and accountabilities?
- Do team members understand their job function and how it contributes to the project objectives?
- Do team members know what they are accountable for?

There is an interrelationship between authority, responsibility, and accountability in a task-oriented environment such as a project:

- Authority - power to do something
- Responsibility - making sure that something gets done
- Accountability - answerable for the consequences of doing it.

This raises two questions: Can authority be delegated? Can responsibility and accountability be delegated? There is little doubt concerning the delegation of authority – it can and should be delegated. This forms the basis of the scalar principle, the idea that a clear line of authority runs step by step from the highest to the lowest level of the organisation. This clear line of authority, then, is the basis for all delegation.

Responsibility for the successful completion of a task can be delegated, but accountability is not like an object that can be passed from individual to individual. For example, a loan manager for a bank decided to delegate to his loan officers the responsibility for ensuring that all loans are processed within the 10-day limit stated by policy. The loan manager can certainly make the loan officers responsible for successfully completing the task, but the loan manager is no less accountable for the outcome to his or her boss. In short, we cannot delegate accountability, because accountability always remains with the delegating manager.

Obstacles to effective delegation include:

- Personal preferences
- Attitudes towards direct reports
- Personal insecurities.

Your ability to delegate effectively is critical to your success. As a leader, you should keep the following in mind:

- Delegation occurs along a continuum
- Delegation involves judgement calls about trust
- Trust involves assessing character, competence and influence.

Why you need to delegate

Simply put, your job as a project manager is too big to handle alone. If you are not delegating, something probably isn't getting done. In some instances, your direct reports may be more knowledgeable than you are. By delegating you will be developing direct reports in the process. Developing people is a key leadership responsibility.

The Delegation Continuum

Delegating is not an all-or-nothing proposition. There is a continuum along which you can delegate assignments and responsibility. To facilitate this process, you should ask your direct reports to:

- Gather information
- Determine alternative courses of action
- Perform one part of a task
- Outline a course of action and get your approval before beginning
- Perform an entire assignment and report only results.

In deciding how much to delegate, consider:

- The task
- The direct report and his/her experience level.

Delegation "involves the assignment of a specific task or project by one person to another and the assignee's commitment to complete the task or project".

Delegation transfers responsibility to another person along with the responsibility for adhering to and maintaining established standards.

Delegating benefits:

- **You -** It improves the level of trust and communication between you and your team, and helps to achieve goals that require co-operative group effort.
- **Your Team -** Delegation enables team members to enhance existing skills and develop new ones, as well as enhancing motivation and providing team members with an important sense of achievement.
- **Your Customer -** Delegation saves money and time by ensuring that tasks are assigned to the right person at the right level, and can increase overall productivity and efficiency by making the best use of resources.

Having identified the benefits of delegating, the following are "warning signs" indicating that your delegating abilities may need improvement:

- You regularly work overtime on tasks that "only you can do"
- You are frequently interrupted for guidance requests and work clarification
- Delegated assignments are incomplete and deadlines are missed
- Team members feel they lack the authority to complete assignments and are ill-prepared
- You "second-guess" staff decisions and personally re-do unsatisfactory staff assignments
- You frequently intervene in tasks or projects assigned to one of your staff
- Your staff are not taking responsibility for tasks or projects you have delegated
- Morale is low and staff turnover is on the rise.

To set the right tone and environment, some suggested guidelines for effective delegating are as follows:

- Encourage your staff to be proactive and share with you their special interests and time availability for new projects
- Delegate projects and tasks that spark staff interest and are enjoyable
- Provide possible career opportunities by delegating projects, tasks or functions that involve high visibility with your manager
- Delegate to people you trust

- Delegation is a learning experience; offer training or coaching as needed
- Develop trust in a less skilled staff member by delegating very structured assignments and provide needed support for them so as to develop competence
- Try to delegate an entire project or function to increase motivation and commitment
- Create clear guidelines for follow-up and feedback and keep open lines of communication
- Have clearly defined goals, expected outcomes and success measures.

Delegation Process:

As we have seen, the first step in delegating is to **identify what should and should not be delegated**:

- The manager should delegate any task that a subordinate performs better.
- Tasks least critical to the performance of the manager's job can be delegated.
- Any task that provides valuable experience for subordinates should be delegated.
- The manager can delegate the tasks that he or she dislikes the most.
- The manager should not delegate any task that would violate a confidence.

Preparing includes:

- Establishing the objectives of the delegation
- Specifying the task that needs to be accomplished
- Deciding who should accomplish it.

Planning consists of:

- Meeting with the chosen subordinate to describe the task and to ask the subordinate to devise a plan of action. As Andrew Carnegie once said, "The secret of success is not in doing your own work but in recognising the right man to do it."
- Trust between the manager and employee - that both will fulfil the commitment - is most important.

Discussing includes:

- Reviewing the objectives of the task
- Reviewing the subordinate's plan of action
- Discussing any potential obstacles, and ways to avoid or deal with these obstacles.

The manager should clarify and solicit feedback as to the employee's understanding.

Clarifications needed for delegation include:

- The desired results (“what”, not “how”)
- Guidelines
- Resources available
- Consequences (good and bad).

Delegation is similar to **contracting** between the manager and employee regarding how and when the work will be completed. The standards and time frames are discussed and agreed upon. The employee should know exactly what is expected and how the task will be evaluated.

Auditing is monitoring the progress of the delegation and making adjustments in response to unforeseen problems.

Appreciating is accepting the completed task and acknowledging the subordinate's efforts.

Steps in Delegation

I Introduce the task

D Demonstrate clearly what needs to be done

E Ensure understanding

A Allocate authority, information & resources

L Let go

S Support and monitor

Monitor and evaluate Project Implementation

Monitor performance

The process for monitoring performance is basically a system for managing resources. The performance contract and development plan assist in managing people resources, and the action plan can assist in securing and managing other resources such as equipment.

Labour review

Conduct regular reviews of your manpower plan to ensure that resources are managed effectively and that they are neither under nor over allocated on tasks. Revisit your labour plan on a monthly or quarterly basis or as a new project commences.

Service excellence review

One of the best mechanisms for determining service excellence is to conduct a customer satisfaction survey. This can be conducted with both internal and external customers. The best feedback to obtain on your performance is based on the perception of your customers.

A basic framework for obtaining feedback from customers is the stop, start, continue approach. Ask the customer what you should start doing that you did not do, what you should stop doing in future, and what you should continue to do that you did well.

Monitor what is working and what isn't

Regular project team meetings provide the opportunity to voice any new ideas that may emerge during the life cycle of the project. New ideas should be recorded in the meetings and the tips and techniques for creative thinking can be used to further develop the ideas and perhaps, to initiate new projects.

Using review findings to increase productivity and service excellence

The data that is gathered from the various reviews that are conducted will assist you in determining what went well and what needs to change. As you evaluate your findings, consider what change is required and how you will effect the change. All of this information can be documented in your progress and lessons learned reports. Making it happen, though, is the most important step. Updating performance contracts, development plans, action plans, labour plans and procuring additional resources are all part of the continuous cycle of improvement.

Monitor Project Results

Performance Reporting

Performance reporting is the process of collecting all baseline data and distributing performance information to stakeholders. An aspect of this report is to clarify how resources are being used to achieve

the objectives of the project. This should be done in conjunction with providing information on scope, schedule, cost, risk, procurement, and quality.

The inputs to performance reporting are:

- **Work performance information** - Work performance information details the work that is being executed, recently completed, and next steps. This information is gathered from the Direct and Manage Project execution process.
- **Performance measurements** – Performance measurements, such as Actual Cost, Cost Variance and Schedule Variance assist in reporting unbiased and quantifiable information – an excellent mechanism for accountability.
- **Forecasted completion** - Forecasted completion is the predictor of completion and the expense to get to that state, as well as potential project roadblocks.
- **Quality control measurements** - Quality control measurements result from activities comparing the results to the quality standards and processes. This is the true check to assure a quality product or service has been provided
- **Project Management Plan** - The Project Management Plan contains the Performance measurement baseline which contains the approved measures for management control.
- **Approved change requests** - Approved change requests are requested changes that have been approved and are ready to be implemented. They are used to determine project changes that have been formally approved and must be communicated to stakeholders through integrated change control.
- **Deliverables** - Deliverables comprise the quantifiable actions, results, products, or capabilities that will be produced in order to complete the project.

The inputs to performance reporting are absolutely necessary to providing an accurate quantifiable performance report.

The tools and techniques for performance reporting are:

- **Information presentation tools** - Information presentation tools enable the project team members to present project performance data. Most organisations have software packages which can be used to paint a picture with a graph or a spreadsheet analysis.
- **Performance information gathering and compilation** - The performance information gathering and compilation technique is the organising of all pertinent project information.
- **Status review meetings** - Status review meetings are regularly scheduled meetings to exchange information about a project. Normally there is a team level status review meeting and then an executive review meeting.
- **Time reporting systems** - Time reporting systems record and provide information about the time spent for activities on a project.
- **Cost reporting systems** - Cost reporting systems record and provide information about the costs expended for the project.

Using these tools and techniques helps the project manager implement an efficient reporting process. Imagine if the only way to obtain time spent on a project was to review every team member's time sheet and then sum up the parts!

The Performance Reporting process provides pertinent and verifiable documentation of project performance. The outputs of the Performance Reporting process are:

- **Performance reports** - Performance reports are presentations and documents that summarise work performance information in the form of bar charts, histograms, and tables.
- **Forecasts** - Forecasts are predictions of what will occur based on the project performance to date. Forecasts are updated and reissued as new work performance information is available during project

execution. A project manager might want to conduct a trend analysis of cost and schedule variance to see how on budget and on time the project is likely to be.

- **Requested changes** - Requested changes are project changes affecting scope that are submitted to the Integrated Change Control process. These must be reflected in performance reporting to stakeholders.
- **Recommended corrective actions** - Recommended corrective actions are documented suggestions affecting project execution designed to ensure that expected future project performance will conform to the Project Management Plan. Once a project manager is made aware of a schedule or cost variance, s/he needs to take action to get the project back in line with original objectives. To do so, recommended corrective actions may be offered.
- **Organisational process assets updates** - Organisational process assets updates are changes or updates to formal and informal policies, plans, guidelines, organisational best practices, and lessons learned from project experience.

Project progress reports

Preparation, planning and professional evaluation of the threats to a project ought to be a frequent and regular activity for every project team.

Risk management is not a 'once and for all' exercise to be performed during the initiation phase - it is an essential part of everyday activities.

With reasonable and realistic plans, plus regular, weekly (or even daily) review of the threats to success and implementation of effective counter-measures, most projects will reach their targets safely.

One simple and efficient approach that can be used is as follows:

- **Weekly**

- Each Team Leader produces a one-page 'SOFT' report (reviewing their team's **successes, opportunities, failures and threats**).
- The Project Manager holds a **checkpoint meeting** with all the Team Leaders, assessing the project's **RAG status** (Red/Amber/Green) and ensuring counter-measures are assigned for those threats that can be handled.
- Any issues beyond the project team's level of authority are identified. If necessary, an **Exception Report** is produced and escalated to the Project Board.

- **Bi-weekly or monthly**

- The Project Manager produces a **Highlight Report** and discusses status and any remaining threats with the Project Board.
- The executive sponsor of the project, aided by the senior user and senior supplier management on the board, help clear obstructions and provide the authority to counter any remaining threats.

This approach is certainly not rocket science - but it is efficient and effective at helping a project survive.

SOFT report

"Problem-solving" is not "planning"

"Planning" is not the same as "problem-solving"

Effective planning cannot be done without addressing the problems that are critical

Not all problems deserve attention. Some just go away.[38]

38 Adapted from: www.succinctsolutions.co.uk

"S-O-F-T" is an acronym which represents "Strengths," "Opportunities," "Failures"/ "Flaws" and "Threats." To undertake an S-O-F-T analysis, ideally, the first step is to make a long **list of every factor that defines the project's current situation**.

The next move is to sort this long list into legitimate **"planning issues" (List A)** and true **"problems" (List B)**. Take List B and determine which of the "problems" are likely "to just go away."

Put the issues that are likely "just to go away" off to the side and focus on List A (true "planning" issues) *plus* the balance of List B (problems that are not likely just to go away). Then assign the issues to the specific categories of the "S-O-F-T analysis" – which ones are "Strengths," which ones are "Opportunities," which ones are "Flaws," and which ones are "Threats?"

Note that a project's "Strengths" and its "Flaws" (its "weaknesses") are obviously **internal** considerations. Note that a project's "Opportunities" and any "Threats" in the operating environment are clearly **external** considerations.

Equally obvious is the fact that "Strengths" and "Opportunities" are both **positive** considerations. "Flaws" and "Threats" are both **negative** considerations. To express these relationships, it can be helpful to think of these factors in a 2 x 2 matrix (see below).

It is therefore clear that the project team should attempt to:

- Build on the Strengths
- Maximise the response to the Opportunities
- Reverse (or disguise) the Flaws
- Overcome the Threats.

Example list of factors that define the project's current situation:

- The capability and experience of the project team
- The strong commitment from, and depth of knowledge within, the project team
- Regular review sessions
- The funding and time-line were adequate and supported the project in meeting its goals
- Product quality
- Product superiority
- Price advantage to end user
- Effective Maintenance
- Valid research model
- Timely Procurement/Recruitment
- Relatively small number of labourers
- Large number of contract workers
- Unreliable suppliers
- Inadequate sampling methods
- Technological incompatibility
- Obsolete facilities
- Lack of managerial depth and talent
- Missing key skills

- Inappropriate Technical/Equipment Specifications
- Insufficient Training/Knowledge Transfer
- Inadequate Monitoring and Supervision
- Inadequate coordination at Project Level
- Price increases.

Example A and B lists

A- planning issues	**B- problems**
The capability and experience of the project team The strong commitment from, and depth of knowledge within, the project team Regular review sessions The funding and time-line were adequate and supported the project in meeting its goals Product quality Product superiority Price advantage to end user Effective Maintenance Valid research model Timely Procurement/Recruitment Relatively small number of labourers Large number of contract workers Inadequate sampling methods Inappropriate Equipment Specifications Insufficient Training/Knowledge Transfer Inadequate Monitoring and Supervision Inadequate Coordination at Project Level	Technological incompatibility Obsolete facilities Lack of managerial depth and talent Missing key skills Unreliable suppliers Price increases

Example SOFT analysis:

Strengths • The capability and experience of the project team • The strong commitment from, and depth of knowledge within, the project team • Regular review sessions • The funding and time-line were adequate and supported the project in meeting its goals • Effective Maintenance • Valid research model • Timely Procurement/Recruitment	**Flaws/Failures** • Technological incompatibility • Obsolete facilities
Opportunities • Product quality • Product superiority • Price advantage to end user	**Threats** • Unreliable suppliers • Price increases • Lack of managerial depth and talent • Missing key skills

RAG status

Project monitoring depends heavily on accurate RAG status. Red, amber, green (RAG) indicators are often used to portray the status of a project. The criteria can vary from project to project- an individual project may choose to apply its own framework.

	If the status is in the green in all dimensions of schedule, resources, costs, requirements, etc., then all is well and going according to plan. However, a change of status should result in distinct action and a change in behaviour.
	If the status has changed to amber (over-schedule or budget by pre-set %, but still within accepted tolerances) then corrective actions should be initiated. Put a moratorium on any new Requests For Change, re-prioritise requirements, review the critical path and re-assign resources as necessary to return the project to the planned route.
	If the crisis has continued to deepen, deviating from the plans by certain % and deserving a red status flag, then more drastic action is necessary. Take additional action immediately (it is likely the project has been at status amber for some time). For example: get the team to work early; hold a brief stand-up progress meeting every day at 08:00; cancel leave; call in expert support; re-plan; re-negotiate; report to the Project Board daily. Gain Project Board approval for action or change, but don't expect the problems to just go away! "Unlike traffic controls, simply waiting rarely results in a change to the lights".[39]

An inappropriate RAG status can lead to issue avoidance and project failure. RAG status must not be used to hide problems, but used as a way of seeking support and guidance.

Project Manager Status Checklist

General Project status questions	Response to status question	Action to be taken	Person responsible for taking the Action	Target Date for completion of Action
1. (Project Manager) When did you last speak to main sponsor for project? Are they happy with progress and project in general?				
2. Are you confident about all elements of forthcoming activities?				
3. Do you need help with techniques / tools / approaches / resourcing?				

[39] Grant Rule, one of the founders and a director of Software Measurement Services, retrieved from: http://measuresw.com/library/news/08p4rag.html

4. Have you allocated your time (calendar or other method)?				
5. Any internal issues affecting the project?				
6. Any 'problem meetings' or presentations?				

Identify and analyse deviations from the Project Plan

Baseline controls

Most project environments are so volatile that the project manager has to work hard to control the project. S/he needs to manage the scope, cost, and schedule in such a way that s/he understands and can generally **quantify anything that changes** as the project progresses. The primary way to do this is by various forms of **"baseline controls."**

For a project to be under control, it needs to be organised as a closed system (a system whose behaviour is entirely explainable from within, a system without input). This is done by establishing baselines for scope, cost and schedule. Once the project has been contained in these three dimensions, it can be measured, monitored and controlled. **If a project does not have such baseline management, it cannot be managed and measured as a closed system, and must be therefore considered to be out of control.**[40]

No meaningful performance measurements can be made where the scope, cost, and schedule are not defined and under some form of change control discipline.

The project manager needs to be able to measure the work that goes into a project in **rands and work hours** and the productivity that comes out of the project, in **percentage completions and tasks accomplished**. Without a stable baseline and measurement of input and output, the project cannot be measurable and controlled.

Considering the project effort to be a process, the plans, specifications, resources, and methods are the **inputs**. The process **outputs** should be continually monitored and compared to the plan. Adjustments in the process should be made to conform the project output to the desired output. **Variance** between project results and the plan should be assessed and reported periodically.

If it becomes apparent that the project cannot be managed to its baseline, radical changes may be required. Changes to project scope or the realisation that the project plan is seriously flawed can make the baseline of questionable value for project control.

In such a case, the project may have to be replanned and re-baselined. When a new baseline is established, the same process of monitoring output and controlling the process must be continued.

Establishing the baseline

Establishing the baseline is the formal **end of the planning phase** and the **beginning of project execution and control**. Controlling the project baseline is absolutely essential to project success. Other than misunderstood requirements, bad cost and schedule estimates and technical difficulties, the things that will most likely imperil a project are the changes.

It is hard to evaluate what has changed if you don't know where you were to start with.

[40] James R. Chapman, quoted in http://www.hyperthot.com/pm_exec.htm

Knowing where you started, and documenting it, establishes your baseline. This baseline is your budget, schedule and project scope. A project without a stable planning baseline is flying blind.

Project baseline definition begins with understanding the user or customer requirements. Understanding requirements involves making judgments about what the organisation, technologies, and markets will be like in the time-frame after project completion. Sometimes a requirements analysis will have to penetrate beyond a mere synthesis of what users think they need. The project requirement may be part of a larger need to improve vital business processes.

After the requirements analysis has resulted in **definition of the project's technical scope**, the **cost and schedule estimates** can be refined.

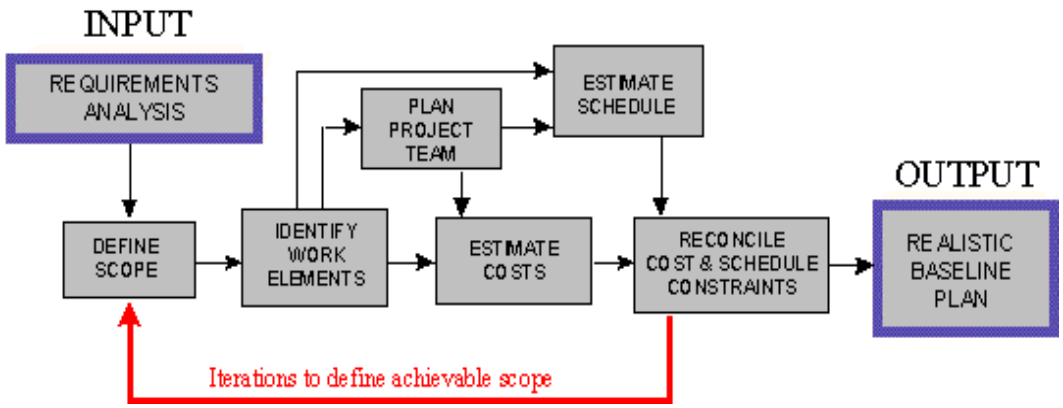
Project costs and schedules can be estimated with no greater certainty than that inherent in the definition of technical scope. Cost and schedule estimates will require assumptions about labour categories, availabilities, and rates - knowing who will do the work - so assumptions and commitments about organisational involvements are needed. When cost, schedule, and requirements definition are acceptable to the organisation, **a project planning baseline must be established.**

Very often, establishing the project baseline will be an iterative process involving a number of successive approximations before a baseline is established.

The first attempt may result in a project that is too costly and will take too long. This can happen if the requirements analysis is done well. If the requirements analysis is done incompletely, the project plan may look affordable and achievable, but further emerging requirements may drive the project over budget and prolong the schedule.

A rigorous requirements analysis and a realistic cost and schedule estimate are necessary to establish a project baseline plan that provides a practical map for project success.

Diagram: Planning and Establishing the Project Baseline



You will never be able to stop changes on a project, but if you don't manage them methodically, your project will go out of control. Establishing and maintaining control of the schedule, cost, and scope baselines is a continual process.

Implement corrective actions

Research conducted by the Eli Broad Graduate School of Management at Michigan State University found that the factors that critically impact team performance include:

- The availability of certain organisational resources
- The participation and involvement of suppliers when required
- Higher levels of internal and external decision-making authority
- Effective team leadership, including motivation

- Greater effort put forth on team assignments.

Using the insights gained from this research, we can conclude that when your team seems to be flagging, you may have to check the following:

The availability of certain resources: do they have the equipment and tools required? Have you assigned enough members to a particular task? Can you redeploy members to ensure a more equitable distribution?
The participation and involvement of suppliers when required: are resources delivered on time? Do suppliers deliver the quantity and quality expected?
Higher levels of internal and external decision-making authority: are team members ham-strung by red tape and lack of decision-making authority? Does it take an inordinately long time for decisions to be made?
Effective team leadership, including motivation- is the leadership seen to be involved, caring? Does the leadership make an effort to motivate and incentivise team members, especially when the going gets tough?.
Greater effort put forth on team assignments- is everyone seen to be pulling his/her weight? Are assignments fair and balanced? Is there team unity and a singular purpose?.

Evaluate results against the Scope and Objectives of the Project

Determining Effectiveness

The overall assessment of effectiveness refers to doing the right thing, in the right way. An innovative project or procedure will have been put in place to address a problem or an opportunity. This addresses the purpose or the need. Alignment to that purpose or need should be monitored and measured accordingly. This is why it is so important to clearly define the purpose and objectives of a project beforehand. The achievement of the milestones in the project plan should result in addressing the purpose or need.

Measuring Effectiveness

Both the effectiveness of the project achieving the purpose and the achievement of the project deliverables should be evaluated. There are short term, medium term and long term measures one can use to measure effectiveness:

Short term measures	Completion of project tasks
Medium term measures	Completion of deliverables
Long term measures	Achievement of the end result Achievement of overall objectives Customer satisfaction

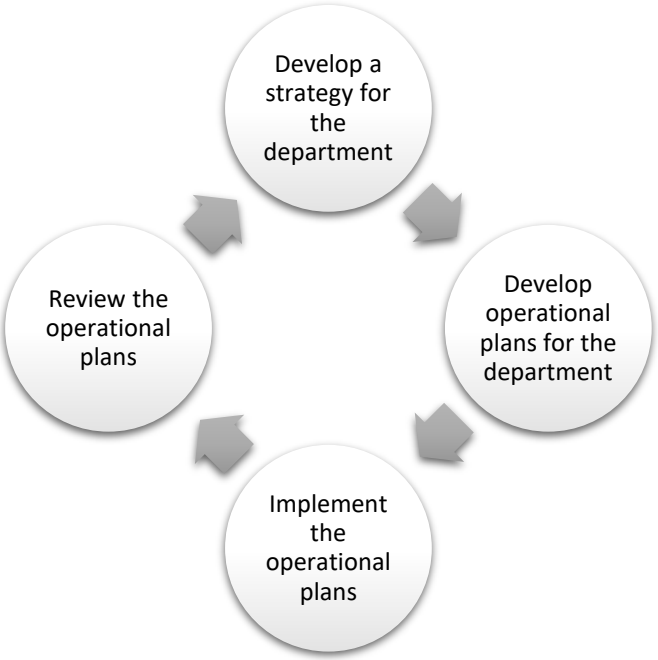
The Importance of Project Reporting

Team meetings, project progress meetings and reporting provide the conduit for measuring the effectiveness of a project. The project should be evaluated from an internal and an external perspective. 1) Does the project meet the business objectives? 2) Does the project meet the customer's expectations?

Business needs may change as the economic or socio-political climate changes, or as business sectors adopt new innovations. Customer expectations may change accordingly. It is therefore important to constantly monitor trends and changes in your sector to ensure alignment of the project to business and customer needs.

MONITOR, MEASURE AND EVALUATE THE ACHIEVEMENT OF GOALS AND OBJECTIVES

Operational plans need to be monitored and reviewed on a regular basis to ensure that objectives are achieved. A department should be as agile as a flotilla of yachts, staying on track, but changing direction as the strategy of the organisation changes.



Systems for Monitoring and Evaluating the Implementation of Operational Plans

We have to bear in mind the adage: **"You get what you measure"**. Therefore, it is extremely important to conduct adequate planning to define appropriate goals, metrics, targets, schedules, data collection processes, and analysis procedures.

When developing organisational performance metrics, one needs to ensure that these instruments have the following features:

- They must be able to forecast future trends inside and outside the organisation
- Objective and unbiased
- Normative - so they can be benchmarked against other organisations
- Statistically reliable, with a small margin of error
- Unobtrusive; must not disrupt work or trust
- Inexpensive to collect - small sample sizes should be adequate
- Balanced
- Appropriate - measurements of the right things
- Quantifiable - for ease of aggregation, calculation and comparison
- Efficient - can draw many conclusions out of data set
- Comprehensive
- Discriminating - small changes are meaningful.

Monitor the performance of the unit

First determine how often your departmental action plan will be reviewed. This will usually be integrated into your existing performance management system. If you do not have a system in place, agree on a regular date for review with stakeholders in the business (management and staff). The achievement of your departmental action plan is directly linked to the achievements made by teams and individuals within your department. Therefore, the measurement of individual performance may need to be completed before reviewing the achievements against your action plan.

Your action plan will have housed information on what should be achieved, how, by whom and by when as well as the associated performance measures. Your reviews should monitor what progress has been made towards this. Milestones that have been achieved should be documented for reporting purposes, and plans should be put in place to address objectives, tasks and performance measures that have not been achieved.

The manager of the department is ultimately accountable for the achievement of the departmental objectives and the direct reports and staff are responsible for completing the tasks. Therefore, as a manager of a department, a performance review can be a dreaded management practice. So how do you prepare for an action plan review?

- Know your review system
- Communicate the review system to your department and key stakeholders
- Identify who you will report progress to (within your department and within the business)
- Keep track of your department's progress
- Focus on out of the ordinary contributions
- Make compensation goals known
- Be prepared.

Results from the individual performance reviews should be communicated by your line managers in the same manner with you.

Let's look at an example. Let's say a financial services company that provides short- term lending solutions has a strategic goal of: Sales growth of 15% for the next financial year.

Your department is the sales department and your departmental objective is:

Sales growth of 15% for the next financial year

The individual efforts of your sales staff could equate to desired sales growth. If upon review, however it is noted that in the first quarter there has only been a growth of 2%, warning bells should ring and steps should be taken immediately to establish the cause. Do not make rash assumptions. Reasons attained through proper analysis could reveal a range of reasons from poor credit vetting processes, to incompetent sales staff, to red tape, to lack of willingness and motivation, to poor processes, or even to rewarding poor performance. It could also reveal that the market is not interested and that the objective is unrealistic. It is therefore imperative that action plans are not only monitored, but the reasons for poor performance are explored.

Communicate results to stakeholders throughout the process

Reporting on findings

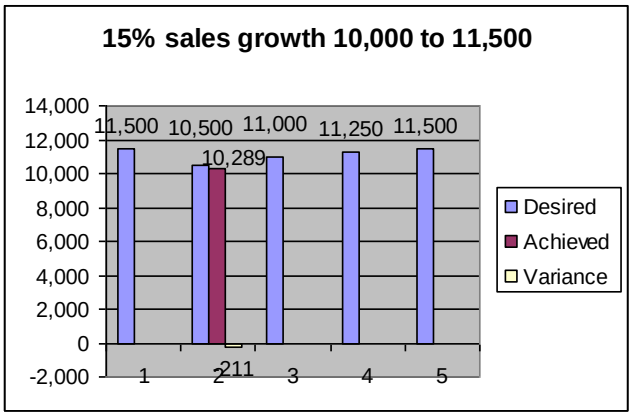
Communicating your findings is a proven way to keep people involved and informed. Include this in your communication strategy. Define who your target audiences are, what their reporting needs are and select the best medium to convey your departmental results.

In selecting your reporting format, you want to convey desired versus actual targets achieved. If there is a variance, you should support this with a contingency.

For example:

Objective	15% sales growth from 10,000 to 11,500 customers	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Desired	11,500	10,500	11,000	11,250	11,500
Achieved		10,289			
Variance		-211			

Visual stimulation is a great way to report, so use graphs where possible.



Make amendments to the plan if necessary to ensure efficiency and effectiveness of the department

In the previous example there is a shortfall of 211 sales for the 1st quarter. You would have already established that the reason for the shortfall is due to poor credit vetting processes. Your contingency would therefore be to train sales staff on how to ensure credit worthiness, refine the process and implement consequences for non-conformance. You will also need to raise you targets for the remaining quarters to make up for the shortfall.

Your action plan needs to be amended on an ongoing basis to support the achievement of your departmental goals and the strategic objectives.

Conduct Performance Reviews of Team Members

Monitor performance in terms of performance agreements

A performance review is the process of assessing current performance by an individual by rating the level of achievement of **actual outputs** against required **target outputs**, as agreed in the performance agreement, at the end of a specified review period.

The manager holds a discussion with the individual concerned. The results of the performance review are used as input to determine processes that could improve the performance of the individual. Improved individual performance benefits the effectiveness and performance of the whole organisation.

Informal Performance Review	Formal Performance Review
Impromptu/ informally scheduled	Scheduled and formal
Ad hoc/ unscheduled	Specific intervals
Informal notes	Formal document
A particular output	Overall performance
Corrective measures	Intervention measures
Results: input for Formal Performance Review	Results: input for Training and Development Plan

Planning the performance review

Steps	Supporting documents
Collate data Schedule date, time and venue Explain the purpose: to discuss performance and formulate a development plan Provide documentation to enable employee to prepare Rate each KPA and competency Review overall performance Analyse review results	Copy of performance agreement Copy of performance appraisal Prepared questions and recommended actions for development Blank performance appraisal document Blank training and development plan

Performance review interview process

Let's explore the performance review interview process briefly:

Clarify the purpose of the interview:

- To discuss performance
- To agree on the ratings
- To identify areas for development.

Employee feedback:

- Gives feedback on his/her performance per output
- Gives feedback on his/her performance overall
- Provides justifications/examples for his/her ratings, especially those where the manager has different ratings.

Manager feedback:

- Gives feedback on his/her performance per output
- Gives feedback on his/her performance overall
- Clarifies differences with examples
- Discusses data gathered as justification.

Reach agreement:

- Compare ratings, and based on the justifications provided by both parties, reach agreement on the final rating for each output and overall
- If you cannot come to an agreement, confirm final rating based on justifications and inform employee of his/her rights in terms of lodging a grievance/complaint
- Schedule a date and time for meeting to formulate training and development plan.

Implement Recommendations on Corrective Action

Address under-performance issues

What is under-performance?

- Not meeting the KPA's and performance outputs against specific standards, despite interventions, such as feedback, review and personal development plans.
- The employee is rated as below standard for more than one KPA and output.
- The employee does not demonstrate an improvement in performance.

The root causes of under-performance and how to address them

Organisational factors	Personal/ social factors	Functional/ workplace competencies	Behavioural competencies
Restructuring Job fit Morale Salaries/benefits Management style	Illness Divorce Transport problems Domestic problems Indebtedness	Computer skills Sales or product knowledge Accounting skills	Assertiveness Communication Presentation Planning Leadership
Coaching and counselling	**Coaching and counselling/ EAP**	**Training and development**	**Psychometric tests; training and development**

Evaluate Results

High staff morale is a popular goal, but one that is difficult to measure. Therefore, more specific forecasters, such as number of accidents, absenteeism and employee turnover may be evaluated together and serve as a measure for increasing or declining morale.

However, careful evaluation must be used. If the accident rate increases rapidly in the production area, it would suggest declining morale when a significant increase is caused by employee carelessness. However, if the cause is related to equipment that suddenly wears out, then there probably is not a relationship between accident rate and low morale.

It is essential that managers carefully evaluate deviations before taking action. It is also important that they remember that deviations can be positive as well as negative and that they reward employees for positive deviations. Unfortunately, this step is often omitted and only the negative aspects of deviation receive attention.

Who should receive feedback from this evaluation and how often should it be offered?

- The person who is accountable for accomplishing the standard should receive the information first.
- The employee's line manager or whoever is in a position to reward the employee should receive the information at about the same time or a little later.
- Then peers, colleagues, subordinates and other line people can receive the information. At this time, the manager ought to have some suggestions about how to get back on course if the employee needs help.

The manager's most important job is coaching subordinates, and a good planning control system provides an excellent framework for such coaching.

Feedback must be reliable, quite frequent, and prompt. The feedback has to be reliable for the employees to be able to change the behaviour or plan in order to get on course. Frequency of information has to do with the interval for which data are received. If, for instance, costs would not normally get out of control in a short period, then monthly reports might be adequate. On the other hand, a delay of six months might allow the situation to get so far out of control that it would be too late to take corrective action.

Sometimes prompt feedback can create problems. Today's computer-based control systems can provide feedback on a real time basis, but such speed can be harmful from a behavioural standpoint. This kind of speed causes undue pressure because there is no time for the manager to use discretion and make changes.

Take corrective action

Making changes as the activity is in progress is a form of corrective action. The real correction occurs when warnings raised by the forecasters or predictors are confirmed.

The corrective action can be changing objectives, standards, plans, etc., but it can also be penalising employees when the objectives, standards, and plans are determined to be appropriate and employees have not met them.

However, there usually are several alternative corrective actions that can be taken and often more than one will prove effective.

The planning control system is not effective until corrective action is taken and this action begins a new planning-control cycle.

Report success

Celebrate success!

Contrary to popular belief that money is a prime motivator of most employees, study after study has shown that what tends to motivate employees to put forth their best efforts and to perform at higher levels are praise and recognition.

People want to feel they are making a contribution at work, and for most individuals this is a function of having the respect of peers and colleagues, having managers who tell them when they do a good job, and being involved and informed about what's going on in their department or organisation.

It is important to consider that the money employees are paid for the job they are hired to do is compensation, which should be a function of a company's compensation philosophy and its market and geographic considerations. In addition to salaries, economic incentives are becoming rights rather than rewards. As Peter Drucker pointed out, "Merit raises are always introduced as rewards for exceptional performance. In no time at all they become a right. To deny a merit raise or to grant only a small one becomes punishment. The increasing demand for material rewards is rapidly destroying their usefulness as incentives as managerial tools."

In some cases, cash awards have even been found to have a demotivating effect. Cecil Hill, corporate manager of improvement programmes at Hughes Aircraft Company, claims, "I have found that certain aspects of the cash awards approach would be counter-productive at Hughes Aircraft. For example, cash awards would reduce teamwork as employees concentrated primarily on individual cash gains. We have also found instances where 'pay' for certain types of intellectual performance tends to denigrate the performance." In short, cash awards seemed to have an overall de-motivating effect.

Recognition, on the other hand, is what you do above and beyond what people are paid to get the best effort from employees. Compensation is a right, recognition is a gift.

Various studies also indicate that employees value personalised, spur of the moment recognition for their contributions. To be effective in recognising employees, managers need to:

- Deliver recognition in an open, public way
- Tailor recognition to the unique needs of individuals
- Recognise them close to the time of the achievement
- Establish a clear connection between accomplishments and recognition.

According to Rosabeth Moss Kanter, "Recognition is so easy to do and so inexpensive to distribute, there is simply no excuse for not doing it... Recognition signifies someone has noticed and someone cares."

At the same time, recognition communicates what the organisation values, that is, what great performance looks like

Here are ten tips for recognising your employees:

1. Personally thank employees for doing a good job - one on one, in writing, or both. Do it timeously, often and sincerely.
2. Be willing to take the time to meet with and listen to employees- as much as they need or want.
3. Provide specific feedback about performance of the person, the department and the organisation.
4. Strive to create a work environment that is open, trusting and fun. Encourage new ideas and initiative.

5. Provide information on how the company makes and loses money, upcoming products and strategies for competing in the market-place, and how the person fits into the overall plan.
6. Involve employees in decisions, especially as those decisions affect them.
7. Recognise, reward and promote people based on their performance; deal with low and marginal performers so that they improve or leave.
8. Provide employees with a sense of ownership in their work and the work environment.
9. Give people a chance to grow and learn new skills; show them how you can help them meet their goals within the context of meeting the organisation's goals. Create a partnership with each employee.
10. Celebrate successes — of the company, of the department and of individuals in it. Take time for team- and morale-building meetings and activities.

MODULE 4: RISK MANAGEMENT

UNIT STANDARDS IN THIS MODULE	252025	MONITOR, ASSESS AND MANAGE RISK	
	Demonstrate an understanding of potential risks to a unit.		SO 1
	Identify potential risks and assess the impact thereof in a unit.		SO 2
	Develop contingency plans for managing risk.		SO 3
	Test and revise contingency plans.		SO 4
	The concept of risk is explained with reference to accepted theory and practice.		SO 1 AC 1
	The factors that could constitute risks to a unit are identified and explained.		SO 1 AC 2
	The role of organisational policies and procedures are explained in relation to risk management.		SO 1 AC 3
	Potential risk factors for critical processes in a unit are identified and documented.		SO 2 AC 1
	Possible scenarios that could constitute a risk are identified and documented.		SO 2 AC 2
	The possibility of each scenario occurring is evaluated and recorded for future use.		SO 2 AC 3
	An analysis is performed and documented to rate the impact of each scenario on a unit.		SO 2 AC 4
	Priorities resulting from the impact analysis are determined and documented for implementation in the event of the risk materialising.		SO 2 AC 5
	Contingency plans are developed and documented in accordance with the entity's policies and procedures.		SO 3 AC 1
	Contingency plans are communicated to relevant stakeholders in accordance with the entity's risk management procedures.		SO 3 AC 2
	Contingency plans are distributed and stored in accordance with the entity's risk management procedures.		SO 3 AC 3
	Contingency plans are tested in accordance with the entity's risk management procedures.		SO 4 AC 1
	Recommendations on improvements to the contingency plans are documented in relation to the findings of the testing.		SO 4 AC 2
	Contingency plans are revised to incorporate recommendations from the testing in accordance with the entity's policies and procedures.		SO 4 AC 3

MONITOR, ASSESS AND MANAGE RISK

There are many definitions and types of "risk', but for the purposes of this module we will focus on risk in our business unit and say that "risk is anything that threatens the ability of an organisation or business unit to accomplish its goals".

Risk is defined as the combination of the probability of occurrence of harm and the severity of that harm.

Severity is associated to a potential failure **effect** and indicates the related seriousness.

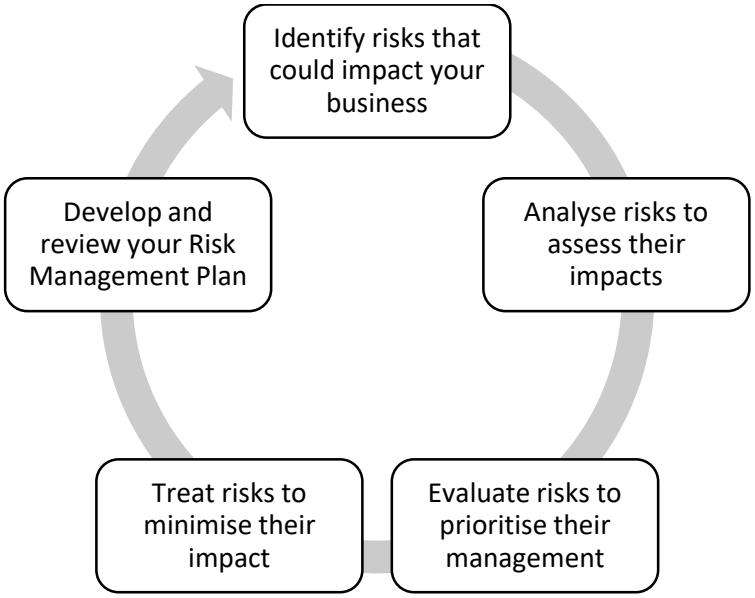
Occurrence is related to the **causes** of a potential failure mode and corresponds to the estimate of the number of failures that could occur. Hazard is a potential source of harm (physical injury to the health of people, damage to the property or to the environment).

Risk Management is the process of measuring, or assessing risk and then developing strategies to manage the risk. Risk management is a discipline for dealing with uncertainty. It enables **people and organisations** to cope with uncertainty by taking steps to protect vital assets and resources.

Risk Management is a systematic and structured decision-making process, focused on value creation, able to identify, assess and prioritise risks throughout the product life cycle.

Every organisation faces uncertainty and risk. Few, if any, operate in risk-free environments. From uncertainty about economic indicators to concerns about safety and the organisation's ability to retain client support, managing a range of risks is required for both survival and success. Every organisation - even very small ones - can use risk management strategies and tools to protect vital assets.

Risk Management is about identifying and analysing the things that may have a major effect on your business and choosing the best method of dealing with each risk. By developing a Risk Management Plan you ensure your business risks are managed.



The process of managing risks involves five steps:

Step 1: Identify risks that could impact your business:

Take a close look at each of your business operations and ask yourself:

- What could have an impact?

- How serious would that impact be?
- What is the likelihood of this occurring?
- Can it be reduced or eliminated?

For example, if you owned a cafe, your risks might include fire, food poisoning and floods (if you are located in a flood-prone area).

Step 2: Analyse risks to assess their impacts

Determine which risks have a greater consequence or impact than others. Separate minor acceptable risks from major risks which must be managed immediately. This involves deciding on the relationship between the likelihood and impact of the risks you have identified.

In a cafe, the likelihood of a flood may be assessed as low, but the impact on the business would be very high. A flood could potentially destroy both equipment and stock and would lead to loss of trade and financial loss.

Step 3: Evaluate risks to prioritise their management

Compare the likelihood and impact of each risk to evaluate and prioritise the resources you are prepared to invest to treat these risks. The outcome of this step is a prioritised list of risks that require further action.

In the cafe example, your prioritised list may be:

- Fire - your top priority risk. The likelihood is high and the potential impact of a fire on the business is very high.
- Food poisoning - your second priority risk. Whilst the probability may be assessed as low, the impact on the business would be very high.
- Flood - your third priority risk. The probability is assessed as very low, but again the impact on the business would be very high.

Step 4: Treat risks to minimise their impact

You will need to determine which risks are acceptable for your business to leave untreated and which risks need to be treated.

Risk treatment is about considering options for treating risks that are not considered acceptable, through a number of strategies including:

- insurance
- quality control processes
- staff training
- complying with government legislation and regulations
- properly maintaining facilities, plant and equipment
- using appropriate security devices
- establishing systems and controls, e.g. segregation of duties (cash receipting, banking and accounting)
- developing contingency plans.

Some of the treatment strategies for the risk of flood might include:

- ensure flooding is covered by your existing insurance policy and the amount of cover is adequate
- ensure stock and equipment are stored off the ground where possible
- organise off-site storage for stock and equipment when a flood is forecast.

Step 5: Develop and review your Risk Management Plan

A Risk Management Plan indicates the chosen strategy for treatment of the identified risks. It details information about:

- risks identified
- level of risks
- planned strategy
- timeframe for implementing the strategy
- resources required
- individuals responsible for ensuring the strategy is implemented.

The final documentation should include appropriate objectives, a budget and milestones on the way to achieving those objectives.

Benefits of Risk Management

There are a number of benefits to having a solid risk management process, including:

- Clear ownership and accountability for all risks
- Creation of an environment where risks will be accepted by the business on an informed basis
- An increased likelihood that the program will be a success, along with the increased likelihood that the objectives of the organisation will be met.

The discipline of risk management helps identify, assess and control risks that may be present in operations, service delivery, staffing, and governance activities. It is well worth the time to integrate risk management into your operations and there are many good reasons to do so:

- **The threat of litigation is increasing** - Many organisations may never face a lawsuit, but those that do, know that it can be costly and time consuming. Good risk management can reduce these costs or perhaps help you to avoid a lawsuit altogether.
- **The risk of client/ staff harm** - Your mission is to help people, not hurt them. Causing harm to a client, however unintentional, undermines your purpose and jeopardises your mission.
- **For your own safety and security** - Sound risk management will help create a sense of confidence and safety about your operation. In an atmosphere where the threat of unnecessary risk is reduced, an organisation can be more creative in providing services to clients and achieving results.

The risks of **not** applying timeous and proper risk management are:

- Not eliminating faulty practices
- Reinforcing faulty practices
- Blocking experimentation
- Not encouraging experimentation
- Blocking technical improvements
- Not encouraging technical improvements.

Prioritising too highly the risk management process itself could potentially keep an organisation from ever completing a project or even getting started. This is especially true if other work is suspended until the risk management process is considered complete.

In general, the strategies employed in risk management include transferring the risk to another party, avoiding the risk, reducing the negative effect of the risk, and accepting some or all of the consequences of a particular risk. These will be discussed in more detail later.

Traditional risk management

Traditional risk management focuses on risks stemming from **physical or legal causes** (e.g. natural disasters or fires, accidents, death, and lawsuits).

Financial risk management

Financial risk management, on the other hand, focuses on risks that can be managed using traded financial instruments.

Intangible risk management

Intangible risk management focuses on the risks associated with human capital, such as knowledge risk, relationship risk, and process - engagement risk.

- **Knowledge risk** occurs when deficient knowledge is applied.
- **Relationship risk** occurs when collaboration ineffectiveness occurs.
- **Process-engagement risk** occurs when operational ineffectiveness occurs.

These risks:

- Reduce the productivity of knowledge workers
- Decrease cost effectiveness
- Reduce profitability
- Impair service
- Reduce quality
- Damage reputation and brand value
- Reduce earnings quality.

Intangible risk management allows risk management to create immediate value from the identification and reduction of risks that reduce productivity.

Regardless of the type of risk management, all large corporations have risk management teams and small groups and corporations practise informal, if not formal, risk management.

In the ideal risk management scenario, a prioritisation process is followed whereby the risks with the greatest loss and the greatest probability of occurring are handled first, and risks with lower probability of occurrence and lower loss are handled later.

In practice, the process can be very difficult, and balancing between risks with a high probability of occurrence, but lower loss vs. a risk with high loss, but lower probability of occurrence can often be mishandled.

Risk management also faces a difficulty in allocating resources properly. This refers to the concept of opportunity cost. Resources spent on risk management could instead be spent on more profitable activities. Again, the ideal risk management scenario entails spending the least amount of resources on the process of managing risks, while reducing the negative effects of the risks as much as possible.

<u>Demonstrate an understanding of potential risks to a unit</u>

Risk is exposure to loss as a consequence of uncertainty. The impact of risk can be measured by the likelihood of an unwanted event occurring and the consequences if it does occur. For planning purposes, the impact of risk could be the same for both small damage resulting from a highly probable recurring event and very large damage resulting from a rare event.

Concept of Risk

Risk can be defined as "the potential impact (positive or negative) to an asset or some characteristic of value that may arise from some present process or from some future event".

Risk – The probable frequency and probable magnitude of future loss

There are three important things to recognise from this definition:

- First and most obvious – risk is a probability issue. We'll cover this in more detail throughout the learner guide.
- Second – risk has both a frequency and a magnitude component.
- And third – is that this definition for risk applies equally well regardless of whether we're talking about investment, market, credit, legal, insurance, or any of the other risk domains (including information risk) that are commonly dealt with in business, government and life. In other words, the fundamental nature of risk is universal, regardless of context.

In everyday usage, "risk" is often used synonymously with "probability" and restricted to negative risk or threat.

In professional risk assessments, risk combines the probability of an event occurring with the impact that event would have.

Risks can be defined as many things, but at the root of every definition is the fact that risks represent uncertain outcomes. These outcomes can be either negative or positive. They can represent positive opportunities (opportunities for excellence), as well as negative threats.

Types of Risk

Upside risk

An upside risk is something that might happen that's better than some benchmark level. The benchmark is something we choose, but typically it is our planned or expected outcome, or the outcome we think 'ought' to happen.

In some areas of risk management the upside is more important than in others. In safety, for example, the natural benchmark is 'total safety' (one does not want to speculate about how many people one 'expected' or 'planned' to kill or injure.) Consequently there is no upside to speak of.

By contrast, in financial risk management it is natural to talk about expected returns and there's nearly always an important upside to consider.[41]

Positive risk refers to risk that we initiate ourselves because we see a potential opportunity, along with a potential for failure. We have to be intelligent risk takers. For example, we have a project that is scheduled to take 90 days to complete. The client would rather the project be delivered earlier, and would get more value if it were delivered earlier, but understands that 90 days is how long the project will take. One of your team members has an idea: If you utilise a new machine, it's possible that you can deliver the project in 60 days instead of 90. If this were a guaranteed solution, you would jump on it. However, there is risk, since it will be the first time you've used the machine. You have to deal with a lack of expertise and a learning curve. It's possible that if the machine doesn't work out, the project could end up taking 110 days to deliver. What would you do?

Downside risk

The risk that an asset will decline in value, including the implications of risk, e.g. a "worst case" scenario of the gradation of risk in which an investor will lose money in a business venture if the venture fails.

Negative risk is represented by potential events that could harm a project. In general, these risks are to be avoided, e.g. you have a supplier that you're counting on to provide raw materials to build a prototype. The supplier has a union contract that expires in the next 60 days. There is a risk that the supplier will have a strike that will disrupt shipments. You need to identify this as a risk, estimate the probability of occurrence (perhaps this will increase or decrease over time), determine the impact to the build if it occurs, and then put together a plan to minimise the impact on the project if it occurs

Example:

The implications of meeting and exceeding or not meeting quality requirements are also referred to as upside and downside risk.

[41] Matthew Leitch, 23 February 2004, speech at British Standards Institute

- Upside risk is the potential gain for both the individual and the company if standards are met and exceeded.
- Downside risk is the potential loss both the individual and the organisation may suffer if quality standards are not met.

The following examples will help you gain a better understanding of the upside and downside risks of the outputs of a job:

Scenario	Effects for Judy	Effects for the company
Judy is able to answer 10 calls a day more than her colleagues due to her efficiency and because she knows her products well	**Upside risk:** Judy could get better performance reviews than her peers, resulting in increased responsibilities and possible benefits, pay and perhaps promotion (if this is available for the company) **Downside risk:** Judy's supervisor may begin giving Judy more work because she knows Judy will do it better than other staff that don't perform so well – Judy may become overloaded. This is known as performance punishment i.e. good performers get more work and the poor performers don't. A supervisor can manage the situation by exploring reasons for non-performance and taking steps to correct the gaps.	**Upside Risk:** Increased productivity – good reputation for efficient service **Downside Risk:** Judy may feel that she is being taken advantage of and may leave the company or become demotivated – this will affect her productivity
A client asks Judy for a refund that is owing to her. The client needs the refund by close of business today. To assist the client Judy decides to drop the cheque off at the client's home on the way home from work as she sees it is on route.	**Upside Risk:** The client is impressed with Judy's service and advises her supervisor – Judy is recognised for her customer service. Judy feels good because the client is very thankful and desperately needed the money. **Downside Risk:** Judy does not know the client and could put herself at risk by going to a stranger's house. If anything happened to Judy on the way to the client and at the client, after working hours, the company may not compensate her because it is not part of her job to personally drop off cheques at clients houses.	**Upside Risk:** The client tells other people about the service & this leads to increased business. **Downside Risk:** If anything happened to Judy – the company may be liable to compensate because Judy was acting in the best interest of the client

When outputs are produced according to quality requirements the employee, company and customers benefit. The business stays profitable and attracts more customers.

When outputs are not produced according to quality requirements, a lot of time is wasted fixing up errors, re-doing work which ultimately costs money and could even result in the business having to close down, customers being dissatisfied, employees being dismissed for poor ratings, etc. There is always a price to pay for not doing the job correctly.

Categories of Risk

There are many examples of risk in business. To identify your specific business risks, consider them in categories.

The link between RISK and LOSS is obvious - and it has produced during the past 50 years a group of specialised activities all devoted to reducing loss. Ironically - though each "**petal of the RISK flower**[42]" attempts to minimise corporate loss. Further, they are unaccountable for the resources management invests in them. Not one of them can provide "*dollars saved per dollar invested*."

[42] www.omegainc.com

Risk categories should be considered one by one, providing a structured approach to risk identification. This enables greater focus on a particular category, stimulating thought, and increasing the opportunity of identifying a broader range of risks.

Common risk categories are:

- **Financial** – includes cash flow, budgetary requirements, tax obligations, creditor and debtor management, remuneration and other general account management concerns.
- **Equipment** – extends to equipment used to conduct the business and includes everyday use, maintenance, depreciation, theft, safety and upgrades.
- **Organisational** – relates to the internal requirements of a business, extending to the cultural, structural and human resources of the business.
- **Security** – includes the business premises, assets and people. Also extends to security of company information, intellectual property, and technology.
- **Legal and regulatory compliance** – includes legislation, regulations, standards, codes of practice and contractual requirements. Also extends to compliance with additional 'rules' such as policies, procedures or expectations, which may be set by contracts, customers or the social environment.
- **Reputation** – entails the threat to the reputation of the business due to the conduct of the entity as a whole, the viability of products/services, or the conduct of employees or others associated with the business.
- **Operational** – covers the planning, daily operational activities, resources (including people) and support required within a business that results in the successful development and delivery of products/services.
- **Contractual** – meeting obligations required in a contract including delivery, product/service quality, guarantees/warranties, insurance and other statutory requirements, non-performance.
- **Service delivery** – relates to the delivery of services, including the quality of service provided, or the manner in which a product is delivered. Includes customer interaction and after-sales service.
- **Commercial** – includes risks associated with market placement, business growth, product development, diversification and commercial success. Also to the commercial viability of products/services, extending through establishment, retention, growth of a customer base and return.

- **Project** – includes the management of equipment, finances, resources, technology, timeframes and people involved in the management of projects. Extends to internal operational projects, business development and external projects such as those undertaken for clients.
- **Safety** – including everyone associated with the business: individual, workplace and public safety. Also applies to the safety of products/services delivered by the business.
- **Workplace safety** - Every business has a duty of care underpinned by legislation. This means that all reasonable steps must be taken to protect the health and safety of everyone at the workplace. Occupational health and safety is integrated with the overall risk management strategy to ensure that risks and hazards are always identified and reported. Measures must also be taken to reduce exposure to the risks as far as possible.
- **Stakeholder management** – includes identifying, establishing and maintaining the right relationships with both internal and external stakeholders.
- **Client-customer relationship** – potential loss of clients due to internal and external factors.
- **Strategic** – includes the planning, scoping, resourcing and growth of the business.
- **Technology** – includes the implementation, management, maintenance and upgrades associated with technology. Extends to recognising critical IT infrastructure and loss of a particular service/function for an extended period of time. It further takes into account the need and cost benefit associated with technology as part of a business development strategy.

Knowing your risk categories can assist you in risk planning and communicating risk information. They provide a structure for identifying risk and are often initially identified through a brainstorming exercise.

Factors that could constitute Risks to a Unit

The risks facing an organisation and its operations can result from factors both external and internal to the organisation. The risks can be categorised into types of risk such as strategic, financial, operational, hazard, etc.

Financial risks are typically well controlled and are part of the routine focus of management risk discussions, with increased regulatory, accounting and financial audit focus. As financial information is a key element of stakeholder communications, performance measurement and strategic delivery, management risk discussions will devote considerable time to these risks. Financial risk is often defined as the unexpected variability or volatility of returns, and includes both potential worse than expected as well as better than

expected returns. We know that organisations require a steady stream of reliable income in order to operate and grow

Operational risks are typically managed from within the business and often focus on health and safety issues where industry regulations and standards require. These internally driven risks may affect your organisation's ability to deliver on its strategic objectives.

Hazard risks often stem from major exogenous[43] factors, which affect the environment in which the organisation operates. A focus on the use of insurance and appropriate contingency planning will help address some of these. However, there is often a danger that as many of these risks cannot be controlled, boards and senior management will not reflect these in their strategic thinking. Confining strategic management to controllable factors will leave your business at risk of failing to address these factors.

Strategic risks are typically external or affect the most senior management decisions. As such, they are often missed from many risk registers. Your senior management has a responsibility to make sure all these types of risks are included in their key strategic discussions.

Asset Risk

Some organisations prefer to look at factors related to asset when identifying factors that could constitute risks to a unit.

We can categorise asset risk according to four major categories of assets:

- **Property risk** – Property includes:
    - Buildings
    - Office furniture and fixtures
    - Computers (hardware and software)
    - Intellectual property (trademark, logo, copyright, patent, etc.)
    - Motor vehicles
    - Other equipment (lawn maintenance equipment, contractors' equipment, audio-visual equipment, laptops, exhibits, etc.)

  Property also includes cash and securities, financial assets and even borrowed property. Property risks come in various forms, including those caused by nature (flood, earthquake, hurricane, forest fires, wind/tornadoes, extreme heat or cold) and others resulting from human intervention (fire, theft, vandalism, collision, carelessness). The risks of loss associated with property and income assets could devastate an organisation. Imagine what would happen if your organisation's computers and accounting records were lost in a fire, or if a significant sum of money were embezzled.

- **Income risk** – Depending on the type of organisation, common sources of income include:
    - Donations
    - Grants
    - Government contracts
    - Fees for services
    - Investment income
    - Merchandise sales
    - Loans
    - Proceeds from special events
    - Sponsorship fees
    - Registration/ participation fees

[43] Describes anything outside a company's control, e.g. a company may fail because of a recession even if it does everything right. In this case, the recession is an exogenous factor. Converse to endogeneous

- Membership dues

Most managers have come face to face with an income risk, such as the loss of budget, sales falling shy of projections, contract cancellations and more. A disaster such as a fire or flood can also curtail operations, resulting in an interruption of the income stream. Consequences of a loss can range from inconvenience to devastation. While income ups and downs are arguably part and parcel of the business world, it's possible to use risk management techniques to reduce the likelihood that a loss of income will destroy an organisation.

Some techniques for reducing income risk include:

- Business interruption insurance
- Establishing a reserve fund
- Implementing sound financial controls
- Diversifying income sources

- **Goodwill risk** - Goodwill is an asset that is difficult, if not impossible, to quantify. A more descriptive word might be "reputation." Every organisation understands that its reputation is key to recruitment of staff and customers, retention of those staff and customers, and overall good organisational health. Damage to reputation can be devastating, and many organisations would have a hard time recovering from a blow to their reputation. In many cases, damage to reputation occurs in the wake of a crisis, such as a scandal involving maladministration or widely publicised client injury. In some cases there may be guilt by association if a corporate partner comes under fire. Even an incident of tax evasion by a major shareholder could have repercussions for an organisation

- **Operational risk** - Operational risk is defined as the risk of loss resulting from inadequate or failed internal processes, people and systems, or from external events.

  Examples of operational risk include:

  - Technology failure
  - Business premises becoming unavailable
  - Inadequate document retention or record-keeping
  - Poor management
  - Lack of supervision
  - Lack of accountability
  - Poor control
  - Errors in financial models and reports
  - Attempts to conceal losses
  - Attempts to make personal gains
  - Third party fraud

  A delict is an act (or omission) which in a wrongful and culpable way causes loss to another - responsibility toward society at large. This is where potential losses are most difficult to estimate. You may have heard of the Thalidomide disaster. In the 1960's a drug meant to relieve morning-sickness in pregnancy resulted in babies being born deformed. It is thought that a similar disaster under today's conditions could result in awards as high as R5bn. (This is an example of Products Liability).

  A boiler explosion might cause tremendous physical damage, and interrupt production, but the liability claims for physical injury and damage to third party property can be even bigger.

  An organisation can suffer loss even without legal liability being established:

  - The cost of investigation, and documenting their defence;
  - Legal fees;
  - Out of court settlements, where it is considered more cost effective to settle with the claimant, than risk everything on the outcome of an expensive court action.

- Where disputes actually go to court, legal costs are much greater, as are the actual awards handed down.

- **People risk** - People are the heart and soul of an organisation. They represent the talent, commitment and community your organisation serves. The people assets in your organisation include staff, clients and shareholders.

  Examples of people risk include:

  - **Risk of Staff Loss**: Each person is a unique individual with a unique set of skills. In a very real sense, each is irreplaceable. So the first risk in terms of employees is the risk of loss of talent/ expertise when a trained and skilled employee leaves the organisation.
  - **Health and safety**: Another risk is that of loss due to injury or death. Unlike damage to property or loss of income, injuries sustained by employees may never be fully repaired and could lead to expensive litigation. In the workplace, an organisation's priority must be the health and safety of all. The goal is the prevention of occupational health risks, accidents and injury. This means that all must work to legal health and safety standards and improve on these wherever possible. All employees must constantly be on the alert against possible hazards and hazardous behaviour. The organisation must minimise such hazards with well-designed procedures, processes, equipment and safety training programmes. The organisation must ensure that all employees are aware that irresponsible or careless activities place themselves and others at risk.
  - **Employee turnover**: In terms of **employee decision-making**, Andrew Wong[44] says it is natural for an employee to **aspire** to earn a better salary. **Financial gain** not only helps to meet the financial needs and improve the lifestyle of the person and his/her family, it may also reflect greater capability of the employee to take up greater scope of work or responsibilities. An opportunity may arise whereby there is a significant financial gain (e.g. higher salary, or allowances or both), but with higher occupational hazards, or perhaps s/he has an opportunity to work in a foreign country which has security risks, or entails harsh living conditions for the employee and the family. Of course, each person has his or her own tolerance level with respect to the above-mentioned risks. Rationally and emotionally, he or she will make decisions based on certain criteria, making the necessary evaluation and assessment. The general rationale is "suffer a few years for that extra significant financial gain" and this then becomes the governing principle or reason to make the decision to take up a new job or transferred position. However, in the scenario described by Wong, there is also a significant risk to the organisation: if the employee perceives the payoff to be "not worth it" after a while and cannot handle the increased workload or strain, s/he can become demotivated and unproductive, even though it was his/her own choice. That is why organisations have **Wellness or Employee Assistance Programmes (EAP)** in order identify, interact with and refer troubled employees before they affect productivity and team morale.
  - **At Risk Behaviour**: As a manager, you will be held accountable for your subordinates' behaviour – good or bad. You can take a proactive approach to eliminating at risk behaviour by recognising its causes in the workplace. The possible sources of at risk behaviour are endless and will vary on its degree of severity and the impact it will have on the performance of your team. Some sources of at risk behaviour could relate to the following:
    - **Ignorance** - Ignorance could create at-risk behaviour when your subordinates don't know all they should about a situation. As a result, they might not be able to recognise, diagnose, or fix a dilemma. You should make sure that your subordinates are educated about your company and its current activities, goals, vision, values policies and procedures. By training your employees on these issues you could pro-actively avoid future high risk situations.
    - **Lack of recognition by management** - Recognition by management is an important form of reward for an employee. If a manager does not recognise an employee who needs recognition, the employee can become frustrated and might change his/her

[44] From an article entitled: Different Risk Management Approach by Employee and Investor

behaviour patterns to gain the manager's attention. Although this attention could be negative, the employee would rather be recognised this way than not at all, e.g. an employee might start coming in late regularly or fail to submit reports or start to verbally abuse others, simply to get attention. This could in the long term impact negatively on conduct, productivity, performance and capacity.

- **Personal financial burdens** - When an employee does not earn enough money to cover personal expenses, he might become a high risk, especially if he/she works with money. In this instance at risk behaviour can have two objectives: to take revenge on the organisation, or to obtain enough money to cover their personal expenses. As a manager, you might have the authority to determine salary levels for your subordinates. It is unrealistic for managers to grant subordinates all the salary they might want. Yet it is realistic to pay employees a salary based on industry standards. If your organisation's salary levels fall below such standards, you can expect to encounter at risk behaviour.
- **Substance Abuse** - This includes drugs and alcohol and has, in recent years become a serious social and business problem. The substance abuser poses a major threat to an organisation in terms of productivity, performance and conduct. The condition is often not apparent but manifests itself with poor performance issues, absenteeism and financial burdens.

- **Environmental and Corporate Social Responsibility**: Outside of the workplace, an organisation's priority must be to act responsibly by protecting the environment and the communities around it. In addition, organisations must ensure that they act responsibly at all times in the disposal of waste and in pollution control.

Acts and Regulations related to Risk Management

In terms of the South African Compensation for Occupational Injuries and Disease Act, applicable to most classes of employees, automatic compensation is paid from a state administered fund. This relieves employees from having to prove negligence by the employer, but also means that they cannot sue the employer.

This does not free the employer of the need to take suitable precautions.

Requirements have been laid down, some of the principal statutes being:

- The Occupational Health and Safety Act No 85 of 1993 (as amended)
- The Mines and Works Act No 27 of 1956 (as amended)
- The Electricity Act No 40 of 1958 (as amended)

all as read in conjunction with the Criminal Procedure Act No 51 of 1977 (as amended).

Failure to meet these requirements will result in criminal action against the person responsible. Special audit sheets are needed to check that the requirements are met.

Note: These are also regulations relating to specific trades and types of hazard.

Role of Organisational Policies and Procedures

Quality standards are defined in terms of company, legislation or industry standards. Company policies and procedures are developed as a result of interpreting industry standards and/or legislation. The company policies and procedures form part of the risk management process in that they provide guidelines to ensure that the company adheres to industry standards and legislative requirements:

- Statutory Requirements, e.g. Acts, Bills
- Regulatory Requirements, e.g. Regulations, Rules
- Supervisory Requirements, e.g. Directives, Codes, Standards, Procedures, Rulings
- Company codes, policies and procedures

Risk Management Policy

An organisation's risk management policy should set out its approach to and appetite for risk and its approach to risk management. The policy should also set out responsibilities for risk management throughout the organisation.

Furthermore, it should refer to any legal requirements for policy statements e.g. for Health and Safety.

Attached to the risk management process is an integrated set of tools and techniques for use in the various stages of the business process. To work effectively, the risk management process requires:

- commitment from the chief executive and executive management of the organisation
- assignment of responsibilities within the organisation
- allocation of appropriate resources for training and the development of an enhanced risk awareness by all stakeholders.

Quality Standards

Quality standards are the measurable quality requirements for each work responsibility or duty, often referred to as the output of your work.

Outputs are the products and services that individuals in an organisation provide to one another or to the customer, such as:

- An answered telephone
- A clean floor
- A serviced car
- A completed report
- An issued policy document
- A teamwork plan.

Listing responsibilities as outputs is useful, because there are many ways to produce an output even though the standards that need to be maintained are the same. By listing outputs you encourage a process of continuous improvement, because you create a certain amount of freedom, to the person producing the outputs, to experiment with different ways of doing the work in an attempt to improve the way the outputs are produced.

Example: The receptionist is required to answer the telephone within 3 rings in a polite professional manner.

- As the standard has been set, the receptionist can now be measured accordingly.
- The receptionist would have been informed why this is important (image of the company) and would now understand why she has to comply with the standard.

Quality standards provide guidelines in terms of requirements that need to be met to make sure that the outputs are produced according to set standards. Quality standards are often defined in terms of regulatory compliance, cost, time, quantity and quality.

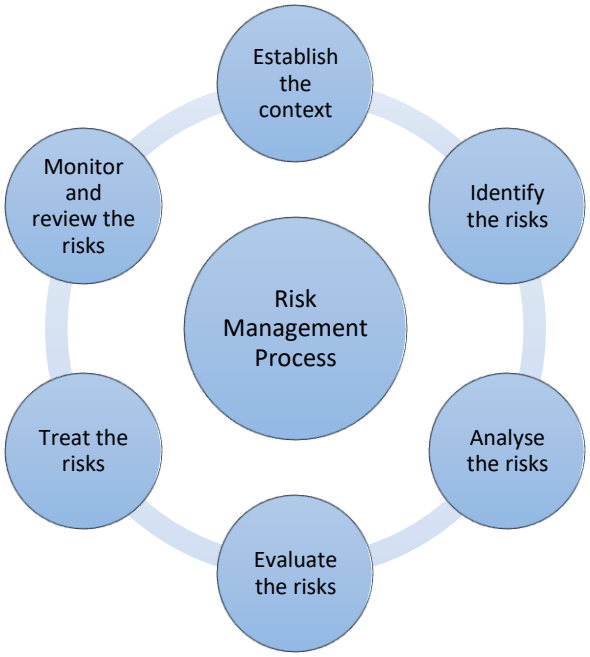
Risk Management Process

The risk management process is the series of steps that enable initial and continual review of risk, and help to ensure that the business is on-track for meeting its objectives.

The risk management process helps to put in place and review the risk management plan.

The elements of the risk management process are:

- establish the context
- identify the risks
- analyse the risks
- evaluate the risks
- treat the risks
- monitor and review.



1. Establish the context

When considering risk management within a small business, it is important to establish boundaries for the risk management process. For example, a business owner may be only interested in identifying financial risks so information collected will only cover that area of risk.

In establishing the context, consider:

- the objectives of the business
- key stakeholders and impacts
- risk categories.

It is generally more productive to break down the risks into categories, rather than identify risks for the company as a whole.

2. Identify the risks

Risk cannot be managed unless it is identified. Once the context of the business has been defined, the next step is to use this information to identify as many risks as possible.

The aim is to identify the risks that may affect, either negatively or positively, the objectives of the business and all its activity.

Identify the range of hazards, threats, or perils that impact or might impact:

- your organisation.
- your infrastructure.
- the surrounding area.

You will need to:

- **Identify retrospective risks** - Retrospective risks are seen in incidents or accidents that have occurred in the past. Retrospective risk identification is the most common way to identify risk and the easiest. A risk is easier to understand if its impact has already been experienced. It is also easier to quantify its impact and to evaluate the damage. There are many sources of information about retrospective risk including:
    - hazard or incident logs or audit reports

- customer complaints
- accreditation documents and reports
- staff or client surveys
- newspapers or professional media, such as journals and websites.

- **Identify prospective risk** - Prospective risks are harder to identify. These are things that have not yet happened, but might happen in the future. Identification should cover all risks, whether or not they are currently managed. The plan will be to record all significant risks and monitor the effectiveness of their treatment. Methods for identifying prospective risks include:
  - brainstorming with staff and external stakeholders
  - researching the economic, political, legislative and operating environment
  - interviewing staff and clients to identify potential problems
  - flow charting a process
  - reviewing system design or preparing system analysis.

Risk categories will help break down the process for prospective risk identification. It is important to remember that risk identification will be limited by the experience and perspective of those conducting the risk analysis. Problem areas and risks can be best identified by the use of reliable sources.

In addition, understanding categories assists business owners to select the best tools and techniques for risk identification and analysis. For example, if a particular risk category is technical in nature, the risk identification methodology used will involve significant research and collection of existing information about risk exposure.

3. Analyse the risks

During risk identification, a business owner may have identified many risks but it is often not possible to address all of them.

Determine the potential impact of each hazard, threat, or peril by estimating the:

- relative severity of each hazard, threat, or peril (danger).
- relative frequency of each hazard, threat, or peril.
- vulnerability to each hazard, threat, or peril of your people, your operations, your property, and your environment.

Risk analysis will determine which risks have a greater consequence. This will provide better understanding of the possible impact of a risk, and the likelihood of it occurring. That leads to decisions about resources required to control the risks.

Risk analysis involves combining the possible consequences, or impacts, of an event, with the likelihood of that event occurring. The result is called a 'level of risk'.

Risk = consequence x likelihood.

The risk analysis should be documented in the risk management plan.

4. Evaluate the risks

It is important to determine how serious the risks facing a business are. The business owner must determine the level of risk that a business is willing to accept. Risk evaluation involves comparing the level of risk found in the analysis process with previously established risk criteria. From there it must be decided if these risks require treatment.

Categorise each hazard, threat, or peril according to how severe it is, how frequently it occurs, and how vulnerable you are.

The result of a risk evaluation is a prioritised list of risks that require further action. This step is about deciding whether risks are acceptable or need treatment.

Low or tolerable risks may be accepted. 'Accepted' means the business chooses to accept that the risk exists, either because the risk is low and the cost of treating it would be uneconomic, or there is no reasonable treatment that can be implemented.

A risk may be accepted if:

- the cost of treatment exceeds the benefit, so that acceptance is the only option (applies particularly to low risks)
- the level of the risk is so low that specific treatment is not called for
- the opportunities presented outweigh the threat to such a degree that taking the risk is justified
- there is no treatment for the risk – for example, the risk that the business may suffer storm damage.

If the risk is medium or high and therefore not acceptable, the risk must be mitigated or treated. Specific actions to treat the risk should be outlined in the risk management plan.

5. Treat the risks

Risk treatment is about options for dealing with risks that are *not* acceptable. Risk treatment involves identifying controls for risk. The aim is to either reduce or eliminate negative consequences, or to reduce the likelihood of an adverse occurrence. Risk treatment should also enhance positive outcomes.

It is often not possible, nor cost-effective to implement all treatment strategies. A business owner should choose, prioritise and implement the best combination of risk treatments.

Develop strategies to deal with the most significant hazards, threats, or perils. Develop strategies (risk treatments) to:

- prevent,
- mitigate,
- prepare for,
- respond to, and
- recover from hazards, threats, or perils that impact or might impact your organisation and its people, operations, property.

The steps to this are:

- identify – develop and design treatment options
- evaluate – do the options satisfy treatment objectives and are they cost effective?
- develop and implement a risk treatments and controls.

For businesses, many of the treatments are often part of establishing everyday business practices and procedures such as:

- staff training and development
- financial reporting systems
- good customer management
- ensuring compliance.

Therefore, ensuring good management practices are already in place will help you control risks from the outset.

A quality assurance program can also help to control risk. Quality assurance is the process that continues from risk treatment through monitoring and review to a cycle of continuous improvement.

All risk treatments should be documented in your risk management plan.

6. Monitor and review the risks

Monitoring is an essential step in the risk management process. A business owner / manager must monitor risks and review the effectiveness of treatments and strategies that have been set up to manage risk.

Risks need to be monitored regularly to ensure changing circumstances do not alter risk priorities. Very few risks are static, therefore the risk management process needs to be repeated often, so that new risks are captured into the process and can be effectively managed

A risk management plan should be reviewed at least annually. The best way to make sure this occurs is to combine the review with annual business planning.

The risk management plan

The risk management plan is a document which outlines the risks faced by the business and provides guidance on risk mitigation strategies.

The risk management plan should contain:

- identified risks
- rating of the impact of the risk for the business (i.e. low, medium, high)
- rating of the likelihood of the risk occurring (i.e. low, medium, high)
- actions taken or to be taken to mitigate the risks
- timeframes for review.

Risk management in a business should not be a stand-alone plan. There are relationships between risk management and many of the management processes and techniques that may be employed to ensure the successful operation of a business.

Good practice is to ensure that all of the following business areas are considered when developing the risk management plan:

- business planning
- occupational health and safety
- human resources management
- compliance
- financial management
- client management
- contract management
- quality assurance.

The risk management plan should be reviewed regularly and updated as needed to ensure all risks in the business are being covered.

Example:

Risk Description:	Likelihood	Impact	Priority	Preventative Action	Contingency Plans
Interruption to production processes -breakdown of key plant and equipment -damage to plant and equipment (e.g. fire)	*L*	*VH*	*H*	• *ensure adequate insurance cover in place including business interruption and general property* • *set up agreement with suitable supplier for 24 hour repairs and replacement for key plant and equipment* • *source alternative production site (if location and equipment have been damaged)*	*immediate access to personal resources whilst waiting for insurance payments.*

Key:

VH = Very High

H = High

M = Medium

L = Low

We will be exploring the main parts of the risk management process in more detail in the rest of this learner guide, whilst learning more about monitoring, assessing and managing risk.

IDENTIFY POTENTIAL RISKS AND ASSESS THE IMPACT THEREOF IN A UNIT

All organisations need to manage risks but the good news is that many of the risks that face organisations on a daily basis are those that are within their own control. Many organisations have adopted a structured approach to risk assessment[45]. Risk assessment does not necessarily require sophisticated tools. They can be conducted simply by asking some key questions. Even for those events that are outside your control, there are steps you can take to avoid, contain or reduce adverse impact on the organisation.

If you were to ask your management team about risk, would your management team know:

- What factors affect the organisation's ability to accomplish its mission or its objectives?
- What provisions had been made to contain, reduce or control risk?
- In which processes were these controls installed?
- How the effectiveness of these provisions is being measured?
- What recent changes have been made to these processes to improve their robustness in preventing the risk having a detrimental effect on the business?

If you were also to ask your management team about the provisions it has made to mitigate against risk would it be able to explain what provisions had been taken to safeguard the organisation from:

- Attack by competitors, disgruntled employees, computer viruses
- Losing customers, suppliers, employees, reputation
- Decline in orders, revenue, profit, market share

[45] Adapted from: www.transition-support.com/Risk_assessment.htm

- Dissatisfying customers, shareholders, employees
- Prosecution by regulators, customers, employees
- Delayed delivery
- Delayed receipt of product or payment
- Hazards injurious to health of personnel and/or the environment
- Accidents to personnel and equipment
- Breakdown of equipment, plant, machinery, relationships
- Disruption to business continuity by computer failure, loss of information, strikes, weather.

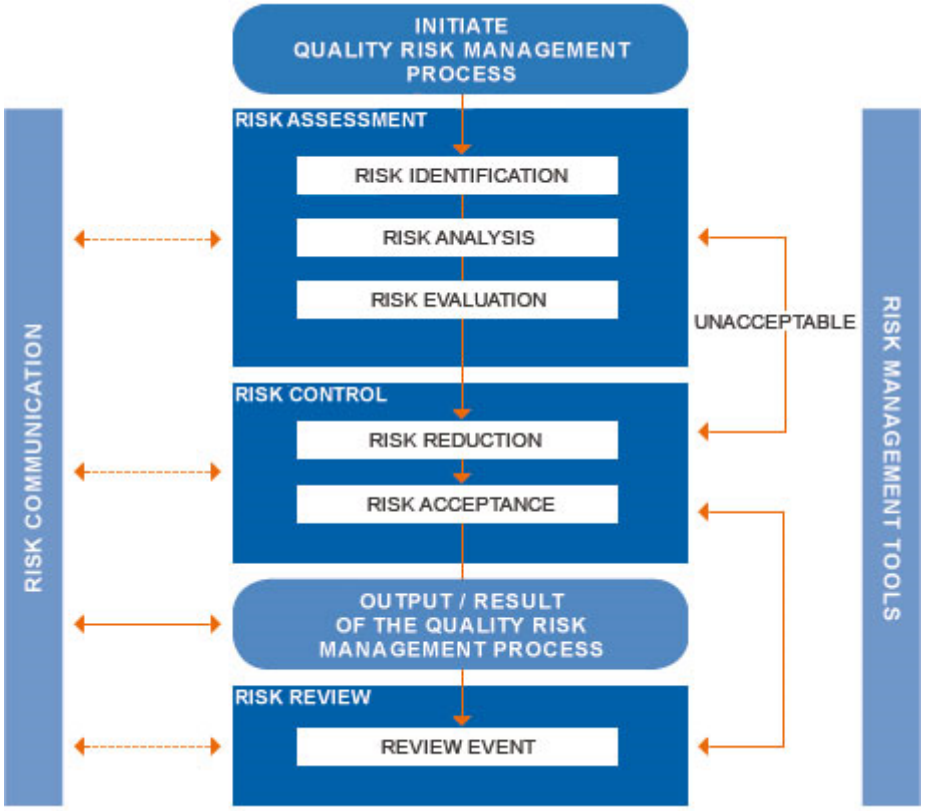
Certain techniques can identify potential risks and assist in their elimination, reduction or control if the provisions are built into process design.

A risk assessment is simply a careful examination of what, in your work, could cause harm to people, so that you can weigh up whether you have taken enough precautions or should do more to prevent harm. Workers and others have a right to be protected from harm caused by a failure to take reasonable control measures.

Accidents and ill health can ruin lives and affect your business too if output is lost, machinery is damaged, insurance costs increase or you have to go to court. You are legally required to assess the risks in your workplace so that you put in place a plan to control the risks.

Use the Risk Management Process

Risk Assessment consists in the hazards identification and the analysis and evaluation of risks associated with exposure to the identified hazard. In this phase a comparison of the identified and analysed risk against given risk criteria will be done.



Risk Control includes risk mitigation which may include actions taken to reduce the severity and probability of harm for risks that fall into the "intolerable" category.

The implementation of risk mitigation measures can introduce new risks into the system or increase the significance of other existing risks. Hence, a revision of the risk assessment to identify and evaluate any possible change in risk after implementing a risk control measure will be done.

Every risk control measure will be verified for proper implementation as well as effectiveness in achieving the intended degree of risk mitigation, usually through an on-going validation process.

Risk Communication is the exchange or sharing of information about risk and its management between the decision makers and others. Parties can communicate at any stage of the risk management process. The included information might relate to the existence, nature, form, probability, severity, acceptability, treatment, detect ability or other aspects of risks to quality. This exchange need not be carried out for each and every risk acceptance.

The output of the quality risk management process should be documented when a formal process has been utilised.

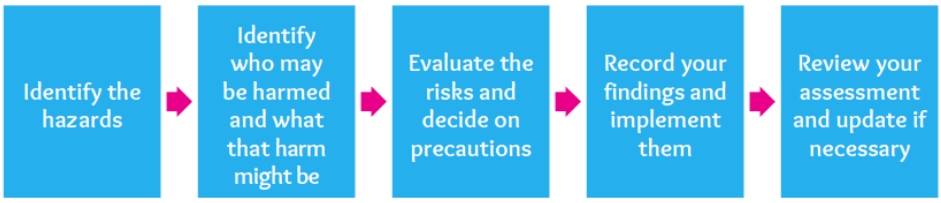
Risk Review consists of the continuous improvement of the risk management results. The risk management approach will be introduced in the system and it might be used when new risks arise.

Example: ***Health and Safety Risks***

If you work in a larger organisation, you could ask a health and safety adviser to help you. If you are not confident, get help from someone who is competent. In all cases, you should make sure that you involve your staff or their representatives in the process. They will have useful information about how the work is done that will make your assessment of the risk more thorough and effective. But remember, you are responsible for seeing that the assessment is carried out properly.

When thinking about your risk assessment, remember:

- a **hazard** is anything that may cause harm, such as chemicals, electricity, working from ladders, an open drawer, etc. and
- the **risk** is the chance, high or low, that somebody could be harmed by these and other hazards, together with an indication of how serious the harm could be.



Risk assessment is probably the most important step in the risk management process, but may also be the most difficult to accomplish and the most prone to error.

Uncertainty in the measurement of risk is due to the fact that no single metric embodies all of the information in the measurement. Normally, **two** quantities are being measured, e.g. **extent of loss and probability of loss**. A risk with a large potential loss and a low probability of occurring will be treated differently from one with a low potential loss but a high likelihood of occurring. In theory, both are of nearly equal priority, but in practice it can be very difficult to manage when faced with the scarcity of resources, especially time, in which to conduct the risk management process.

Means of measuring and assessing risk vary widely across different professions, e.g. a doctor manages medical risk and a civil engineer manages risk of structural failure.

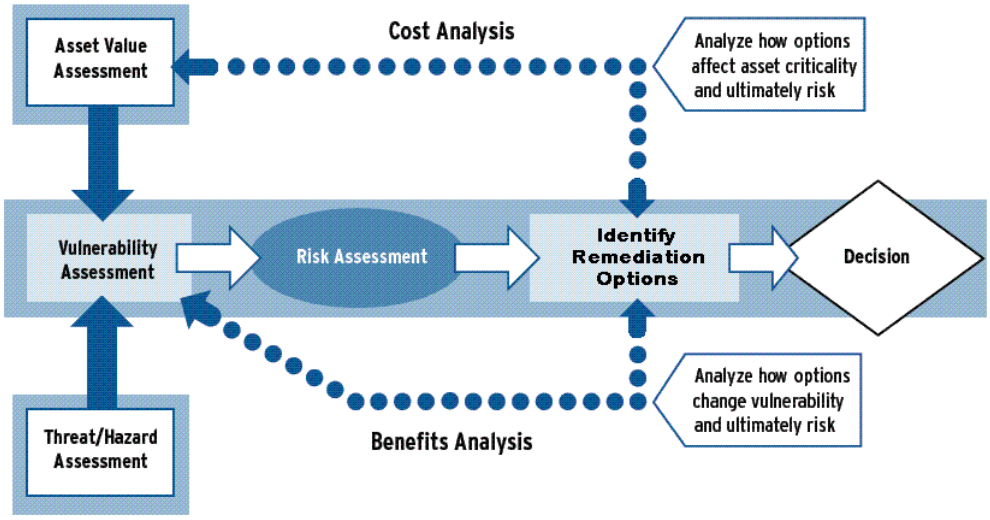
If risks are improperly assessed and prioritised, time can be wasted in dealing with risk of losses that are not likely to occur. Spending too much time assessing and managing unlikely risks can divert resources that could be used more profitably.

Unlikely events do occur, but if the risk is unlikely enough to occur, it may be better to simply retain the risk, and deal with the result if the loss does in fact occur.

The fundamental difficulty in risk assessment is determining the rate of occurrence since statistical information is not available on all kinds of past incidents. Furthermore, evaluating the **severity of the consequences (impact)** is often quite difficult for **immaterial/ intangible assets**.

Asset valuation is another question that needs to be addressed. Thus, best educated opinions and available statistics are the primary sources of information.

Nevertheless, risk assessment should produce information for the management of the organisation in such a way that the **primary risks** are easy to understand so that the risk management decisions may be prioritised.



Identify Potential Risk Factors for Critical Processes

Risk identification sets out to identify an organisation's exposure to uncertainty. This requires an intimate knowledge of the organisation, the market in which it operates, the legal, social, political and cultural environment in which it exists, as well as the development of a sound understanding of its strategic and operational objectives, including factors critical to its success and the threats and opportunities related to the achievement of these objectives.

Risk identification should be approached in a methodical way to ensure that all significant activities within the organisation have been identified and all the risks flowing from these activities defined. All associated volatility related to these activities should be identified and categorised.

Business activities and decisions can be classified in a range of ways, examples of which include:

- **Strategic** - These concern the long-term strategic objectives of the organisation. They can be affected by such areas as capital availability, sovereign and political risks, legal and regulatory changes, reputation and changes in the physical environment.
- **Operational** - These concern the day-today issues that the organisation is confronted with as it strives to deliver its strategic objectives.
- **Financial** - These concern the effective management and control of the finances of the organisation and the effects of external factors such as availability of credit, foreign exchange rates, interest rate movement and other market exposures.
- **Knowledge management** - These concern the effective management and control of the knowledge resources, the production, protection and communication thereof. External factors might include the

unauthorised use or abuse of intellectual property, area power failures, and competitive technology. Internal factors might be system malfunction or loss of key staff.

- **Compliance** - These concern such issues as health & safety, environmental, trade descriptions, consumer protection, data protection, employment practices and regulatory issues.

Whilst risk identification can be carried out by outside consultants, an in-house approach with well-communicated, consistent and co-ordinated processes and tools is likely to be more effective. In-house 'ownership' of the risk management process is essential.

The **identification of the hazards** in all aspects of work should be **approached** by:

- walking around the workplace and looking at what could cause harm
- consulting workers and/or their representatives about any problems they have encountered. Often the quickest and surest way to identify the details of what really happens is to ask the workers involved in the activity being assessed. They will know what process steps they follow, whether there are any short cuts, or ways of getting over a difficult task, and what precautionary actions they take
- examining systematically all aspects of the work, that is:
    - looking at what actually happens in the workplace or during the work activity (actual practice may differ from the policies and procedures manual)
    - thinking about non-routine and intermittent operations (e.g. maintenance operations, changes in production cycles)
    - taking account of unplanned but foreseeable events such as interruptions to the work activity
- considering long-term hazards to health, such as high levels of noise or exposure to harmful substances, as well as more complex or less obvious risks such as psychosocial or work organisational risk factors
- looking at company accident and ill-health records
- seeking information from other sources such as:
    - manufacturers' and suppliers' instruction manuals or data sheets
    - occupational safety and health websites
    - national bodies, trade associations or trade unions
    - legal regulations and technical standards.

The identification of all those who might be exposed to the hazards:

For each hazard it is important to be clear about who could be harmed; it will help in identifying the best way of managing the risk.

Account should be taken of workers interacting with the hazards whether directly or indirectly, e.g. a worker painting a surface is directly exposed to solvents, while others workers in the vicinity, engaged in other activities, are inadvertently and indirectly exposed.

This doesn't mean listing everyone by name, but identifying groups of people such as 'people working in the storeroom' or 'passers-by'. Cleaners, contractors and members of the public may also be at risk.

Particular attention should be paid to:

- gender issues and to,
- groups of workers who may be at increased risk or have particular requirements:
    - workers with disabilities
    - young and old workers
    - pregnant women and nursing mothers
    - untrained or inexperienced staff
    - temporary and part-time workers.

It is important to identify how these people might be harmed, i.e. what type of injury or ill health may occur.

Risk Description

The objective of risk description is to display the identified risks in a structured format, for example, by using a table. The risk description table overleaf can be used to facilitate the description and assessment of risks. The use of a well-designed structure is necessary to ensure a comprehensive risk identification, description and assessment process.[46]

By considering the consequence and probability of each of the risks set out in the table below, it should be possible to prioritise the key risks that need to be analysed in more detail.

1. Name of Risk	
2. Scope of Risk	Qualitative description of the events, their size, type, number and dependencies
3. Nature of Risk	E.g. strategic, operational, financial, knowledge or compliance
4. Stakeholders	Stakeholders and their expectations
5. Quantification of Risk	Significance and Probability
6. Risk Tolerance/Appetite	Loss potential and financial impact of risk Value at risk Probability and size of potential losses/gains Objective(s) for control of the risk and desired level of performance
7. Risk Treatment & Control Mechanisms	Primary means by which the risk is currently managed. Levels of confidence in existing control Identification of protocols for monitoring and review
8. Potential Action for Improvement	Recommendations to reduce risk
9. Strategy and Policy Developments	Identification of function responsible for developing strategy and policy

Identification of the risks associated with business activities and decision making may be categorised as strategic, project/tactical, operational. It is important to incorporate risk management at the conceptual stage of projects as well as throughout the life of a specific project / unit.

Methods and Techniques for Conducting Risk Assessment

There are various risk identification techniques that could be used, such as:

- Brainstorming
- Questionnaires
- Business studies which look at each business process and describe both the internal processes and external factors which can influence those processes
- Industry benchmarking
- Scenario analysis
- Risk assessment workshops
- Incident investigation
- Auditing and inspection
- HAZOP (Hazard & Operability Studies)

[46] Adapted from: IRM Risk Management Standard publication - www.theirm.org

There are various risk analysis methods and techniques that can be used, such as:

Upside risk	• Market survey • Prospecting • Test marketing • Research and Development • Business impact analysis
Both	• Dependency modelling • SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) • Event tree analysis • Business continuity planning • BPEST (Business, Political, Economic, Social, Technological) analysis • Real Option Modelling • Decision taking under conditions of risk and uncertainty • Statistical inference • Measures of central tendency and dispersion • PESTLE (Political Economic Social Technical Legal Environmental)
Downside risk	• Threat analysis • Fault tree analysis • FMEA (Failure Mode & Effect Analysis)

The risk assessment techniques can broadly be categorised into 4 areas:

- **Issue-based risk assessment** - Looks at technical, commercial and managerial aspects and how their risks may impact on the plan. This could include a simple checklist to complete.
- **Checklist risk assessment** - Checklists, whilst simple, in general suffer from drawbacks.
- **Qualitative risk assessment** - Different systems exist like scoring and ranking or the use of high / low / medium assessments of impacts. Scoring requires a degree of subjectivity. As the name suggests, points are awarded according to the perceived degree of risk involved. The points are then totalled and an overall assessment of the risk established.
- **Quantitative risk assessment** - We have already seen many techniques for assessing the impact of two activities with a range of values.

Issue-based Risk Assessment

Issue-based risk assessment has an advantage of being straight forward and generates potential problems largely based upon experience.

Being a method that is based upon previous experience there is a danger that old ground is covered and the obvious areas are investigated:

- Opportunities for more creative thinking may be limited.
- It is easy to compartmentalise your thinking in the relevant areas of commercial, technical etc and miss the relationships between the departments.
- Whilst useful in some circumstances as they are simple you will need to be aware of their limitations.
- Good review procedures from previous procedures will provide lessons that may well apply to other projects. You should be aware of these.
- This method does not promote creativity and can encourage a narrow approach. Hence, many risks may well be missed.

- This risk management method does not allow you to assess the impact of risks in a meaningful way that can be aggregated over the project or at interim points.
- The aim is to cover the areas like financial, regulatory, etc. over the project lifecycle.
- You would brainstorm each area to try and add some degree of creativity.

This method may just lead to a check list of 'issues' without much understanding of them in terms managing your unit's risks, response and impact on the project / unit.

Checklists Risk Assessment

The checklist is a general result of the 'issue'-based method of assessment and the typical items to be aware of are:

- Can end up concentrating on historical experience perhaps at the experience of new or future risks.
- Can be considered as exhaustive with the danger of becoming complacent.
- Does not easily assess the total project risk.

In addition:

- Interdependence of schedule activities are hard to visualise
- Risks identified are not readily prioritised
- If it's not on the list it is likely to be ignored
- The list may be orientated to a particular project and miss the experiences of others
- Necessary detail may be lacking
- Can promote a simple view of risks and the risk management process.

Any checklist used should be considered as an initial help to a more formal project / operational management procedure:

- You should be trying to generate a list that is not so long that it becomes difficult to manage or starts to include trivial risks.
- As well as looking at the internal risk of activities you should also consider potential external problems.
- These sort of check lists tend to generate perceived risks based upon historical events. This is a good thing as you don't want to repeat yesterday's mistakes.
- However, be aware of trying to encourage the 'brainstorm' used to generate the list to consider new and future events.
- One problem with a list is that the project management team can see it as exhaustive. Beware of complacency.

This method is not very good at trying to assess the overall impact of risk on the total project / operational management plan.

Qualitative Methods of Risk Assessment

Qualitative methods try to compare ranges in a simple fashion. Specific values are not given to the impacts.

Methods include a simple scoring system and the use of ***low / medium / high***.

Even so, qualitative methods have numerous advantages over the issue based method but there are a few pitfalls in the interpretation of the data.

Risk analysis is based upon some form of set question system that tries to attribute a particular value to the impact if the risk materialises. Very simplistically it could be:

1. Set up a series of questions. If the answer is yes score as shown, if no score zero.

Question	Score
1	1
2	2
3	3

2. Alternatively, a series of questions could be set that require a degree of interpretation and subjectivity to choose a score within a possible range.

Question	Score
1	range 1 to 5
2	range 1 to 5
3	range 1 to 5

3. The choice of 1 might be low risk and 5 high risk. Naturally, the questions that you attribute to the project management task could be quite detailed in their description of the level of risk.
4. Eventually, for a given task, the total score is calculated. For example, if the total score is 23 it could be interpreted as:

Risk	Score
LOW	range = less than 20
Medium	range = 20 to 30
High	range = 30 to 40

In this case the risk could be considered to be medium. What medium means in practice would require some agreement within the management team.

The major problem with the 'score' based system is that it depends on the individual's interpretation of the scoring system. It can be too subjective.

In addition, there may be some confusion with the likelihood of the risk occurring and its impact on the project. The risk management system could show a high impact but have virtually no chance of occurring and may therefore not be a problem. You must be aware of this when using these methods.

Use enough categories so that you can be specific but not so many that you waste time arguing about details that won't actually affect your actions. Experience suggests that a five-point scale works well for most projects. A suggested scale is:

Scale	**Probability**	**Scale**	**Impact**
Very Low	Unlikely to occur	Very Low	Negligible impact
Low	May occur occasionally	Low	Minor impact on time, cost or quality
Medium	Is as likely as not to occur	Medium	Notable impact on time, cost or quality
High	Is likely to occur	High	Substantial impact on time, cost or quality
Very High	Is almost certain to occur	Very High	Threatens the success of the project

Example:

- The total risk of the project can be confused with the total score achieved by adding up the individual scores. This is a very simplistic view and is another drawback of this approach.
- The risk of individual project management tasks is not additive. Many tasks depend upon others in the schedule.

So, whilst the simple nature of this method may have its uses there are still disadvantages.

In summary:

- These methods try simply to determine the size of the effect based upon threshold:
  - less than a particular value (safe)
  - in between (medium risk)
  - higher than a particular value (high risk)
- Can be seen as meaningless or subjective
- Can confuse likelihood with impact and obscure priorities - may miss new high risk activities

Quantitative Methods of Risk Assessment

This approach is based upon the project / operational management plan (schedule) which has been put together by considering not only all of the individual tasks, but including their relationships.

The qualitative definition of risk is one with which most managers will be both familiar and comfortable. However, at the risk of introducing a degree of circularity into the reasoning, none of this means anything at all in real terms unless you have set some kind of thresholds for your qualitative definitions.

What do we mean by a medium risk? If a risk is likely to cause a five-week delay to your project or cost you R10k where does that sit on the scale of 'very low' to 'very high' in relation to your particular project? You must do these threshold definitions and understand what are high cost and time implications for your project before you can assess risks in a meaningful way. The following table suggests a general measure of impact in the education environment.

Impact	**Cost**	**Time**	**Quality**
Very Low	Variations manageable against internal budget headings	Slight slippage against internal targets	Slight reduction in quality/scope with no overall impact on usability/standards
Low	Requires some additional funding from institution	Slight slippage against key milestones or published targets	Failure to include certain 'nice to have' elements or 'bells and whistles' promised to stakeholders
Medium	Requires significant additional funding from institution	Delay affects key stakeholders and causes loss of confidence in the project	Significant elements of scope or functionality will be unavailable
High	Requires significant reallocation of institutional funds (or institutional borrowing) to meet project objectives	Failure to meet key deadlines in relation to the academic year or strategic plan	Failure to meet the needs of a large proportion of stakeholders
Very High	Increases threaten viability of project	Delay jeopardises viability of project	Project outcomes effectively unusable

There are many variations on this table. In the commercial world percentage scales are often used for the cost and time components. The scale frequently goes from less than 5% variation (low) to greater than 20% variation (very high).

The risk management process will begin with the summary initial plan and develop the 'reference' and base plan (agreed, accepted initial plan for implementation).

It uses data that already exists in assessing the risk of not completing a task and the potential costs.

The units of risk measurement will be the same as for the durations and cost measurements.

This makes it much easier for individuals to gauge the risk and to come to informed decisions.

In summary:

- Based upon plans already in use
- Uses cost and schedule breakdown information
- Measures risk in the same units as task durations and costs
- Easily informs decision making for milestone dates and budgets.

Adapted from: www.risk-management-basics.com

Please see **Appendix A** for notes about how to map information gathered.

Risk Assessment Tools

We will explore a few of the Risk Assessment tools below, namely:

- What-if analysis
- Checklist of known hazards
- Hazard and operability study (HAZOP)
- Failure mode and effect analysis (FMEA)
- Fault Tree Analysis (FTA)
- Ishikawa
- Preliminary Hazard Analysis (PHA)

What-if Analysis

Use a what-if analysis to identify specific hazards and hazardous situations. What-if questions are asked about what could go wrong and hazardous consequences are identified and analysed. This type of analysis is a brainstorming activity and is carried out by people who have knowledge about the areas, operations, and processes that may be exposed to hazardous events and conditions.

Checklist of Known Hazards

Use a checklist of known hazards to identify your hazards and hazardous situations. The value of this type of analysis depends upon the quality of the checklist and the experience of the user.

- Use a **combination of checklists and what-if analysis** to identify your hazards and hazardous situations. Checklists are used to ensure that all relevant what-if questions are asked and discussed, and to encourage a creative approach to risk assessment.

HAZOP

Use a hazard and operability study (HAZOP) to identify your hazards and hazardous situations. If you need to do a very thorough analysis, this method is for you. However, it requires strong leadership and is costly and time consuming. It also assumes that you have a very knowledgeable interdisciplinary team available to you, one with detailed knowledge about the areas, operations, and processes that may be exposed to hazardous events and conditions.

Hazard and Operability (HAZOP) analysis is a technique that allows you to identify and evaluate, caused by deviations from the design or operating intentions problems that may represent risks to personnel or equipment. These deviations are recognised by using so-called "guide-words" applied to process

parameters.

The main "guide-words" are listed in the following table.

No or not	Negation of intent
More	Quantitative increase
Less	Quantitative decrease
As well as	Additional activity occurs
Part of	Only some of intention is achieved
Reverse	Logical opposite of the intent
Other than	Complete substitution
Early	The timing is different from the intention (too early)
Late	The timing is different from the intention (too late)
Before	Step is carried out before the correct sequence
After	Step is carried out after the correct sequence
Faster	Step is carried out faster than right timing
Slower	Step is carried out slower than right timing

HAZOP technique was originally developed to study plants and process systems. It also often applied to operators, software and procedures.

HAZOP is realised by using a work-sheet that generally includes the following columns:

- ID number
- Guide-word
- Type of deviation
- Potential causes
- Consequences
- Safeguards/controls
- Actions required/recommendations
- Responsibility

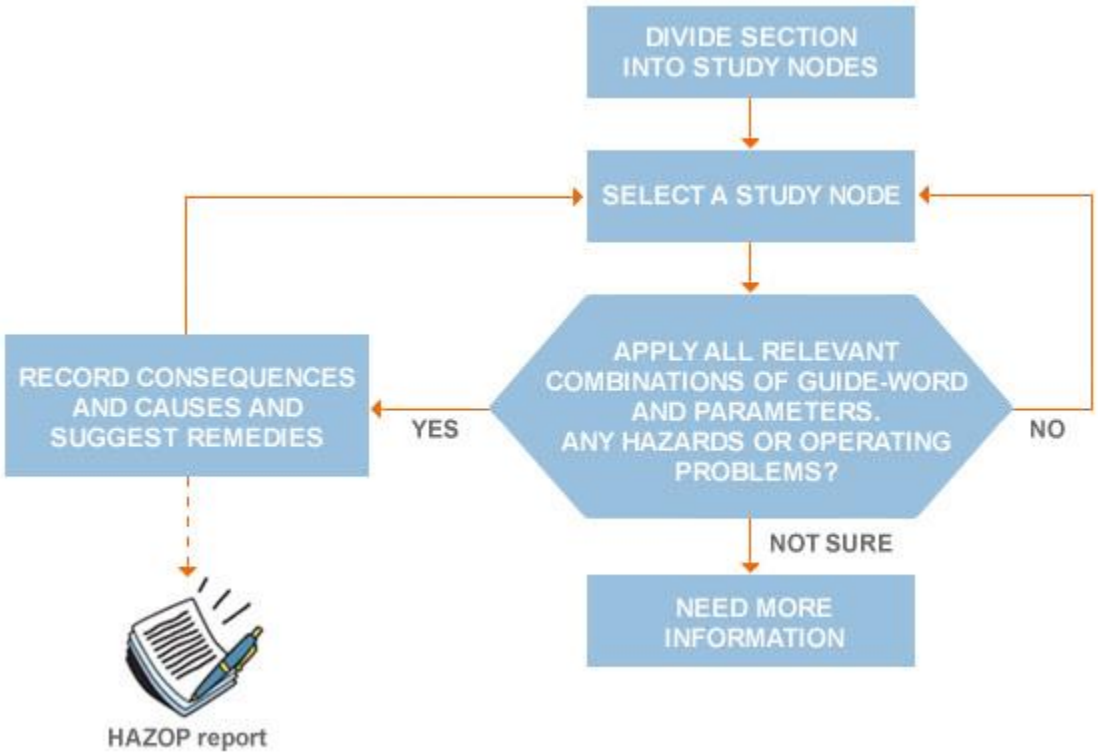
In order to apply HAZOP technique, process flow and layout diagrams, data sheets and operating instructions should be available.

A HAZOP study is very often used as a systematic technique for identifying hazards or operability problems throughout an entire facility. One (usually a team of people) examines each segment of a process and lists all possible deviations from normal operating conditions and how these might occur.

- What deviations could arise?
- How can these arise?
- What are the implications?
- Any surrounding implications?

Example:

- A pipe could break, if the supports are not adequate.
- Gas will escape from the break.
- A massive explosion will ensue.
- Damage to plant and surrounding property, risk to life and limb.



A node is a specific location in the process in which the deviations of the design/process are evaluated.

The first step is to collect documents and drawings as mentioned before. After that it is possible to divide the facility into different nodes and for each one evaluate deviations, all potential causes and related consequences, also listing controls and recommendations.

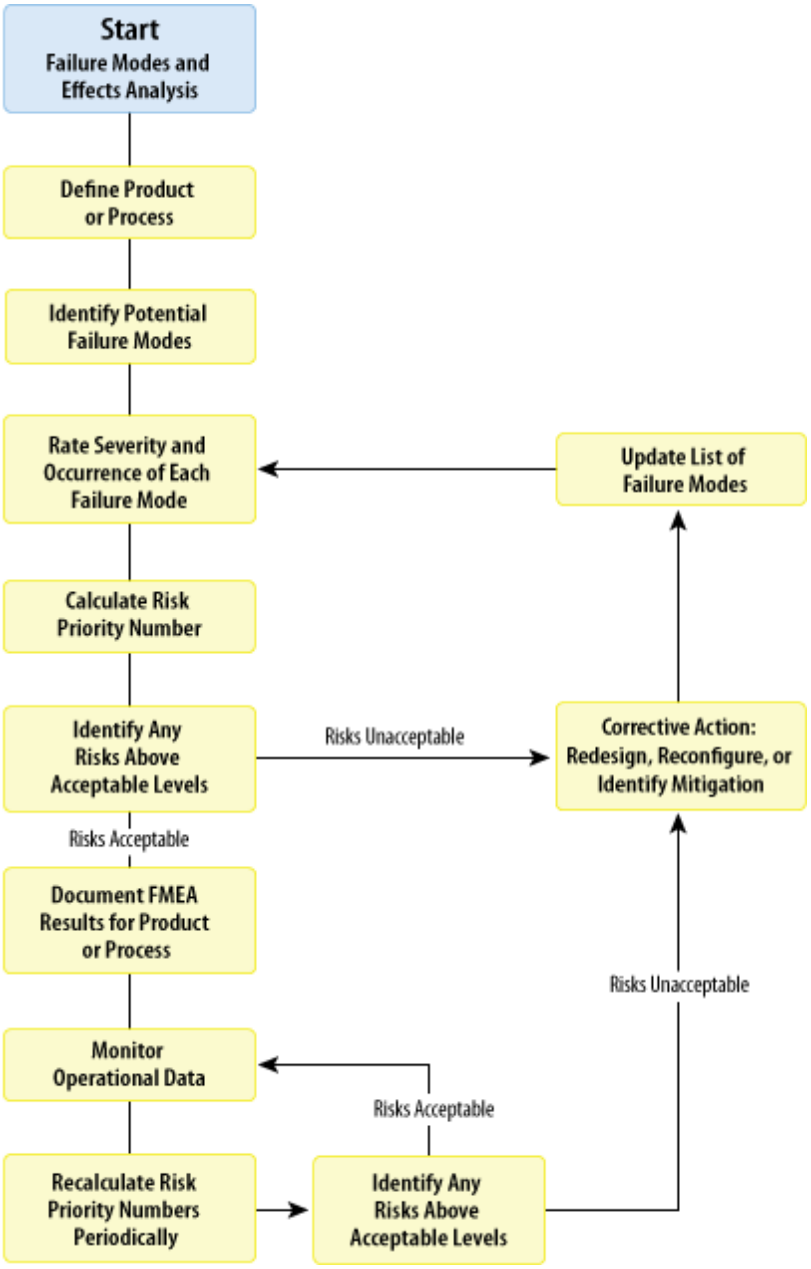
HAZOP studies are very often used in practice and in America it is estimated that half of the chemical industry used the HAZOP technique for all new facilities. The normal time between reviews of existing facilities is 1½ - 5 years and the use of the technique is increasing.

FMEA

Use a failure mode and effect analysis (FMEA) to identify potential failures and to figure out what effect failures would have. This method begins by selecting a system for analysis and then looks at each element within the system. It then tries to predict what would happen to the system as a whole when each element fails. This method is often used to predict hardware failures and is best suited for this purpose.

Key concepts which characterise FMEA and define the risk are:

- Function (or process step) - the task that the system, design, process, or service must perform
- Failure - functional defectiveness that does not meet the customers' requirements. It is the inability of the system to perform based on the design intent
- Failure mode - the physical description of the manner in which a failure occurs
- Cause of failure - the root cause of the listed failure
- Effect of failure - the outcome of the failure of the function from a local or global point of view.
- Current controls - implemented controls to prevent causes of the failure from occurring



In order to categorise and prioritise risk level three parameters need to be defined:

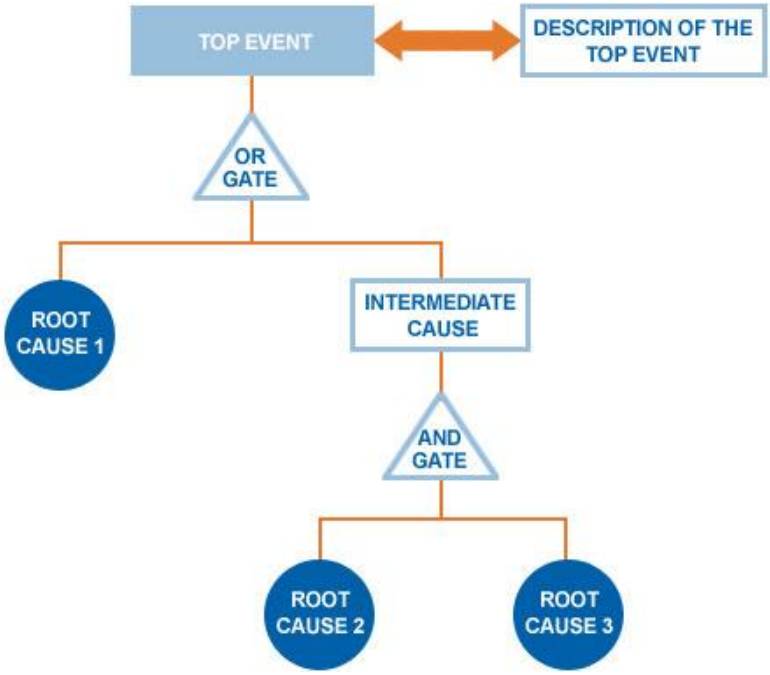
- Severity - it indicates the seriousness of the effect (consequences) of the failure mode
- Occurrence - it represents the estimate number of failure that could occur for a given cause
- Detection - it corresponds to the likelihood that the proposed control will detect a specific cause of a failure

Risk priority to identify a corrective action implementation order is calculated through combination of these three parameters after defining a threshold of risk acceptability.

FMEA/FMECA is frequently used in combination with other techniques to reach multiple benefits, e.g. in order to identify causes of failure a specific Fault Tree Analysis (FTA) can be developed.

FTA

Use a fault tree analysis (FTA) to identify all the things that could potentially cause a hazardous event. It starts with a particular type of hazardous event and then tries to identify every possible cause.



Main steps for build FTA following:

1. System definition: the definition of the system is essential to understand the environment and the process involved in the system itself and can be obtained using a mapping technique.
2. Top event identification: the top event must be clearly and unambiguously identified together with the definition of the boundaries that edge the analysis.
3. Tree development: the tree is developed by the definition of the events and conditions that can generate the defined top event, the connection of these events by logic gates, proceeding until the appropriate level (i.e. the level where root events are independents or where no data exist for that event).
4. Fault tree evaluation: the evaluation of a fault tree is based on the identification and classification of minimal cut sets, i.e. the minimal set of root events whose simultaneous occurrence ensures that the top event occurs.
5. Top event probability estimate: the estimation is based on statistical calculations that combine the probability of failure of the different basic events.

ISHIKAWA

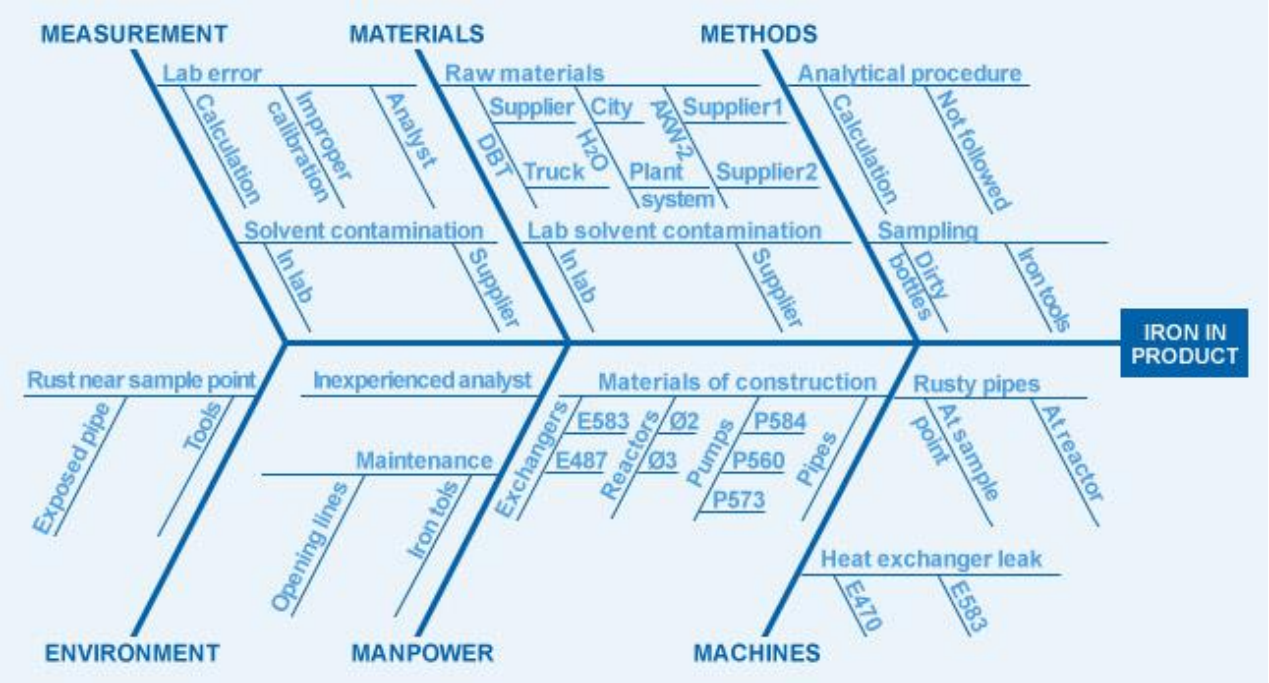
This technique was developed in 1969 by Kaoru Ishikawa, who pioneered quality management processes in the Kawasaki shipyards, and in the process became one of the founding fathers of modern management.

The Ishikawa diagram, also called "Fishbone" or "Cause-and-Effect diagram", is a graphic tool used to identify potential causes (i.e. sources of variation in a process) for an effect or a problem.

It is most effective if made by a team (brainstorming) rather than by individuals and is used for product design and quality defect prevention.

The potential causes identified by the team are usually grouped into categories that identify sources of variation. Generally these categories could be the 6 M's:

- MAN: personnel involved in process
- MOTHER NATURE: environmental conditions
- METHODS: procedures, instructions, etc.
- MACHINES: equipment
- MEASUREMENTS: data generated from the process
- MATERIALS: anything used in the process



The problem of interest is inserted on the right of the diagram at the end of the main "bone". The identified categories related to the problem are drawn as bones off the main backbone. Brainstorming is typically done to add possible causes to the main "bones" and so on. This subdivision into ever increasing specificity continues as long as the problem areas can be further subdivided. The practical maximum depth of this tree is usually five levels.

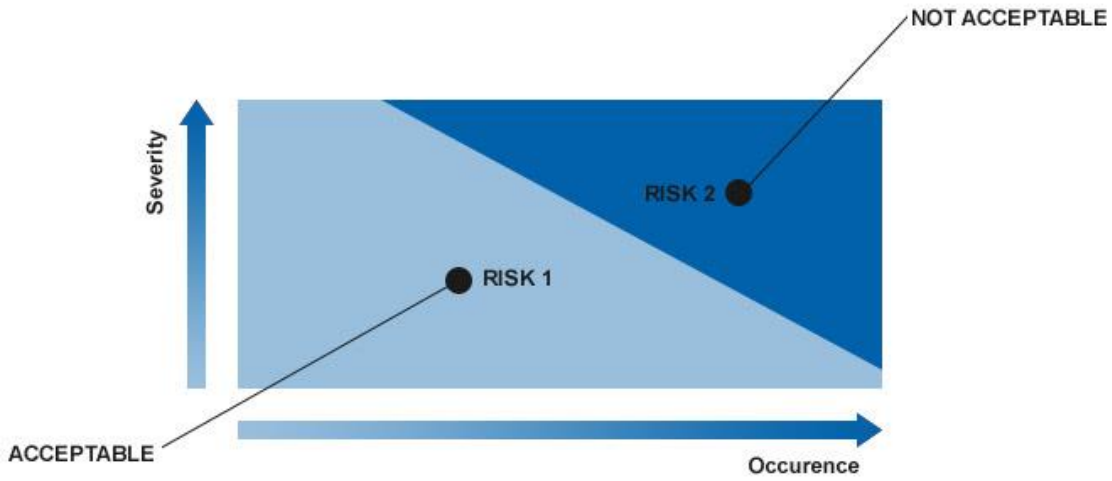
PHA

Preliminary Hazard Analysis (PHA) is based on exploiting prior experience or knowledge of a hazard or failure to identify future hazards, hazardous situations and events that can cause harm and estimate their probability of occurrence for a given activity, facility, product or system.

The objective of the PHA is to identify as early as possible the main hazards and accidents that may arise during the life of the product.

HAZARDS ARISING FROM PRODUCT DESIGN				
HAZARD	INVESTIGATION / CONTROLS	SEV	FREQ	IMP (SxF)

After hazard identification and quantification in terms of severity and frequency of the event / consequence, it is necessary to associate a possible remedial measures to reduce risk in an acceptable area.



This technique can be used as initial risk assessment either when the analysed system is not yet clearly defined or when exhaustive information is not available. It can be useful when analysing existing systems or prioritising hazards where circumstances prevent a more extensive technique from being used.

Hazard identification can be made through:

1. Evaluation of similar systems
2. Review of other hazard analyses (for similar systems)
3. High level risk assessment

PHA should be performed as early in the project life cycle as possible in order to gain maximum benefit by understanding hazards. In fact, any change is less expensive and easier to implement in the first stages of design, thus reducing the number of problems.

Adapted from: www.ptm-consulting.it

Use of Data: Risk inspections, questionnaires and incident report forms

Most firms do not have enough accidents to justify sophisticated statistical analysis. Even in large concerns, conditions may vary between operating divisions and localities.

However, the information on accidents and other incidents (near-misses) provided by **accident report forms** can be used to:

1. measure the performance of line managers and supervisors
2. determine which operations need correction
3. identify hazards
4. motivate workers and managers toward loss control

Examples

Suppose that a disproportionate number of accidents occur during the night-shift. Perhaps:

- The foreman or supervisor is a little slack
- Some employees have taken on additional 'day' jobs and are tired when they come on shift
- Lighting is faulty - insufficient or flickering lights, heavy shadows
- Night-time temperatures are too low for comfort. The opposite might happen during the day, when it is too hot

If one employee's name keeps cropping up, perhaps he

- Has personal problems, affecting his work
- Is being overworked
- Needs better training
- Should be moved to some other line of work, before he injures himself

Accidents at a particular machine might show a need for improved safety devices, better operating procedures, or even replacing it with a new and safer model.

Other Sources of Information

The experience of other firms may suggest other risks resulting in losses to them, which may be "accidents waiting to happen" as far as the present company is concerned.

The American risk management guides suggest a list something like this:

Natural Perils		
Climate changes	Landslide/Mudslide	Snakes
Corrosion	Lightning	Snow/Ice
Disease	Meteors	Static electricity
Drought	Mildew	Subsidence (Sinkholes)
Earthquake	Mould	Temperature Extremes
Evaporation	Perils of the air (icing clear air turbulence)	Tides
Erosion		Tidal wave/Tsunami
Fire (natural origin)	Perils of the sea (icebergs, waves, sandbars, reefs)	Uncontrollable vegetation
Flood and run-off		Vermin
Fungi	Rot	Volcanic eruption
Hail	Rust	Water
Humidity Extremes	Soil movement	Wind
Human Perils		
Arson	Explosion	Excessive odour
Collapse of structures	Fire and smoke	Sabotage
Changes of temperature	Human error	Shrinkage
Chemical leakage/Poison	Machinery breakdown	Sonic boom
Cleaning operations	Molten materials	Terrorism
Contamination	Pollution (smoke, smog, water, noise)	Theft, Forgery, Fraud
		Toppling of high-piled objects

Discrimination	Power/Communication outage	Vandalism, Malicious damage
Dust		Vibration
Elec. breakdown or malfunction	Radioactive contaminations	Water hammer
Electrical overload	Riot	
Economic Perils		
Changes in consumer taste	Expropriation, Confiscation	Stock market declines
Currency Fluctuations	Inflation	Strikes
Depression	Obsolescence	Technological advances
	Recession	War

This classification may be of considerable value in implementing risk control measures since it includes several of the gradually operating causes excluded by most insurance policies. It is meant as a reminder, not a hard-and-fast set of definitions.

New hazards also come to light through **experimentation under controlled conditions**.

Identify Possible Scenarios that could Constitute a Risk

Scenario modelling (of interactions between hazards, vulnerabilities and exposures) is a crucial step which informs sound risk ranking and planning considerations.

Results from recent analyses and performance reviews recognise that "comprehensive planning, including using the results of disaster simulations, can help organisations better prepare for potential disasters and thereby mitigate their effects". (Ref: GAO-07-114 SBA Disaster Preparedness, Feb 2007, p. 3-4)

Generate and model scenarios by identifying what, why, where, when and how events could affect the entity (business).

Premise predicaments - and tease out issues for prevention, preparedness, response and recovery.

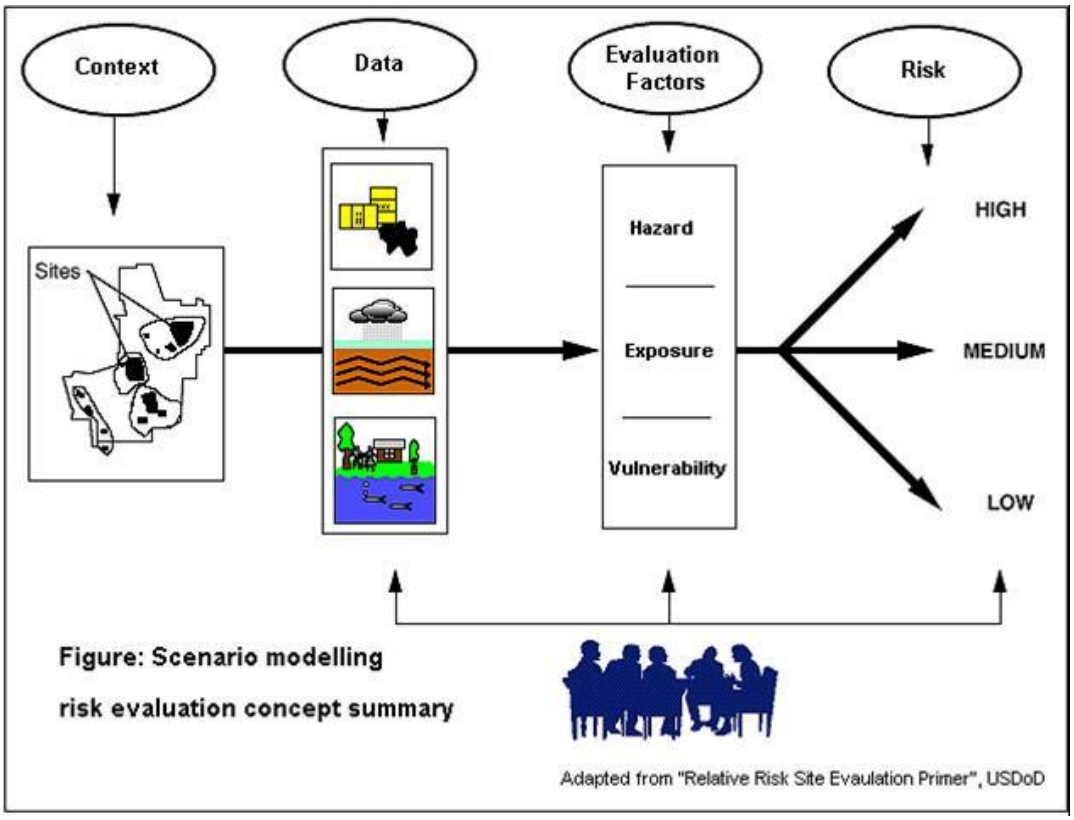


Figure: Scenario modelling risk evaluation concept summary

Scenarios provide an excellent platform to engage stakeholders, assess risks and exercise key management competencies.

Use quality planning processes (such as those outlined in the table below) to ensure tailored outcomes are achieved.

Developmental Stages	Performance Quality Level		
	Level 1	**Level 2**	**Level 3**
Concepts & Objectives (C&O) 1.1 The need for exercise is identified in consultation with stakeholders	Identify which risk management strategies will require being "exercised".	Communicate and consult with stakeholders. Determine roles, responsibilities and resource implications of involvement in exercise.	Achieve and foster commitment from relevant stakeholders (financial and human resources) of involvement in exercise.
1.2 Objectives of the exercise which meet the identified need are determined	Determine the objectives of the exercise. Document objectives in clear, simple and measurable terms.	Determine pathways to achieve those objectives.	Determine context evidence required to evaluate stated objectives.
1.3 Exercise style, consistent with the objectives, is selected in consultation with stakeholders	Select the exercise style to meet stated objectives in consultation with stakeholders.	Justify the selection of exercise style to stakeholder groups	Examine the strengths and weaknesses of a range of alternative exercise styles. Review and modify.
Initial Planning Conference (IPC) 2.1 Exercise design team is assembled for developmental workshop(s)	Identify appropriate personnel to design and write exercise.	Assemble and brief exercise writing team and allocate tasks.	Evaluate and provide guidance to meet stated objectives.
2.2 Design exercise	Implement existing exercise formats.	Customize existing exercise formats to suit objectives.	Design innovative exercise(s) to meet objectives.
2.3 Resource allocation	Identify required resources.	Justify resource allocation to stakeholder groups.	Secure resources required to implement exercise in consultation with stakeholders.
Tabletop Exercise (TTX) 3. Manage exercise	Communicate aims, objectives, expectations and activity outcomes to personnel involved in exercise.	Initiate and facilitate exercise. Consult with participating personnel and relevant stakeholders on evaluation of exercise.	Actively monitor the progress of the exercise. Debrief & evaluate the exercise, reviewing activity outcomes against objectives; provide feedback to participating personnel & stakeholders via an After Action Report (AAR); & Improvement Plan (IP)

As a best practice tool to maximize the performance of due diligence this quality definition matrix integrates Australia's National Emergency Management Competency Standards (PUAEMR005A); developmental work by Griffin & Gillis, 2002 (Ref http://www.aare.edu.au/02pap/gri02636.htm); and approaches in the Homeland Security Exercise & Evaluation Program (USA).

Risk inspections, questionnaires and incident report forms should have revealed a number of potential hazards or risks.

Please see **Appendix B for an example** risk assessment document that can be used in the office environment.

We cannot deal with all of these in detail, but the following are some basic considerations:

Organisational records as a risk

Records can be classified in one of the three following categories:

- Vital records
- Important records
- Useful records.

Vital records are irreplaceable. Important records can be obtained or reproduced at considerable expense and only after considerable delay. Useful records would cause inconvenience if lost, but can be replaced without considerable expense.

Vital and important records should be duplicated and stored in an area protected from fire or its effects.

Records kept in the computer room should be minimised and should be stored in closed metal files or cabinets.

Records stored outside the computer room should be in fire-resistant file cabinets with fire resistance of at least two hours.

Protection of records also depends on the particular threat that is present. An important consideration is the speed of onset and the amount of time available to act. This could range from gathering papers hastily and exiting quickly to an orderly securing of documents in a vault. Identifying records and information is most critical for ensuring the continuity of operations.

A systematic approach to records management is also an important part of the risk analysis process and business recovery planning.

Additional benefits include: reduced storage costs, expedited service, and government statutory compliance.

Records should not be retained only as proof of financial transactions, but also to verify compliance with legal and statutory requirements.

In addition, businesses must satisfy retention requirements as an organisation and employer. These records are used for independent examination and verification of sound business practices.

Government requirements for records retention must be analysed. Each organisation should have its legal counsel approve its own retention schedule. As well as retaining records, the organisation should be aware of the specific record salvage procedures to follow for different types of media after a disaster.

Fire as a risk

Fire is a rapid, self-sustaining energy conversion system, where energy stored in fuel is released as heat and, usually, visible light.

Means of Control

Fires can be avoided, controlled or put out by interfering with these requirements:

- **Heat**:
  probably the easiest to remove. Cooling with water, preventing radiation (e.g. dry powder), slowing down combustion by venting hot gas. Better still, eliminate ignition sources.
- **Fuel**:
  remove the fuel from the flame zone and the fire will go out. Examples: fire breaks; turning off supply of gas or liquid fuels, blanketing fuel with a vapour barrier (e.g. foam).
- **Oxygen**:
  remove (very unusual), restrict, or dilute the oxygen in the flame zone to (generally) below 16% and the fire will be extinguished. Examples: dilution by inert gas such as Carbon Dioxide (CO_2) or steam, closing down air intakes, limiting the openings in a building, breaking the air up into bubbles (high expansion foam), dropping a lid on the fuel or smothering with a blanket.

  Note: Some fuels, e.g. explosives, contain their own oxygen supply in the form of oxygen rich compounds.
- **Chain reaction**:
  Interfering with the chain reaction by means of chemicals can prevent it going to completion and

thus prevent it releasing the stored heat of the fuel. Alternative products with high levels of stored energy are produced with the result that insufficient heat is released to sustain the fire. Examples: the action of BCF and dry powder.

Fire Detection and Extinguishers

Every commercial property should be fitted with:

- first-aid fire-fighting equipment
- smoke or heat detectors
- an evacuation alarm
- an automatic sprinkler system.

First-Aid Equipment

This includes hand-held extinguishers, and hose reels. Hand-held extinguishers have a limited capacity, but are useful on small fires in their early stages. They should be mounted in clearly marked, visible positions, as near as possible to exit points.

Hose reels have a better fire-fighting capacity, but cannot deliver a sufficient volume of water to contain a larger fire. They must not be misused for other purposes, and must not be obstructed in any way. The hose should be able to reach any part of the area being protected.

Smoke Detectors

In many kinds of fire, the early smouldering stages give off quantities of smoke. The early warning provide by a smoke detection system is especially valuable in hotels and other residential buildings, where occupants may otherwise be overcome by smoke inhalation in their sleep.

Heat Detectors

In fires where heat is rapidly evolved, perhaps without a great deal of smoke, heat detectors may give early warning. During South African summers, normal heat ranges, particularly at roof level, can be high, and the detection range must allow for this.

Evacuation Alarms

An early priority is getting personnel to a place of safety. There should be an established system of fire drills.

Automatic Sprinklers

An automatic sprinkler system consists of water pipes and heat operated valves (sprinkler heads). Fire is automatically detected, the alarm given, and water delivered to the seat of the fire. This is like having one fireman for every 10 square meters of floor area, 24 hours a day. The fire can be extinguished or at least kept under control until the fire brigade arrives.

Apart from installation and maintenance costs, some possible snags are:

- Accidental discharge, by knocking one of the heads
- Faulty stacking of goods, so as to restrict the flow of water from the head
- Inadequate or fluctuating water supply. Sometimes several heads are activated. The water supply must provide the specified flow for a sufficient time. Additional storage tanks and booster pumps may be necessary
- Deliberately or accidentally closing the main shut-off valve. Usually these are padlocked or strapped in the open position. The fire brigade, on attending the fire, can then decide when the sprinkler should be turned off.

In dealing with one risk, we must be careful not to create another. Water is not suitable for electrical fires, due to the risk of short circuit or electrocution, although it might be acceptable if the power has been turned off. Dry powder extinguishers can cause damage to delicate machinery (or involve many hours of

labour in dismantling and cleaning). An accidental release of CO_2 gas may asphyxiate a repair man. Automatic sprinkler systems can cause extensive damage to stocks of paper, although this might be preferable to a devastating fire.

Prevention and Control

Factors to think about:

- The **inception risk**, how a building is occupied; and the processes or hazards associated with such occupation
- The **propagation risk,** the extent to which the size and layout of the premises and the presence of combustible materials may facilitate the spread of fire
- The **concentration of values** involved; that is, the extent to which high value materials which are subject to risk are concentrated within relatively small areas
- The **construction** of the building; to assess the degree to which it can resist a fire, or arrest its progress
- **Susceptibility** to damage. Foodstuffs are easily contaminated by smoke. Electronic components may be affected by smoke, or even by a relatively small increase in temperature.

Sources of Ignition

Most fires occur because activation heat energy is introduced into an otherwise harmless situation in which combustibles are sitting waiting in contact with the oxygen in the air. (About 21% of the air is oxygen).

Common ignition sources in general order of frequency are:

- Electricity
- Smoking
- Arson
- Overheated materials
- Hot surfaces
- Open flames
- Cutting and welding
- Friction
- Spontaneous combustion
- Exposure to other risks
- Chemical reactions
- Mechanical sparks
- Static sparks
- Molten substances
- Lightning.

The question of which best to control - the fuel or the heat, is sometimes determined by the state (or phase) of the fuel. Liquid fuels and gaseous fuels are much more mobile and will tend to 'seek out' the energy source. They are therefore more difficult to contain than solid fuels.

Explosion and Detonation as a risk

An explosion is a sudden and violent release of large amounts of gas or water.

Detonation is an explosion in which the speed of reaction through the reacting material is equal to or exceeds the speed of sound. A shock wave is produced even if not contained.

Deflagration is an explosion in which the speed of reaction through the reacting material is less than the speed of sound. A shock wave is only produced if the deflagration occurs within a confined space. This may sound a bit technical, but it is important when considering surrounding property damage, or liabilities. Usually, detonation is more dangerous than deflagration.

Causes

Explosions may arise from:

- Bursting of pressure vessels, such as gas cylinders and boilers
- Very rapid heat reactions producing large volumes of gas and/or vapours.

It is not always realised that dust can cause an explosion. Dusts have a larger surface area than the solid materials from which they are formed, and when the dust is in the form of a cloud the individual particles are surrounded by air. As a consequence their rate of burning is much greater than that of bulk solids.

Provided that the particles are neither too far apart nor too close together, ignition will be followed by a spread of flame through the dust cloud as successive zones are heated to ignition temperature.

The spread of flame results in a build-up of pressure by the expanding hot gases creating pressure waves. These travel ahead of the flame. Any dust lying on surfaces in the path of the explosion will be thrown into the air, and can cause a secondary explosion more violent than the first.

Prevention and Control

It is possible to take steps to prevent and minimise loss caused by the explosion of:

- Inflammable or explosive gases and vapours by:
    - Providing mechanical exhaust fans to ventilate the area of any build-up of gases or vapours to a safe area outside the building;
    - Flame proofing all electrical equipment;
    - The elimination of all other possible ignition sources;
    - The use of safe working practices and good housekeeping standards.
- Dusts by:
    - Enclosure of plant, processes and equipment to prevent dust escaping and reaching ignition sources;
    - Dust extraction to a metal container outside the building so as to prevent the accumulation of explosive dust;
    - Removal or protection of ignition sources including the flame proofing of electrical equipment;
    - Working under an inert atmosphere or under liquid;
    - The use of safe working practices and good housekeeping standards;
    - Installing electromagnetic or metal detecting safety switches in the feed areas of grinders to detect all tramp iron, to prevent both spark and damage to the machinery;
    - Prevention of the accumulation of dust. Layers of dust tend to have lower ignition temperatures than dust clouds. The differences can be very significant - over 200 degrees centigrade - in the case of many agricultural products and certain plastics. When dusts are allowed to accumulate on surfaces which are apparently at a safe temperature they can begin to smoulder. If the dust is then dispersed an explosion can occur. Ignition temperatures **decrease** as layers become **thicker**.
- **Protecting** the plant by designs that withstand or isolate the explosions. Pressures of 700kPa can be generated. Most plant cannot withstand pressures much greater than 20kPa.
- **Relieving** plant explosions by diverting the force of the blast harmlessly through vents, ducts or bursting panels.
- **Suppressing** plant explosions by using the pressure from an explosion in its early stages to release a chemical which suppresses the explosion.

Remember that the actual explosion could occur at other premises. At a sweet factory, the entire day's production was ruined when a nearby explosion shattered a glass skylight.

Other Controls

Other control measures include:

- Free run-off of surface water, even under extreme conditions;
- Securing any loose roofing material or wall cladding;
- Hail nets or other shelter for vehicles;
- Check that downpipes box gutters and drains are in good condition and free from blockages;
- Check water supply pipes and other plumbing ;
- Avoid flat or low-pitched roofs. Hail or even snow can accumulate and cause a collapse;
- Watch out for construction work in the area, which can alter the normal water flows.

Storm, Flood, Water Damage as a risk

Pallets

The standard control measure is to palletise - raise items at risk a few centimetres off the floor. (Not much help when water comes from above). If *real* flooding occurs, water and debris sweep through the premises, leaving a residue of mud and rubbish 30 cm, or more, deep. This might be further contaminated by picking up oils and chemicals released from damaged containers.

Other control measures include:

- free run-off of surface water, even under extreme conditions;
- securing any loose roofing material or wall cladding;
- hail nets or other shelter for vehicles;
- check that downpipes box gutters and drains are in good condition and free from blockages;
- check water supply pipes and other plumbing ;
- avoid flat or low-pitched roofs. Hail or even snow can accumulate and cause a collapse;
- watch out for construction work in the area, which can alter the normal water flows.

Theft as a risk

Situation

Some aspects of risk control can only be implemented prior to building, and the following should be taken into account:

- The type of neighbourhood;
- The level of lighting around the area at night;
- The level of activity in the area during both daylight and night-time.

Construction

Most of the possible means of reducing the risk must be incorporated at the time of building, though some remedial work can be undertaken at a later date, such as providing additional protection for access points. Consideration should be given to such questions as:

- The **materials** used in the building. Do they offer resistance to the would-be thief?
- The **layout** of the building and any possible areas of concealment, such as
  - Yards and enclosed areas. Can the lighting be improved?
  - Boundary walls and fences. Can glass or razor wire be placed at the top of them to act as an

additional deterrent? An electric fence may be an option.

- **Access points** both internal and external :
  - Doors and windows. Are they heavy duty or substandard? Are window bars strong?
  - Sewage and drainpipes. Is a spiked umbrella fixed at a suitable height on each of them or are they rebated into the brickwork?

Occupation

Occupation is perhaps the most important aspect as it determines to a large extent the attractiveness of the premises to the criminal because of the goods likely to be stored on the premises. It is difficult to see how the risks associated with a particular occupation may be eliminated as they are a fundamental part of that occupation. However, the risks involved can and should be minimised and consideration should be given to:

- The type of goods stored and used in the premises. Are they easily transported and disposed? Can they be identified?
- Is there ever a large accumulation of cash on the premises? Can this be avoided?
- How are the goods and cash stored?

Other Precautions

There are other precautions. Paying attention to the little things can often bring considerable benefits as far as deterring the would-be thief from entering the premises. Precautions may be taken, such as:

- Ensuring that the site is able to be securely fenced; Ensuring that all aspects of the exterior of the building are well lit at night, particularly doors and windows, planting trees or shrubs that will provide concealment to the criminal should be avoided;
- Not leaving ladders, wooden pallets or similar items lying around outside the building as these can be used to gain access to the roof. In addition to providing access, these articles as well as any waste and unused packing material, are often used to start fires which can cause major damage to the building;
- Making sure that all of the doors and windows to the premises are securely locked so that the thief has to use more time in trying to get into and out of the premises. Don't hide an entrance key outside the premises, and ensure that all exit doors require a key to open them;
- Not leaving attractive goods in full view;
- Not leaving attractive goods in unsecured areas inside premises during non-working hours;
- Installing security lighting to highlight intruders both inside and outside the premises;
- Immobilising fork hoists, gantry cranes and any vehicles left inside the premises overnight;
- Not storing money in the till overnight. Always empty tills and leave them open at night.

Machinery as a risk

Risk Control

To a large extent, this depends on proper maintenance and operating procedures, combined with protection against the obvious physical risks.

From an interruption standpoint, the questions include:

- Is this the only machine of its kind at the premises, or are there back-ups, even perhaps at other companies in the group?
- Is it working to full capacity, or could extra shifts be worked to make up for interruption time?
- Are spares readily available? What stock of spares should be kept on the premises?

- Arrangements with the machine suppliers or agents for rapid repair service?
- Would it be worthwhile to buy a stand-by machine, or could the work be sub-contracted?

Computers as a risk

The risks arising out of the ownership and use of computers have become very significant in recent years, as has the dependency of organisations on them, and as the value of information to the operation of the organisation has been recognised.

The risk reduction measures that should be taken therefore need to ensure that:

- The computing facility is available when required by the organisation;
- Misuse of computer time is minimised;
- The information is not:
    - corrupted
    - stolen or removed
    - destroyed either deliberately or accidentally

Possible measures would include:

- Careful selection of staff;
- Strict implementation of standards for :
    - operating programming
    - systems design;
    - division of duties e.g. programmers not allowed to operate;
    - restricted and controlled access to the computer and its files;
    - integration of the clerical and computer systems;
    - control over the development and implementation of new systems and changes to existing systems in terms of both cost and time;
    - regular financial audits.

Fidelity as a risk

Risk Control

This is closely related to Computer Control, except that opportunities for dishonesty are opened to a wider range of employees.

Control measures include:

- Careful selection of staff. Sometimes, careful enquiries reveal a past history of dishonesty;
- Implementing and enforcing strict procedures for handling stock and money;
- Two or more signatures to cheques or money transfers;
- Regular financial audits;
- Good staff relations.

Liability as a risk

Risk Control

A liability claim is the consequence of an event, not the event itself. Legal liability risk control programmes overlap with other areas of risk control, except that they concern danger to **other persons** and their property, arising out of our operations and actions. This might be a positive act, or an omission. Could a reasonable man have foreseen the harm, and could he reasonably be expected to prevent it?

Important aspects are:

- Liability for defective products
- Liability for death or injury, or damage to property
- Pollution, seepage and impairment of the environment

The risk manager should concern himself with the products marketed, the uses to which these are put, and the contract conditions under which they are supplied.

Personnel Risks

Hazards

As already pointed out, most preventable accidents are of human origin. People fall into the habit of doing things that really do not make sense, such as:

- Standing on a wobbly ladder to adjust a drive belt, or reach something on a shelf;
- Working on revolving machinery while wearing loose flapping clothing. Long hair can also get caught;
- Practical jokes and horseplay;
- Removing protective guards on machinery, "because they get in the way";
- Operating dangerous machinery while under the influence of alcohol or medication;
- Welding among a clutter of flammable material.

The **causes** of major injuries are much the same as minor ones. The **severity** is a matter of chance, so it makes sense to avoid *all* accidents.

Disability

Disability is the major cause of personnel losses. The frequency of disability is a good deal higher than the death rate. Apart from accidents, there are less obvious kinds of disability. Chronic, latent or developing physical conditions - back problems, repetitive stress injury, exposure to harmful physical environments, mental stress, - tend to be ignored until they become severe. When they are not recognised, their present costs are ignored and their future costs accumulate.

Perform an analysis to rate the impact of each scenario

Once the risk has been identified, you need to assess each item in order to determine the extent of the risk in terms of its potential impact on the individual and/or the company.

This is done by analysing each item identified according to whether it is a high, medium or low risk to the business. You will have to use set criteria, i.e. a list of what low, medium, or high risk will mean.

Examples:

- If you are not complying with a procedure and it will result in placing people's lives in danger, then your action would be rated as a high risk.
- If non-compliance to a procedure will result in wasted time of 15 minutes, then you would probably rate it as a low risk

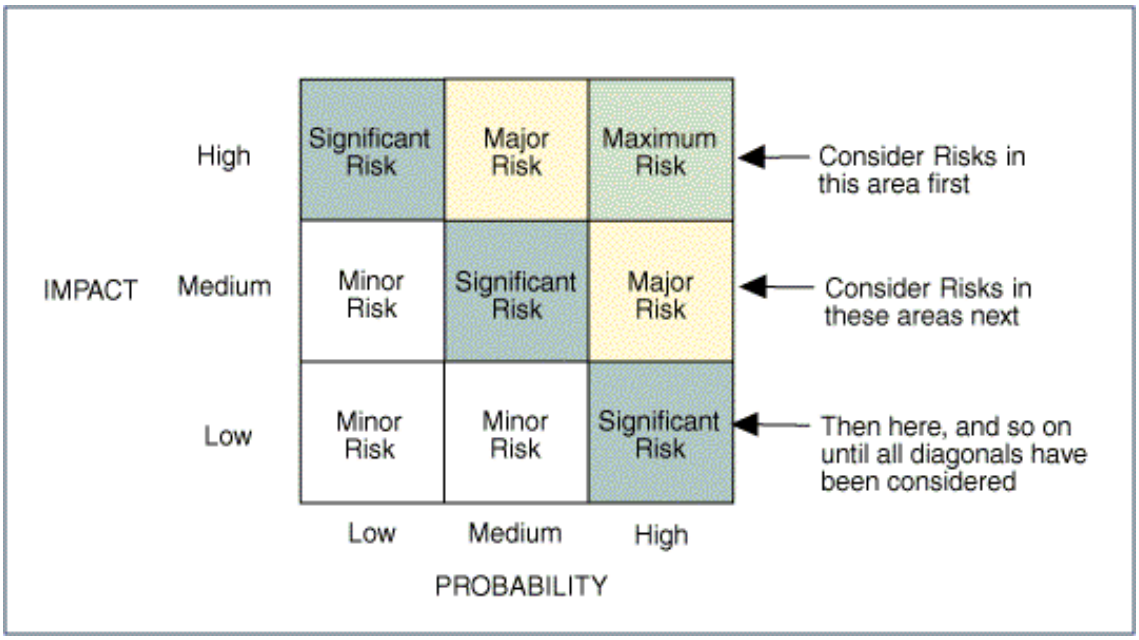
Rating Risks

Risk is rated on a three-tiered scale according to the impact that the action would have on the employee and/or the organisation:

- Low risk
- Medium risk
- High risk

Part of this process of assessing risks is to assess the likelihood of any risk materialising.

The impact of the risk can be mapped on a graph:



For example, there is a risk that someone will die of natural causes at a promotional event that you organise. The likelihood of this occurrence will depend on the type of event. At an event for old age pensioners it is a possibility. The effect on the event can be very large. The event manager will have to virtually drop what she is doing and immediately attend to this situation. For most events this risk will be high on the left- hand side of the graph.

Evaluating risks and prioritising risks:

The next step is to evaluate the risk arising from each hazard. This can be done by considering:

- how likely it is that a hazard will cause harm (e.g. whether it is improbable, possible but not very likely, probable, or inevitable over time)
- how serious that harm is likely to be (e.g. resulting in minor damage, a non-injury incident, a minor injury (bruise, laceration), a serious injury (fracture, amputation, chronic ill-health), a fatality, or a multiple-fatality)
- how often (and how many) workers are exposed.

A straightforward process based on judgement and requiring no specialist skills or complicated techniques could be sufficient for many workplace hazards or activities. These include activities with hazards of low concern, or workplaces where risks are well-known, or readily identified and where a means of control is readily available.

In some other cases it may not be possible to identify the hazards and evaluate risks without professional knowledge, support and advice. This may arise in respect of the more complex processes and technologies in the workplace, or hazards, such as those related to health, which may not be readily or easily identifiable, and may require analysis and measurements.

Risk Estimation

Risk estimation can be quantitative, semi-quantitative, or qualitative in terms of the probability of occurrence and the possible consequence.

For example, consequences both in terms of threats (downside risks) and opportunities (upside risks) may be high, medium or low (see below). Probability may be high, medium or low but requires different definitions in respect of threats and opportunities (see tables that follow).

Consequences - Both Threats and Opportunities

High	Financial impact on the organisation is likely to exceed Rx Significant impact on the organisation's strategy or operational activities Significant stakeholder concern
Medium	Financial impact on the organisation likely to be between Rx and Rxx Moderate impact on the organisation's strategy or operational activities Moderate stakeholder concern
Low	Financial impact on the organisation likely to be less than Rx Low impact on the organisation's strategy or operational activities Low stakeholder concern

Probability of Occurrence - Threats

Estimation	**Description**	**Indicators**
High (Probable)	Likely to occur each year or more than 25% chance of occurrence.	Potential of it occurring several times within the time period (for example - ten years). Has occurred recently.
Medium (Possible)	Likely to occur in a ten year time period or less than 25% chance of occurrence.	Could occur more than once within the time period (for example - ten years). Could be difficult to control due to some external influences. Is there a history of occurrence?
Low (Remote)	Not likely to occur in a ten year period or less than 2% chance of occurrence.	Has not occurred. Unlikely to occur.

Probability of Occurrence - Opportunities

Estimation	**Description**	**Indicators**
High (Probable)	Favourable outcome is likely to be achieved in one year or better than 75% chance of occurrence.	Clear opportunity which can be relied on with reasonable certainty, to be achieved in the short term based on current management processes.
Medium (Possible)	Reasonable prospects of favourable results in one year of 25% to 75% chance of occurrence.	Opportunities which may be achievable but which require careful management. Opportunities which may arise over and above the plan.
Low (Remote)	Some chance of favourable outcome in the medium term or less than 25% chance of occurrence.	Possible opportunity which has yet to be fully investigated by management. Opportunity for which the likelihood of success is low on the basis of management resources currently being applied.

Note: Different organisations will find that different measures of consequence and probability will suit their needs best.

For example many organisations find that assessing consequence and probability as high, medium or low is quite adequate for their needs and can be presented as a 3 x 3 matrix. Other organisations find that assessing consequence and probability using a 5 x 5 matrix gives them a better evaluation.

Authenticating Sources of Information

Ensure that the risks associated with acting on, or repeating unverified and unsubstantiated information, are identified / known. Should you be in doubt over anything, you need to authenticate the sources of information, or consult with a trusted source, such as your supervisor or a person with more experience.

Should you act on or repeat unverified and unsubstantiated information, chances are that you could be wrong and that you are undertaking a high risk action. Taking such high risks is never recommended and therefore it is of utmost importance that you ensure that the information that you use to assess the risk:

- Can be trusted
- Is authentic
- Has been verified
- Is substantiated with proof

Sources of Information:

- **People**
- **Documentation** - Financial documents are an excellent source of information for risk identification. Budget forecasts and financial statements provide a good indication of the company's overall position. These documents can assist in defining resource flows, physical and capital assets and events and activities that may affect future budgets.
- **Observation** - Observing people doing their work or on-site inspections are another source of information for risk identification. For example, company reports indicate that production has declined at one of your facilities. An on-site visit to the facility reveals that production could be increased if a machine that is no longer in use could be put back into operation.
- **Statistical Analysis** - Statistical analysis can help identify areas of risk, such as worker injuries and employee benefits.
- **Process (procedure) or Operational Analysis** - Process (procedure) or operations analysis can be used to evaluate work processes, resource flows and other operational risk sources.

Verifying sources of information:

By examining internal documents and industry-related comparative data you can pinpoint your company's level of risk exposure and determine what issues need to be addressed to improve risk management. Additional information about the industry environment and macro environments can be obtained by reviewing newspapers, trade publications, business periodicals, and similar materials.

Information must be verified and substantiated as decisions to ensure the welfare of the organisation and its people are taken based on the information gathered. If this information is incorrect it could have detrimental results for the organisation. To minimise the risk of acting on unverified information, the information must be verified, e.g. financial information verified by an external auditor.

When dealing with risk assessment, it is important to understand probability.

Probability Theory

Probability applications are meant to make dealing with uncertainty more rational, rather than depending on 'gut-feel' intuition and hunches.

"The theory of probability is at bottom only common sense reduced to calculation".[47]

Definition: The probability of an event is a measurement of the chance that the event will occur within a given time period.

[47] Pierre Simon, *Marquis de Laplace*

Probability can be **expressed** as a number that varies between 0 and 1.

0 = the event **cannot** occur

1 = the event is **certain** to occur

Values in between can be expressed as fractions (1/2; 1/1000) decimals, (0,5; 0,001) or percentages (50%; 0,1%). The closer the probability to 1,0 (or 100%), the more likely the event becomes.

There are two possible approaches to determining probability:

- A Priori
- A Posteriori

A Priori

This is based on **facts** which are evident at the **beginning** (Prior – first).

- There are a known number of outcomes
    - Each outcome has a probability which is known, or can be precisely calculated.

Example 1

In the toss of a coin, the probability of this landing with the "head" up is ½ because:

- There are two equally possible outcomes - a head or a tail;
- **one** of these two represents the event being determined.

Example 2

In the same way, the probability of drawing an ace from a well-shuffled deck of cards is 1/13 because out of 52 cards there are four aces.

This is interesting, but not much use to insurers or risk managers. A business with 52 warehouses does not know **for certain** that only 4 can have fires or thefts.

A Posteriori

Probabilities are based on past experience (Posterior = back). This is sometimes known as the statistical probability, because the true probability is estimated from the observed number of exposures and previous occurrences.

Example 1

If a fast-food chain had 10 000 identical hotdog stalls throughout the country and 200 were damaged by fire in one year, they might assume that the probability of fire in one of their stands was 200/10 000 or 1/50.

Example 2

In a fleet of 100 similar vehicles, 25 are damaged in accidents. The probability is 1/4.

The Law of Large Numbers

The larger the number of similar exposure units, the more accurately you can predict the probability that a particular unit will suffer loss.

If the fast-food chain had only 100 stands instead of 10 000, and 2 sustained loss, the calculated probability would be the same, 1/50. However, there would be less confidence in how close this would come to the real probability of loss. The proportion of stalls that suffer loss could fluctuate widely from year to year.

Probability can be interpreted as the proportion of times a specified event will **almost certainly** occur out of a **large number** of trials.

Temporal and Spatial Interpretation

- The temporal interpretation emphasises the proportion of times a loss will occur to a **given number of units in the long run** (how **often**, over a **long** period of time);
- The spatial interpretation emphasises the proportion of similar units that will suffer loss during a given period (how **many** over a **given** time period).

Examples

- Each car exposed next week;
- Each warehouse exposed next year;
- Each shipment exposed next month.

This is the proportion that can be expected **on the average** over many units. No one knows what will happen to any particular unit.

Application

- A firm makes 1 000 shipments a year; for each of these, the probability of theft is 1/10; knowing that about 10 percent will be lost indicates the size of the exposure; it is also possible to measure the benefit of reducing the chance of loss to say, 1/20, or transferring the exposure to some other party.

The Multiplication Rule (First Law of Probability)

Suppose that four shipments are made to the same four customers, ABC and D, every month. From past statistics, the spatial interpretation shows the probability of theft of any one of the four shipments to be 1/4. The risk manager feels that this risk can profitably be retained - the insurance premium would be more than the **normal loss expectancy**. However, the **maximum foreseeable loss** is that of all four shipments. What is the probability of this, and how much will he be prepared to pay for insurance cover?

The first law of probability states:

- The probability that two or more independent exposure units will suffer a loss is equal to the product of the probabilities of loss for each of these units.
- More simply, this is called the **Multiplication Rule**.

In our example, if the probability of each unit being involved is 1/4, then

Two units 1/4 x 1/4 = 1/16

Three units 1/4 x 1/4 x 1/4 = 1/64

Four units 1/4 x 1/4 x 1/4 x 1/4 = 1/256

On this basis, it may be possible to negotiate a reasonable rate of premium, based on excluding the first, or the first two losses in any one month.

Formula

Shortening Probability to 'P' and calling the units A, B, C and D, this could be written as:

P (A and B) = P(A) x P(B)

P (A, B and C) = P(A) x P(B) x P(C), and so on.

Application

Now think of two buildings, A and B. A is a woodworking shop, with a probability of fire of 0,05.

B is a metal worker, where the probability is 0,02. The buildings are so close together that if one catches fire, there is an 85% chance (0,85) that the other will burn as well.

P(A) = 0,05

P(B) = 0,02

P(A/B) or (B/A) = 0,85

P(A **and** B) = P(A) □ P(B/A)

= (0,05) (0,85)

= 0,0425 or about 1/24

Notice that this is the probability if building A starts the fire and spreads it to building B - probability (A and B).

There is a lesser probability that B is first to catch fire (B and A)

P(B and A) = P(B) x P(A/B)

= (0,02) (0,85)

= 0,017 or nearly 1/60.

Additions Rule

In the above examples, there are **two** probabilities - the event will, or will **not** occur. Because the figure 1 represents certainty, the sum or total of **all** the alternatives must equal one.

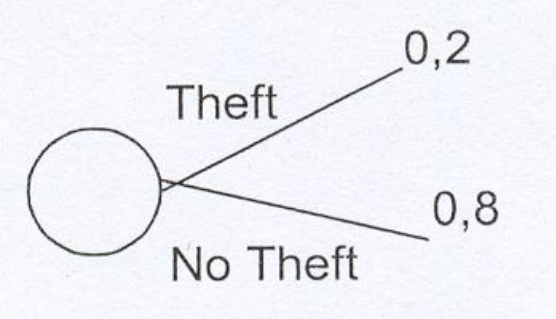
- If the probability of a car accident is 1/4, the probability of **no** accident is 3/4.
- If the probability of a building having a fire is 0,05, the probability of it not having one is 0,95.

Probability Trees

We can use this fact in drawing up a probability tree, which is a useful way of illustrating how events combine.

Example 1

At a particular site, the likelihood of a theft occurring is 0,2.



The respective probabilities are shown at the tips of the branches.

Example 2

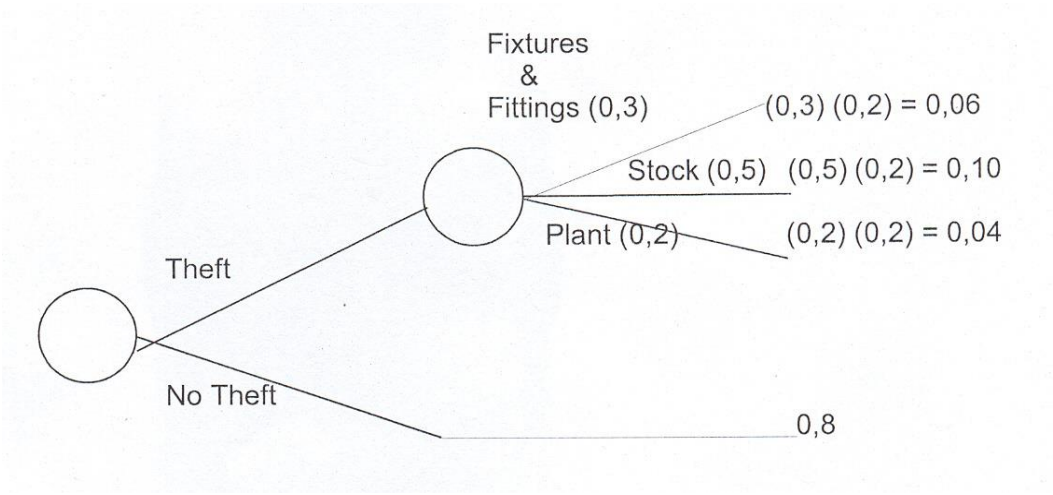
Now we might think about the **kind** of theft. It might involve:

Fixtures and fittings	0,3 probability
Stock	0,5 probability
Plant	0,2 probability

Notice again, that these add up to 1, being the total of all the probabilities.

Example 3

We said that the **overall** likelihood of a theft was 0,02, we can now split this figure as to fixtures, stock or plant.



In each case - fixtures, stock, plant, the loss might be large, or small.

The Prouty Approach

This straightforward non-mathematical approach identifies four broad categories of loss frequency

- Almost nil - extremely unlikely
- Slight - has not happened, but could happen
- Moderate - happens once in a while
- Definite - happens regularly.

There are also three categories of loss severity:

1 Slight - the organisation can readily retain each loss

2 Significant - the organisation cannot retain the whole of the loss, some part must be transferred

3 Severe - virtually all of the loss must be transferred or the survival of the organisation is endangered.

1, 2 and 3 above will vary with the size of the organisation and its financial resources.

Severity/Frequency	**Slight**	**Significant**	**Severe**
Almost Nil			
Slight			
Moderate			
Definite			

These broad categories can be readily understood, but the financial significance must then be inferred, which brings us back to the need for some kind of mathematical basis.

Practical Application of Probability Theory

It is useful to be able to back up your arguments with figures.

Example:

Stock is valued at R200 000. A total loss is possible.

The probability of theft is 0,1 in any one year. Would it be worth spending, say R24 000 on theft insurance?

Might you consider spending R10 000 on improved security, and carry the risk yourself? (The answer depends on the management style of your company. Although the probabilities favour retaining the risk, management may be unwilling to run the risk of losing R200 000).

If petty theft from your offices is costing the company R4 000 a year, could you justify installing a new security system costing R20 000? (What is the useful life and maintenance cost of the system? Will it continue to save money over a number of years?)

Probability vs. Possibility

Possibility is a binary condition – either something is possible, or it's not – 100% or 0%.

Probability reflects the continuum between absolute certainty and impossibility.

The simple fact is that risk is always a probability issue.

Consider the difference between playing Russian roulette with a standard six-cylinder revolver versus a semi-automatic.

- The possibilities are equal with either handgun – i.e., it's 100% possible in both cases that the player would suffer a "negative outcome."
- The probabilities, however, are significantly different:
    - In the first case, assuming the revolver is loaded with a single bullet, the probability of a negative outcome is about 17%.
    - In the second case, assuming a single bullet is loaded and chambered in the semi-automatic, the probability of a negative outcome is about 100% (it might, of course, misfire). Clearly, you would rather not play the game at all, but if you had to choose between the two weapons, you would much rather base your choice on an understanding of the probabilities, as opposed to just the possibilities.

Decision-makers want and need the benefit of this same quality of information, when dealing with risk assessments.

Risk Profile

The result of the risk analysis process can be used to produce a risk profile which gives a significance rating to each risk and provides a tool for prioritising risk treatment efforts. This ranks each identified risk so as to give a view of the relative importance.

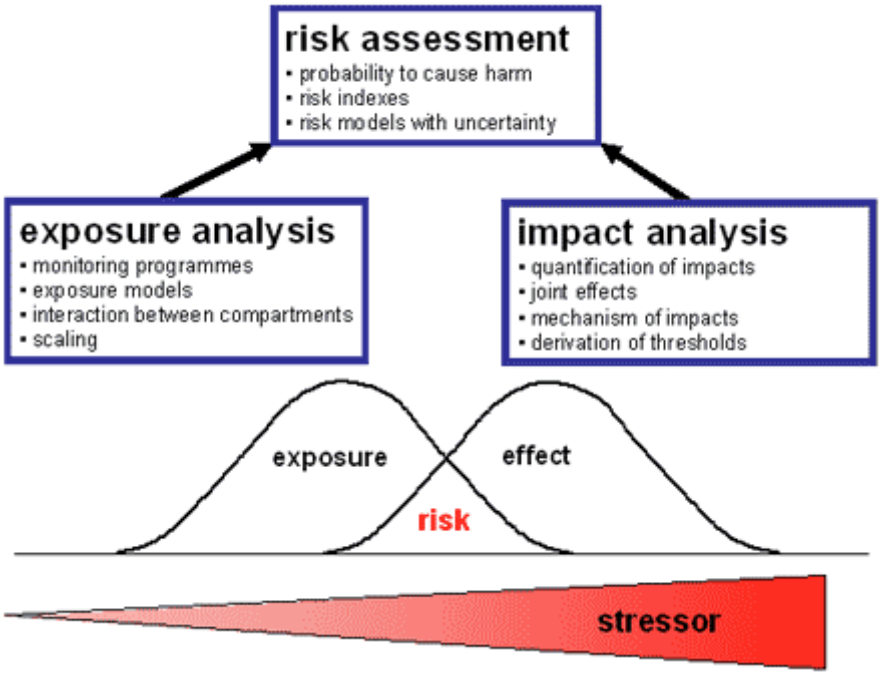
This process allows the risk to be mapped to the business area affected, describes the primary control procedures in place and indicates areas where the level of risk control investment might be increased, decreased or reapportioned.

Accountability helps to ensure that 'ownership' of the risk is recognised and the appropriate management resource allocated.

Risk Evaluation

When the risk analysis process has been completed, it is necessary to compare the estimated risks against risk criteria which the organisation has established. The risk criteria may include associated costs and benefits, legal requirements, socioeconomic and environmental factors, concerns of stakeholders, etc.

Risk evaluation, therefore, is used to make decisions about the significance of risks to the organisation and whether each specific risk should be accepted or treated.



Example risk assessment for an office-based business

This example risk assessment shows the kind of approach a small business might take. It can be used as a guide to think through some of the hazards in your workplace and the steps you need to take to control the risks. Please note that it is not a generic risk assessment that you can just put your company name on and adopt wholesale without any thought. This would not satisfy the law - and would not be effective in protecting people.

Every business is different - you need to think through the hazards and controls required in your workplace for yourself.

Setting the scene

The office manager carried out the risk assessment at this company, which provides management and financial consultancy services, and which leases two storeys of a ten-storey office block.

Eighteen staff work at the company, one is a wheelchair user. The offices contain typical office furniture and equipment. There is a staff kitchen, where drinks can be prepared and food heated, and toilet and washing facilities on each floor.

The offices are cleaned every evening by cleaners from a general office cleaning contractors. They store the cleaning materials in a locked cupboard.

The office block was built before 2000. The landlord has surveyed the building for the presence of asbestos and has shared the findings of this survey with all of the tenants. Asbestos-containing materials (ACMs) were found but were in good condition and in places they were not likely to be damaged, worked on or disturbed, so it was decided to leave them in place.

The office block is locked from 9:00 pm to 6:00 am Monday to Friday and at weekends, although 24 hour/7 days a week security cover is provided.

Although this example risk assessment is for an office-based business, it may equally be applied to any business that has office-based functions within it.

How was the risk assessment done?

The manager followed the guidance in *Five steps to risk assessment*.

1. To identify the hazards, the manager:
    - looked at company's office health and safety intranet pages, to learn where hazards can occur, and at the disability and risk assessment web pages;
    - walked around the office, noting things that might pose a risk and taking into consideration what was learnt from the health and safety guidance;
    - talked to supervisors and staff, including the member of staff who is a wheelchair user, to learn from their knowledge and experience of areas and activities, and listen to their concerns and opinions about health and safety issues in the workplace;
    - talked to the office cleaning contractors, to ensure that the cleaning activities did not pose a risk to office staff, and vice-versa;
    - looked at the accident book, to understand what has previously resulted in incidents.
2. The manager then wrote down who could be harmed by the hazards and how.
3. For each hazard, the manager wrote down what controls, if any, were in place to manage these hazards. The manager then compared these controls to the good practice guidance provided in HSE's office health and safety web pages. Where existing controls were not considered good enough, the manager wrote down what else needed to be done to control the risk.
4. Putting the risk assessment into practice, the manager decided and recorded who was responsible for implementing the further actions and when they should be done. When each action was completed, it was ticked off and the date recorded. The manager pinned the risk assessment up in the staff room for all staff to see.
5. At an office meeting, the office manager discussed the findings with the staff and gave out copies of the risk assessment. The manager decided to review and update the risk assessment every year, or straightaway if any major changes in the workplace happened. [48]

Develop contingency plans for managing risk

There are many cases of relatively small property losses resulting in prolonged stoppages of production. That is why contingency planning is so important.

Contingency planning is a kind of back-up, or safety net, to the risk management process.

Deciding on preventive action:

Having evaluated the risks, the next step is to put in place preventive and protective measures. Among the things to be considered at this stage are:

1. Whether risks are preventable or avoidable. Is it possible to get rid of the risk? This can be done, for instance, by:
    - considering whether the task or job is necessary,
    - removing the hazard,

[48] Example Risk Assessment for an Office-based Business published by HSWNI, 09/10. Health and Safety Executive gratefully acknowledged as source

- using different substances or work processes.

2. If risks are not avoidable or preventable, how risks could be reduced to a level at which the health and safety of those exposed is not compromised. When determining a strategy to reduce and control risks, employers should be made aware of the following additional general principles of prevention:

    - combating the risk at source
    - adapting the work to the individual, especially as regards the design of workplaces, the choice of work equipment and the choice of working and production methods, with a view, in particular, to alleviating monotonous work and work at a predetermined work-rate and to reducing their effect on health
    - adapting to technical progress
    - substituting the dangerous by the non-dangerous or the less dangerous (replacing the machine or material or other feature that introduces the hazard by an alternative)
    - developing a coherent overall prevention policy which covers technology, organisation of work, working conditions, social relationships and the influence of factors related to the working environment
    - giving collective protective measures priority over individual protective measures (e.g. controlling exposure to fumes through local exhaust ventilation rather than personal respirators)
    - giving appropriate instruction to workers.

For guidance on the control of risk through these measures employers should be referred to specifications, in national legislation, national standards, published guidance and other such criteria, published by national authorities.

A further important general principle of which employers need to be aware is that they should not transfer risks. That is to say that in providing a solution to one problem, another problem should not be created. For instance, it would be of doubtful benefit to provide double-glazing to office windows in order to reduce noise from outside, unless provision was made for adequate ventilation.

Contingency Strategies for managing risk

Once risks have been identified and assessed, all techniques to manage the risk fall into one or more of these four major categories:

- **Avoidance**
- **Reduction / Mitigation / Modification**
- **Acceptance / Retention**
- **Sharing / Transfer**

Ideal use of these strategies may not be possible. Some of them may involve trade-offs that are not acceptable to the organisation or person making the risk management decisions.

- **Avoidance**

Avoidance 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 liability that comes with it. Another would be not flying in order to not take the risk that the aeroplane 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 the profits.

Whenever an organisation cannot offer a service while simultaneously ensuring a high degree of safety, it should choose avoidance as a risk management technique. Do not offer programs/ services/ products that pose too great a risk. In some cases avoidance is the most appropriate technique if an organisation simply doesn't have the financial resources required to fund adequate training, supervision, equipment, or other safety measures. Always ask, "Is there something we could do to deliver this program/conduct this activity safely?" If you answer "yes," risk modification may be the more practical technique.

- **Reduction/ Mitigation/ Modification**

Modification involves methods that reduce the severity of the loss. Examples include sprinklers 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. Alternative fire suppression systems may mitigate that risk, but the cost may be prohibitive as a strategy.

Modification is simply changing an activity to make it safer for all involved.

Policies and procedures are examples of risk modification. An organisation concerned about the risk of using unsafe drivers may add licence checks to its screening process, or an annual road test for all drivers.

- **Acceptance / Retention**

Retention involves accepting the loss 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 prohibitive. 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 is so great it would hinder the goals of the organisation too much.

There are two ways to retain risk. The first is by design. Organisations make conscious decisions to retain risk every day. For example, when an organisation purchases liability insurance and elects a certain excess amount, it's retaining risk. This can be a rational and appropriate approach to managing risk.

Where organisations get into trouble is when risk is retained unintentionally. The unintentional retention of risk can be the result of failing to understand the exclusions of an insurance policy, insufficient understanding of the scope of risk the organisation faces, or simply because no one has taken the time to consider the risk and how it can be addressed.

- **Sharing / Transfer**

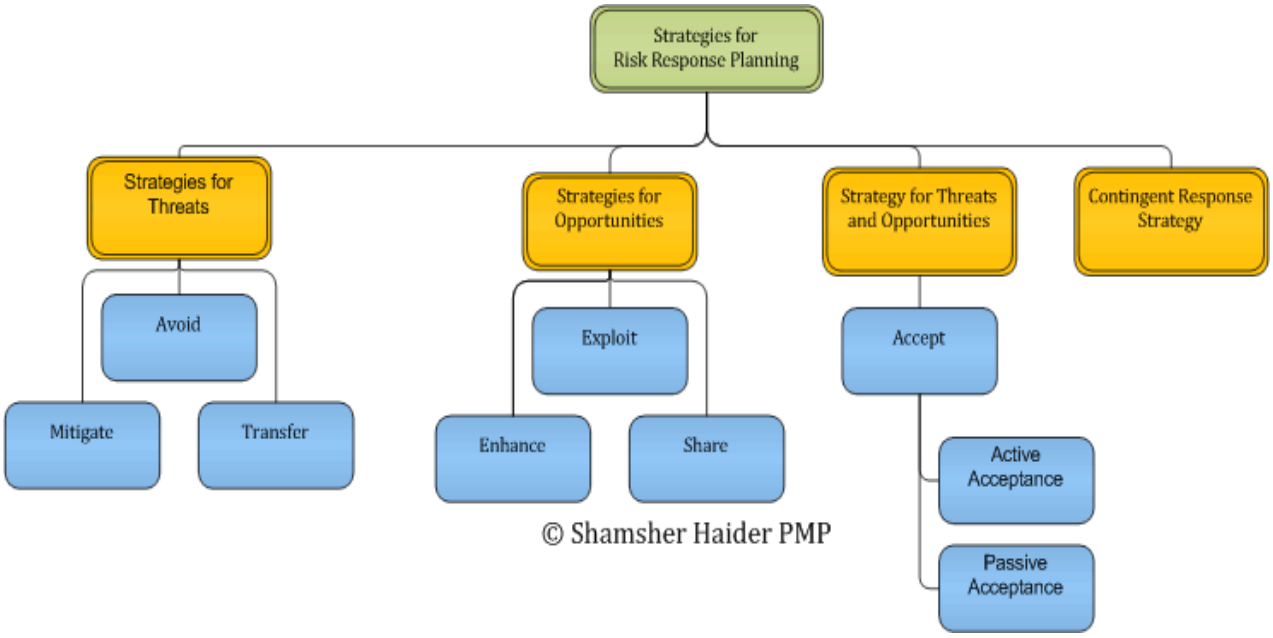
Sharing or risk transfer means causing another party to accept the risk, typically by contract or by hedging.

Risk sharing can therefore involve sharing risk with another organisation through a contract. Two common examples are insurance contracts that require an insurer to pay for claims expenses and losses under certain circumstances, and service contracts whereby a provider (such as a transportation service or caterer) agrees to perform a service and assume liability for potential harm occurring in the delivery of the service.

Risk retention pools are another way of retaining risk for a group. Unlike traditional insurance, no premium is exchanged between members of the group up front, but instead losses are assessed to all members of the group.

<u>Applying Contingencies</u>

Shamsher Haider, a PMI certified project management professional (PMP) suggests the following on the ERPM blogspot:



Strategies for Threats:

Avoid: This means staying clear of the risk altogether. While avoidance obviously is the best possible course, it might not be feasible in all circumstances, e.g. the impact of the cost of avoidance might dominate the benefits of avoiding the risk. Avoidance can be accomplished by changing the process or the resources to attain an objective or sometimes modifying the objective itself to avoid the risks involved. An example of avoiding risk could be avoiding use of untested third party components in the software design, or avoiding inclusion of an inexperienced resource in the project team.

Mitigate: This means trying to reduce the probability and/or impact of the risk. Reduction in probability of occurrence would reduce the likelihood of its occurrence and reduction in impact would imply a lesser loss if the risk event occurs. 100% mitigation would be equivalent to avoidance. An example of mitigation would be an early verification of the requirements by prototyping before moving on to full-fledged development.

Transfer: This implies transferring the liability of risk to a third party. While this strategy does not eliminate or mitigate the risk or its consequences itself, it transfers the responsibility of its management to someone else. Insurance is a classic example of this strategy. By buying insurance you transfer your risk to the insurance company by paying the risk premium. Fixed Cost contract is yet another example of risk transfer strategy. In a fixed cost contract the risk is transferred to the seller.

Strategies for Opportunities:

Exploit: This strategy involves removing all uncertainties pertaining to a positive risk and making sure that the risk event occurs. An example could be a situation where the seller will pay an incentive fee if work is completed a week ahead of the completion deadline. Ordinarily there is a probability that the work might get completed earlier, but if we plan to exploit this situation, we will plan to complete the work a week ahead to turn this uncertainty into a certain event.

Enhance: This strategy involves planning for increasing the size of the opportunity by increasing its impact and /or the probability of its occurrence. Identification of the root cause of the presence of an opportunity can help focus on the root cause and enhance its impact and / or probability.

Share: This strategy involves sharing the fruits of an opportunity with a third party because you do not have the capability to exploit it alone. Suppose your competitor is set to launch a new product six months from now, and you identify the opportunity that by launching a product with similar features a month before your competitor's launch you can wrest the market away. In this particular scenario the situation becomes

complicated because you have all the resources to launch your product in five months except a portion requiring device driver and hardware level programming. You can launch a joint venture with another company specialising in device driver programming to share the opportunity.

Strategy for Threats and Opportunities:

Accept: Sometimes we identify a risk but realise that time and / or resources required to formulate and enact response strategies overweigh the results of the effort. In such a case we just accept the risk. If we plan to face the occurrence as it is, it is called passive acceptance. On the other hand if we develop a contingency reserve to handle the situation if the risk occurs, we call it active acceptance.

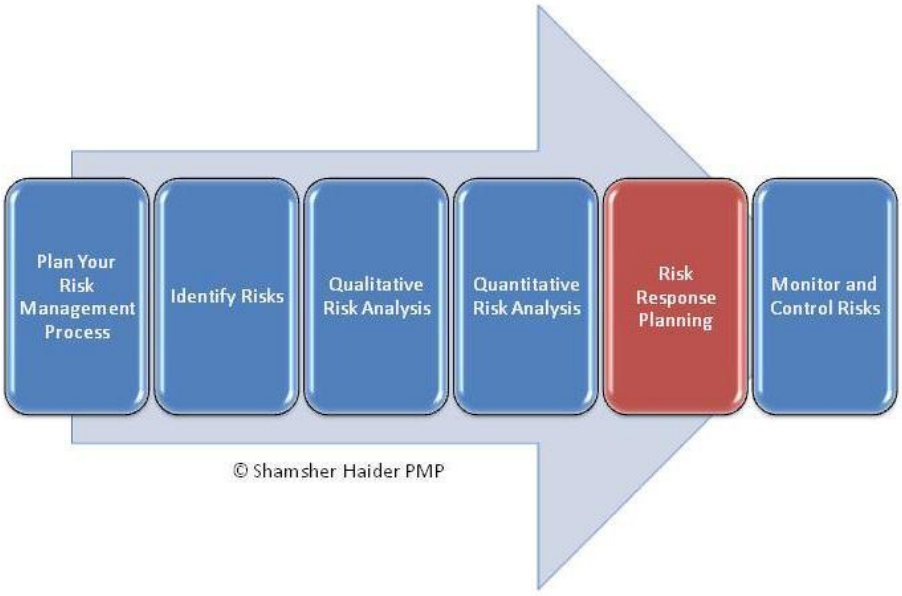
Contingent Response Strategy:

Also known as ***contingency planning***, this strategy involves development of alternatives to deal with the situation after the risk has occurred. Active acceptance of risks leads to contingency planning, whereby we anticipate a risk to occur and instead of trying to mitigate or eliminate its occurrence we plan what to do when the event occurs. Contingency reserves are a commonly used tool to handle the occurrence of a risk event. Contingency reserve can imply allocation of cash, time or resources to cope with the situation when the risk event has occurred.

Fallback plans can be developed for high impact risks. A fallback plan as the name suggests, is the backup plan, in case the original contingency plan doesn't work out as planned. An example could be identification of risk that a certain .Net programmer will resign in middle of the project. Since under the current circumstances you can do nothing to mitigate or eliminate the risk you accept it but develop a contingency plan to hire a certain programmer on hourly wages. To cope with the situation if no programmer is available on hourly wages at the time of resignation of your programmer, you develop a fall back plan of temporarily moving a software engineer from a certain low priority project to work on the assignment till an alternative can be hired.

Develop Contingency Plans in Accordance with Organisational Policies and Procedures

After the most appropriate preventive and protective measures have been identified, the next step is to put them in place effectively.



Effective implementation involves the development of a plan specifying:

- the measures to be implemented

- the means allocated (time, expenses, etc.)
- who does what and when
- when actions are to be completed, and
- a date for reviewing the control measures.

It is important to involve workers and their representatives in the process:

- to inform them about the measures implemented, about how they will be implemented, and who will the person in charge of implementing them
- to train or instruct them about the measures or procedures that will be implemented.

In preparing a contingency plan to deal with the interruptions to the organisation's business, the first steps should be to identify:

- All potential sources of loss-producing events which may disrupt operations;
- Interdependences between different parts of the organisation itself; for example, would damage to one process or storage area disrupt all production of one or more of a firm's products?
- Dependencies upon individual suppliers or customers;
- Alternative sources of supply or outlets where any of the above dependencies exist;
- All seasonal factors.

Steps to develop the Contingency Plan

Step 1: Risk Management Planning - The manager and the team decide who is going to develop the risk management plan

Step 2: Risk Identification - The assigned team identify the various risks and make a list of the risks through brainstorming, interviewing and sample risk lists.

Step 3: Risk Probability - The risk management plan team, determine the probability of the risks occurring through Impact Scales.

Step 4: Risk Response Plan - The risk management plan team decides for each identified risk whether to accept the risk, avoid the risk or accept the risk.

Step 5: Risk Monitoring and Control - Risk monitoring and control is a process that lasts the entirety of the project. The team monitors the risks as the project matures, new risks develop and anticipated risks disappear.

The contingency plan should specify the responses to each of the different types of loss situations, setting out the steps to be followed under various circumstances and assigning responsibilities for various tasks:

1. List every business process in the department. (Example: Payroll might be listed in the Human Resource's plan.)
2. List the tasks for every business process and the steps it takes to complete these tasks.
3. For every step, list every dependency (computer hardware, software, external and internal suppliers.)
4. Rate the likelihood for each dependency to fail (Prioritise! Usually a 1-High, 2-Medium or 3-Low works well. Alphabetising with H, M or L usually doesn't work as well, because these three letters - alphabetically - don't follow your priority. Remember this when you design your database!)

Assume that every dependency will fail, beginning with 1-High dependencies.

5. Write a contingency action that accomplishes the task without relying upon the dependency.

Once you have analysed business functions this way, you will be able to create contingencies at the appropriate places. In many areas, the contingency will be at the task level; in other areas at the process level; still others may be at the department level.

In some cases, no viable contingency is possible. If the power goes down, and you have no generator, you aren't doing any business. If this is the situation with any specific process, make a note of it and describe what you'll do if the dependency fails.

Structure your contingency plan positively - involve the appropriate people and the right numberof people - it's a big task, after all. It will require input from many.

Ongoing Training

Any disaster and crisis management plans must be tested regularly and updated where shortcomings are found so that the plans are not only kept as up-to-date as possible, but also so that the personnel involved have been trained.

Crisis Situations

It must be realised that having a plan, even if it is kept up-to-date and even if people have been fully trained in what to do, will not necessarily result in your being able to cope with the crisis when it occurs. It is essential for those who are drafting or amending the plan to bear in mind that:

- The more severe the crisis is, the greater the loss of or lack of resources
- The plan will not work without people to make it come alive
- The effects of stress on both people and the plan will be unpredictable. The plan as a consequence will work in unpredictable ways

Communicate Contingency Plans to relevant Stakeholders

Key to the success of the risk management process is communication and consultation with key staff. Staff members will assist in the identification process, as well as treating and monitoring the risks. They will have a part in putting together the risk management plan, and can be assigned to oversee certain risks that may impact on their area of the business.

Wide consultation will help ensure that most risks are identified, helping to lessen the potential of things going wrong.

The human factor is rarely absent from risk situations. Frequently carelessness, incompetence or lack of technical knowledge is either the primary or at least a contributory cause of a loss-producing event. Furthermore, the failure of an individual or group to respond in the correct way to a loss situation may contribute to the size of the ensuing loss. Consequently training and effective communication have a major role to play in loss reduction programmes and should cover everyone employed by, or associated with the work of an organisation.

Management

The aim should be to create in management an awareness of the risks to which the organisation is exposed and of the ways in which they may be controlled. The lead in risk control, and therefore loss control, must come from top management, and, although only a few members of the top management team will need to have a detailed technical knowledge of the various risks and hazards, all should understand and have a commitment to the principle of total risk control. **Risk control is essential at every stage of an organisation's activities such as:**

- At the planning stage;
- At the production stage;
- After sales usage and service.

Staff

There are several fundamental points to bear in mind when communicating the contingency plans to employees:

- They need to be aware of the hazards to which they may be exposed in the course of their work and what steps they can take to minimise the risk of injury to themselves and fellow employees;
- Training may be required regarding the use of special clothing and equipment provided for their safety;
- Instructions for all employees as to what to do in emergencies, for example, upon the outbreak of fire, breakdown of plant, and especially the breakdown of safety devices;
- Training of some employees to deal with emergencies until expert help arrives, for example the training of first-aid and firefighting teams;
- Installing a sense of safety-consciousness in all employees, both in relation to the way they carry out their work and in the avoidance of defects in the firm's products. Each employee should feel a sense of responsibility towards fellow-employees, customers and the general public.

Contractors, Suppliers and Servicing Agents

Sometimes the organisation can be jeopardised by people other than its own employees:

- Contractors and sub-contractors who undertake work on its behalf;
- Suppliers of components and raw materials.

All these people should be made aware of the risks that affect the organisation, and their cooperation sought. For example, is it fair to blame a welder who accidentally starts a fire, if the area where he is

working was not first cleared of flammable materials?

Expensive mechanical failures and products recall have resulted from minor impurities in lubricants and raw materials.

Risk Reporting and Communication

Internal Reporting

Different levels within an organisation need different information from the risk management process.

The Board of Directors should:

- know about the most significant risks facing the organisation
- know the possible effects on shareholder value of deviations to expected performance ranges
- ensure appropriate levels of awareness throughout the organisation
- know how the organisation will manage a crisis
- know the importance of stakeholder confidence in the organisation
- know how to manage communications with the investment community where applicable
- be assured that the risk management process is working effectively
- publish a clear risk management policy covering risk management philosophy and responsibilities.

Business Units should:

- be aware of risks which fall into their area of responsibility, the possible impacts these may have on other areas and the consequences other areas may have on them
- have performance indicators which allow them to monitor the key business and financial activities, progress towards objectives and identify developments which require intervention (e.g. forecasts and budgets)
- have systems which communicate variances in budgets and forecasts at appropriate frequency to allow action to be taken
- report systematically and promptly to senior management any perceived new risks or failures of existing control measures.

Individuals should:

- understand their accountability for individual risks
- understand how they can enable continuous improvement of risk management response
- understand that risk management and risk awareness are a key part of the organisation's culture
- report systematically and promptly to senior management any perceived new risks or failures of existing control measures.

External Reporting

A company needs to report to its stakeholders on a regular basis, setting out its risk management policies and the effectiveness in achieving its objectives.

Increasingly stakeholders look to organisations to provide evidence of effective management of the organisation's non-financial performance in such areas as community affairs, human rights, employment practices, health and safety and the environment.[49]

[49] Adapted from: HSRC ERM Strategy Volume 1: Risk Management Methodology publication

Good corporate governance requires that companies adopt a methodical approach to risk management which:

- protects the interests of their stakeholders
- ensures that the Board of Directors discharges its duties to direct strategy, build value and monitor performance of the organisation
- ensures that management controls are in place and are performing adequately.

The arrangements for the formal reporting of risk management should be clearly stated and be available to the stakeholders.

The formal reporting should address:

- the control methods – particularly management responsibilities for risk management
- the processes used to identify risks and how they are addressed by the risk management systems
- the primary control systems in place to manage significant risks
- the monitoring and review system in place.

Any significant deficiencies uncovered by the system, or in the system itself, should be reported together with the steps taken to deal with them.

Distribute and store Contingency Plans

Your contingency plans must be distributed and stored in accordance with the organisation's risk management procedures.

Some recommendations are:

- Formally review and update the plan at least quarterly.
- Review contingencies within the plan, such as storage of a specific set of records, and update the contingencies on a regular schedule. The frequency of updating will vary with the degree the material changes over time and the degree of risk the firm accepts if the data is outdated.
- Store disks or tapes of critical information such as accounts receivable, client information, vendor and personnel records or outstanding billings in a safe, secure place such as a bank vault.
- Duplicate prepared information and place in a three-ring binder to facilitate adding and deleting materials over time.
- Maintain duplicate records at a different site
- Individuals with key responsibilities should keep copies of the emergency plan at their homes

TEST AND REVISE CONTINGENCY PLANS

After you have prepared the contingency plan, you need to do several things to keep it practical and relevant - don't just create a document and file it away. As your business and its environment change, you'll need to review and update these plans accordingly.

Here are some key steps in the contingency plan maintenance process[50]:

- Communicate the plan to everyone in the organisation.
- Inform people of their roles and responsibilities related to the plan.
- Provide necessary training for people to fulfil these roles and responsibilities.
- Conduct disaster drills where practical.

[50] Adapted from: http://www.mindtools.com/pages/article/newLDR_51.htm

- Assess the results of training and drills, and make any necessary changes.
- Review the plan on a regular basis, especially if there are relevant technological, operational, and personnel changes.
- Distribute revised plans throughout the company, and make sure the old plan is discarded.
- Audit the plan periodically:
    - Reassess the risks to the business.
    - Analyse efforts to control risk by comparing actual performance to the performance level described in the contingency plan.
    - Recommend and make changes, if necessary.

Test Contingency Plans[51]

Testing *every* contingency in your plan is time- and cost-prohibitive. To make testing manageable, test in four stages. Each stage should build on the results of the previous stage. If an area proves to be unsound, or if it conflicts with other contingency plans, you can re-write and re-test the plan.

Stage 1 - Senior Staff Review

The senior staff select an internally-publicised date and time to review all contingency plans. Aside from ensuring overall business soundness, this review also serves to recognise people who have thoughtfully completed their assignment. Knowledge of a firm date for a senior staff review will increase quality, accuracy and timeliness.

Stage 2 - Interdepartmental Reviews

Each department should review another department's plans. The goal of this stage is to find bottlenecks, identify conflicts and allocate resources. If possible, departments that are "downstream" in the business process can review the plans of "upstream" departments.

Stage 3 - Failures in Critical Systems

This testing can be localised within departments. It involves simulating system or vendor failures. You don't actually have to shut down critical equipment or processes - you can role-play a "what if" scenario. You can either run a "surprise" drill or plan a role-playing event for a specific time.

Stage 4 - The Real Deal

This testing involves short-term shutdowns in key areas. If possible, these tests should be conducted in a real-time environment. The goal, of course, is to fully test the contingency plan. Concentrate this last phase of testing only on areas that have a high business priority and a high risk for failure.

By implementing testing in four stages, you can optimise your time and accomplish the goal of proving that the contingency plan is valid.

Monitoring and reviewing

Arrangements for monitoring and reviewing the protective and preventive measures should be introduced following the risk assessment to ensure that the effectiveness of these measures is maintained, and the risks controlled.

The information generated by monitoring activities should be used to inform the review and revision of the risk assessment.

[51] Adapted from: http://www.maniactive.com/continge.htm

Risk assessment should not be a once-and-for-all activity. The assessment needs to be reviewed and revised, as necessary, for a number of reasons, including:

- the degree of change likely in the work activity
- changes which might alter the perception of risk in the workplace, such as a new process, new equipment or materials, change of work organisation, and new work situations including new workshops or other premises
- once the new measures have been introduced following the assessment, the new working conditions should be assessed in order to review the consequences of the change. It is essential that the risk is not transferred, that is to say that in providing a solution to one problem, another problem should not be created
- the assessment no longer being applicable because the data or information on which it is based is no longer valid
- the preventive and protective measures currently in place being insufficient or no longer adequate, e.g. because new information is available regarding particular control measures
- as a result of the findings of an accident or "near miss" (a near miss is an unplanned event that did not result in injury, illness, or damage - but had the potential to do so).

Document Recommendations on Improvements to Contingency Plans

Copies of the contingency plan[52] and all revisions need to be submitted to those staff members that are expected to respond to the different situations identified in the plan.

The contingency plan should be reviewed at least annually and updated whenever changes occur that will significantly affect the ability of your unit to respond to an emergency situation. This includes when the regulations are revised, if your unit's contingency plan fails in an emergency, if your unit changes in a way that materially increases the potential for an emergency or there are changes in the response necessary in an emergency, if the list of emergency coordinators changes or if the list of emergency equipment changes. These revisions should be made to the plan immediately (within 24 hours).

It is recommended that a revision record be kept that includes amendment dates, revision numbers and a brief summary of the nature of the revision(s). It is also acceptable to make contingency plan changes in supporting documentation as long as this documentation is referenced in the original plan.

Capture lessons learned on the effectiveness of risk reduction measures. As plans are executed, they must be monitored to ensure that their objectives are achieved as intended. It should be recognised that, in a high-risk environment, the one thing that can be expected is that not everything will happen according to plan. What is important is that an understanding of what needs to be done develops during the planning and monitoring processes.

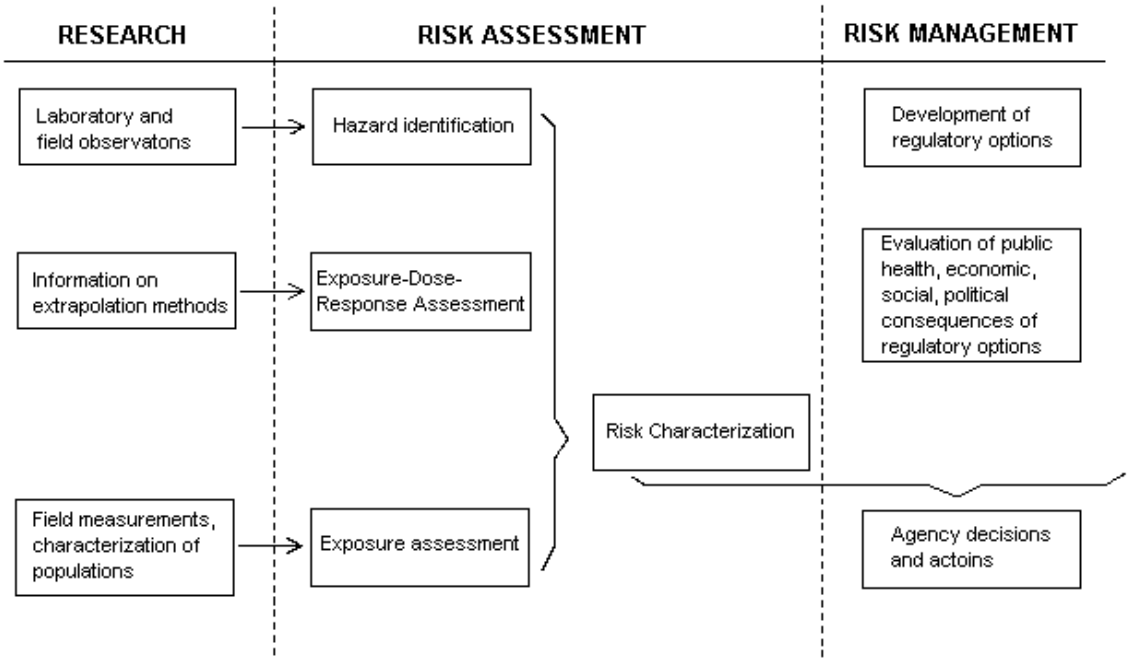
Check that the risk indicators are not being exceeded, and that reduction efforts are effective. At regular periods, the progress should be checked against the plan to ensure that:

- Risks identified earlier are still valid, and the risk indicators have not changed
- Any changes of risk significance are understood and communicated to those who need to know
- Implemented responses have been effective and lessons learned are captured
- The risk reduction measures can be considered a success (or if they are failing then identify new measures that need to be put into place)
- Residual risks are acceptable, or are subject to continuing action on the plan; in this event the monitoring must continue
- No other risks have materialised over time.

[52] Adapted from: http://www.cdphe.state.co.us/hm/lqgcplan.pdf

Discover the reason(s) for change in the risk status. It is, of course, possible that the risk reduction measures are not working as well as had been expected, and thus corrective action is required. If the corrective action required is significant in terms of cost and time, especially if it involves several risks (a highly likely situation), a new risk analysis may be required.

Risk management is not a complex task. If you follow the steps in this Learner Guide, you can put together a risk management plan for your unit in a short space of time.



From: National Academy of Sciences / national Research council Paradigm for Research / Risk Assessment / Risk Management (NAS/NRC, 1983)

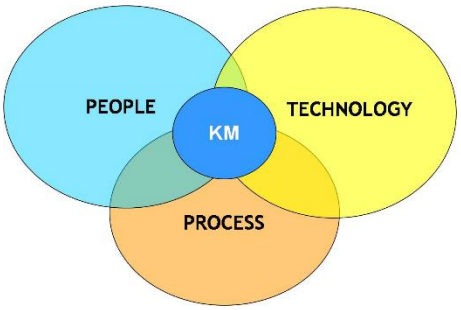
"Although we cannot foretell the future, we need to plan for it. Plan for things that could go wrong, and for things that could go exceptionally right."

Brock Henderson

MODULE 5: BECT PRACTICE MANAGEMENT

UNIT STANDARDS IN THIS MODULE	252024	EVALUATE CURRENT PRACTICES AGAINST BEST PRACTICE
	Apply the concept of best practice to a unit.	SO 1
	Analyse current practices in a unit in relation to identified best practice.	SO 2
	Decide on the best practices to be adopted in a unit.	SO 3
	Formulate recommendations for implementing best practices.	SO 4
	Draw up a plan for implementing best practice.	SO 5
	The concept of best practice is explained in terms of the practices in a unit.	SO 1 AC 1
	Best practices are identified that are relevant to a unit.	SO 1 AC 2
	The best practices identified define world-class practices for a specific context/unit.	SO 1 AC 3
	Current practices in a unit are compared with best practice.	SO 2 AC 1
	Current product/service reliability is evaluated in terms of internal and external customer expectations.	SO 2 AC 2
	The best opportunity/s for maximum gain is identified for a unit.	SO 2 AC 3
	The performance outcomes to be achieved by replacing the current practice with best practice are described with examples.	SO 3 AC 1
	The current practices to be retained are described with motivations for the retention.	SO 3 AC 2
	The best practices to be introduced are described with motivations for the introduction.	SO 3 AC 3
	The recommendations described are appropriate for the current practices analysed.	SO 4 AC 1
	The recommendations presented are in line with best practices.	SO 4 AC 2
	Recommendations are communicated to stakeholders in order to obtain feedback.	SO 4 AC 3
	The change processes required to support the implementation of best practice are described with practical examples.	SO 5 AC 1
	Resources required are identified in terms of the needs for implementing best practice.	SO 5 AC 2
	The plan includes tasks, responsibilities, time-scales and performance measures.	SO 5 AC 3
	The plan includes contingencies that are reasonable in relation to the proposed plan.	SO 5 AC 4
	The monitoring, recording and evaluation of the implementation are described in order to promote effective implementation.	SO 5 AC 5

ANALYSING A UNIT ACCORDING TO ORGANISATIONAL KNOWLEDGE MANAGEMENT POLICIES AND PROCEDURES



For a knowledge management solution to work, the business unit to which it belongs and the community in which it operates should own it. The power of knowledge management is in the people it serves. For that reason, ownership by the community is critical to increase participation. Knowledge management leverages a company's intellectual assets, and greater participation within knowledge management communities enables greater exchanges of information and knowledge. This, in turn, leads to better employee performance and the desired business results.

ANALYSE THE CURRENT PRACTICES IN A UNIT

One strategy to knowledge management involves actively managing knowledge (push strategy). In such an instance, individuals strive to explicitly encode their knowledge into a shared knowledge repository, such as a database, as well as retrieving knowledge they need that other individuals have provided to the repository. This is also commonly known as the Codification approach to knowledge management.

Another strategy to knowledge management involves individuals making knowledge requests of experts associated with a particular subject on an ad hoc basis (pull strategy). In such an instance, expert individual(s) can provide their insights to the particular person or people needing this. This is also commonly known as the Personalisation approach to knowledge management.

Other knowledge management strategies[53] for companies include:

- Rewards (as a means of motivating for knowledge sharing)
- Storytelling (as a means of transferring tacit knowledge)
- Cross-project learning
- After action reviews
- Knowledge mapping (a map of knowledge repositories within a company accessible by all)
- Communities of practice (cop)
- Expert directories (to enable knowledge seeker to reach to the experts)
- Best practice transfer
- Competence management (systematic evaluation and planning of competences of individual organisation members)
- Proximity and architecture (the physical situation of employees can be either conducive or obstructive to knowledge sharing)
- Master-apprentice relationship
- Collaborative technologies (groupware, etc.)
- Knowledge repositories (databases, bookmarking engines, etc.)
- Measuring and reporting intellectual capital (a way of making explicit knowledge for companies)
- Knowledge brokers (some organisational members take on responsibility for a specific "field" and act as first reference on whom to talk about a specific subject)
- Social software (social bookmarking, blogs, etc.)

Knowledge management techniques

"The greatest difficulty lies not in persuading people to accept new ideas,

but in persuading them to abandon old ones" – John Maynard Keynes.

Management techniques include methods, ways or procedures used to accomplish or achieve an end goal or objective. Knowledge management techniques are usually intended to focus on specific and

[53] Adapted from: www.wikipedia.org/wiki/Knowledge_management

essential knowledge, and using knowledge management techniques can allow for knowledge to be validated, to collate knowledge from various expert sources and to build a framework from which non-experts are better able to understand the expert's knowledge.

There are a variety of knowledge management related techniques used to accomplish specific objectives related to knowledge creation, transfer and utilisation including for example: metaphors, storytelling, narrative, anecdotes, collaboration, after action reviews, peer assists, retrospect, knowledge cafes, positive deviance, contextual inquiry, surveys, focus groups, facilitated discussions, social network analysis, problem solving, benchmarking, group think, laddering, 20-questions, repertory grid, knowledge mapping, knowledge modelling, and knowledge communities (including communities of practice, communities of interest, communities of purpose).

Many techniques used in knowledge management have been developed or adapted to assist in eliciting knowledge from subject matter experts (SMEs). When used in this manner these are generally referred to as "knowledge acquisition" (KA) techniques. While it may seem to those new at knowledge management that there are many different types of techniques which can be selected (seemingly at random) the reality is that the selection of knowledge management techniques is often driven by and tied to a specific need to elicit a particular type of knowledge. And one viewpoint is to assume that most KA or knowledge eliciting focuses on either concept knowledge or process knowledge, each having their own range within the parameters of tacit-to-explicit knowledge. And in using techniques to elicit knowledge it is not uncommon to begin using more natural techniques and then to move toward more formal or contrived techniques.

As stated a business can use a variety of techniques to foster and promote knowledge management. The following are some of the techniques that can be applied.

After-action review:

An after-action review is a tool to evaluate and capture lessons learned. It takes the form of a quick and informal discussion at the end of a project or at a key stage within a project or activity. After-action reviews enable individuals involved to review what has happened, summarise new knowledge and decide what action should be taken next. This discussion should cover what happened and why, what went well, what needs improvement and maybe what lessons can be learned from the experience. An after-action review provides a quick way of making an informed decision about how to approach the next action.

An after-action review involves major team members and is conducted as soon as possible after the specified stage, project or event. It is structured as an informal brainstorming session to build consensus on the following questions: What was supposed to happen? What actually happened? Why were there differences? What did we learn? What are the lessons for next time? It is important to create an atmosphere of trust and openness, and to emphasise that this is a learning event, not a performance evaluation. It is also important to focus on improvement and to ensure that any mistakes made or poor practice identified can be turned into a learning opportunity. The review outcomes are normally captured during the session, on flip chart paper or electronically. This will depend on who the information is intended for and how it will be used. By recording and storing the outcomes of the interview on an intranet or website, those involved can refer back to what they have learned. The material can also be shared with those who may benefit from the acquired learning, particularly those who are working on a similar project or activity. An independent facilitator may be appointed to help draw out answers, insights and issues, and to ensure that everyone contributes. Alternatively, the interview could be facilitated by someone from the project team.

Case study

A case study is a written assessment of a project, or important part of a project. It has a clear structure that brings out key qualitative and quantitative information from the project. Case studies are often published with a broad audience in mind, so it is useful to bring the most useful and transferable information to the fore. It is vital that project and programme teams capture and record their learning and best practice so that others can learn from what they have done. The structured case study format makes information accessible to the reader. And the fact that it is written – often with a view to being published – means that

case study information is usually enduring and far-reaching. Whether in print or online, case studies are one of the best ways to share learning and best practice with a large audience.

The way that a case study is written will depend on the purpose and intended audience. You have to decide what you have to share and what your audience needs to hear. You will also need to think about where the case study is going to be published, for example in print or online, internally or externally? These considerations will affect what you write and how. Many organisations will have their own guidance on what a case study should look like and what headings it should include. Most are between 800 and 1,500 words and will identify a problem or situation, explain what was done to address the problem or situation, and finally highlight the results. An example template is:

- Summary
- Key learning up front
- Background to the problem
- Key issues/problems in detail
- What was done – in chronological order
- Key outcomes and impact
- Material resources required
- Human resources required
- Barriers and how were they overcome
- How would you do it better?
- Key contact for further information.

Most organisations will also have their own style guide. This will contain useful information on how to write a case study: that is the language, tone and style to use.

Communities of practice (CoP):

A CoP is a network of individuals with common problems or interests who get together to explore ways of working, identify common solutions and share good practice and ideas. CoP resources are related to a specific area of knowledge. Informal communities exist in some form in every organisation. The challenge is to support them so they can create and share organisational knowledge. Communities of practice are organic and self-organising, and should ideally emerge naturally. They usually evolve from the recognition of a specific need or problem. A CoP provides an environment (virtual and/ or face-to-face) that connects people and encourages the development and sharing of new ideas and strategies. This environment supports faster problem solving, cuts down on duplication of effort, and provides potentially unlimited access to expertise. Technology now allows people to network, share and develop practice entirely online. Virtual communities overcome the challenges of geographical boundaries. They encourage the flow of knowledge and enable sustainable self-improvement.

A wide range of approaches can be used when creating and developing CoPs. Before setting up a community, there are a few main points to consider:

Scope – What do you want to achieve? Who is your audience? What are the boundaries?

Participants – Who can make a major contribution? Do they share common needs and interests?

Roles and responsibilities – Who are the experts, leaders, champions, facilitators?

Interest and involvement – How will you attract interest? How will you engage participants? How will you develop your community?

Creating and sharing knowledge – How will you interact, learn and share?

Moving forward – How will you add value? How will you evolve?

Communities can have a limited shelf-life, but this is not always a bad thing. Sometimes a natural ending is reached – for instance when a group or a practice reaches a conclusion. As long as the learning is captured and redistributed, the success of the collaboration can inform others in the future.

Gone well, not gone well (lessons learned debriefing):[54]

A gone well, not gone well is a quick and useful tool to get candid feedback at the end of an event or activity. It allows all participants to say which aspects of an event or activity worked and which didn't in an open and accepting atmosphere. This tool is a useful way to close a session and provides an opportunity to discuss the event. It is especially useful in getting people to express more critical comments in a relaxed way. It helps facilitators and organisers of events to gather information that will help them do better next time. This is a facilitated session to get feedback and requires a flipchart to record the information. The flip chart is divided down the middle into two columns: 'Gone well' and 'Not gone well'. The facilitator asks the group to comment on anything to do with the event that went well or not so well. This could include content, delivery style, catering, room layout, discussion topics, materials used, plus whatever people want to raise in relation to the day. All positive and negative comments are written into the respective columns on the flipchart.

Knowledge café:[55]

A knowledge café brings people together to have open, creative conversation on topics of mutual interest. It can be organised in a meeting or workshop format, but the emphasis should be on flowing dialogue that allows people to share ideas and learn from each other. It encourages people to explore issues that require discussion in order to build a consensus around an issue. The knowledge café brings to the surface, in an informal environment, all the understanding we have in an area.

A simple and recommended method to execute a knowledge café involves the following steps:

Preparation - Appoint a facilitator – someone who can encourage participation. Identify a question relevant to those participating. Invite interested parties. Create a comfortable environment – a 'café' layout, with a number of small tables, supplied with tea and coffee, is one option.

Procedure - The facilitator should introduce the knowledge café concept, any codes of conduct, and finally pose the question. Participants should arrange themselves into groups to discuss the question. Each participant in turn shares their knowledge and experience without interruption, giving everyone an opportunity to talk. Alternatively, a 'talking-stick' can ensure only the person holding the stick can speak, thus avoiding the discussion becoming dominated by one or a few speakers. After each participant has shared, the group continues the discussion together. The groups should eventually reconvene to exchange ideas and findings – these could be captured electronically or on paper.

After session - The real value of a knowledge café is what people take away with them in their heads, and the new connections they have made with people. If the knowledge café is to be recorded – making sure to avoid disrupting or influencing the conversation – the information may be distributed to participants after the session. Remember, a knowledge café is not a talking shop. Turn-taking is important. If everyone is encouraged to have their say, a natural and stimulating group discussion should evolve, and good ideas won't be long coming.

Knowledge exchange:

A knowledge exchange takes place when someone is moving on from their current position. It aims to recover unique and valuable information from them before they leave. Knowledge exchanges occur between a knowledge holder and a facilitator. The knowledge holder is the person who is departing. The facilitator is typically a line manager or trusted team member – someone who is close to the leaver and can ensure the questioning is of sufficient depth and relevance. Ideally, the knowledge exchange will also

[54] Source: http://www.ocpe.nt.gov.au/__data/assets/pdf_file/0018/53190/Lessons_learned.pdf

[55] To learn more about David Gurteen's Knowledge Café, visit: http://www.community-of-knowledge.de/benutzer/david-gurteen/

involve the person replacing the knowledge holder or carrying out the tasks they leave behind. They will benefit from any useful tips and knowledge and from asking their own questions. When staff leave an organisation they take with them the vital knowledge, experience and contacts they have built during their time there. The organisation suffers if this information is not passed on before they leave. Estimates suggest it takes at least six months before a new recruit contributes effectively to the organisation. Including checks of handover notes through the appraisal process protects organisational memory. If a council adopted this approach, time and money saved per year would equate to between 10 and 100 posts. Many organisations will already have some informal process in place to capture the knowledge of leavers. However, the best efficiency gains come from a formalised, structured knowledge exchange process.

The following steps could be followed to execute a knowledge exchange process.

- Two days prior to the knowledge exchange, the knowledge holder receives a copy of the questions that will be asked during the knowledge exchange.
- The facilitator follows these questions as a guideline, but they are best used as a means to focus on the four key areas of work: general information, key operational information, people and people skills and lessons learned and 'pattern recognition'.
- Relationship mapping provides an overview of the relationships the knowledge holder has with key contacts in the organisation.
- The facilitator must then decide the best way to package this knowledge for the organisation. This may include drawing up instructional guidelines, mapping business processes, producing a list of useful contact information and relationships and recording as audio or film some of the knowledge holder's information.
- The facilitator may then choose to upload this information onto the team intranet, or save as a standalone file for future reference.

Knowledge marketplace

A knowledge marketplace could be seen as a 'dating service' for knowledge[56]. It identifies what people know and what they need to know on a particular subject, then connects them appropriately. Knowledge marketplaces can be facilitated online, via email or face-to-face. It can be used in many situations, and is particularly useful when delegating roles and responsibilities within a new project team. Success depends on the willingness of participants to both contribute and benefit in equal measure from exchanging knowledge. It is highly dependent on the degree of trust between individuals. It can be difficult to find people with the knowledge, skills and experiences you need on a specific topic. A lot of useful, specialist knowledge remains untapped in most organisations. The knowledge marketplace provides a forum to discover this knowledge and make it available to anyone who needs it.

Within the participating team or group, each person should take the following steps:

Identify your knowledge requirements – these could be areas where you feel there are gaps in your knowledge

Identify your knowledge offers – these would be areas where you have knowledge and experience to share with others

Collect some basic information to start the 'connection and collection process', for example: name, job title, organisation, email address, topic

This information can be recorded in a form, an Excel spreadsheet, by email, or on a flip chart during the session. This information is then used to connect people to people and the sharing process can begin. The sharing process could simply involve having a conversation. Or it could be exchanging business cards with people in who have knowledge or experience of benefit to you. Alternatively, the sharing could happen

[56] http://www.slideshare.net/mik0ton/knowledge-management-tools-techniques

after the event has been recorded electronically and all the relationships mapped out and made available online.

Peer assist

People can use a peer assist to gather knowledge and insight from other teams before embarking on a project or activity. It partners those seeking assistance– 'receivers' – with a peer or group of peers who have expertise in a desired area. A peer assist can last from an hour to a full day depending on the size of the project. Talking to experienced peers about the best way to approach new projects saves time and money and avoids repetition of mistakes. It also creates strong links across teams and relationships between people.

A simple method that works well involves of the following steps:

Appoint a facilitator - Appoint someone from outside the team who will ensure the participants achieve their outcomes.

Select the participants - Choose participants who have diverse knowledge, skills, and experience. There is no hard and fast rule about minimum or maximum numbers, but the right participants are particularly important.

Share information - This is done by dividing the meeting time into four parts:

1. **Clarify purpose** - The receivers present the background and objectives of the project or task they are about to begin. They should also say what they hope to achieve in the peer assist.
2. **Encourage the peers to ask questions and give feedback** - The peers discuss the receiver's situation and share ideas and experiences. The receivers should simply listen.
3. **Analyse what's been heard** - This part is for the receivers to analyse and reflect on what they have learned and to examine options. The peers should take a back seat.
4. **Present the feedback and agree actions** - The peers present their feedback to the receivers' analysis and answer any further questions

Rapid evidence review

A rapid evidence review (RER) is a way of reviewing research and evidence on a particular issue. It looks at what has been done in a particular area and records the main outcomes. Evidence reviews can be run in several ways. Some are more exhaustive in their execution and ambitious in their scope. A fully developed review will scan available literature as comprehensively as possible, using electronic databases and comprehensive sourcing. The RER provides a quicker but still useful way of gathering and consolidating knowledge. It's a useful building block from which to start work on a new project. It should not be considered a definitive review, but rather the most suitable given the time and resources available. Any new piece of work is likely to draw on what has already been done by others in the sector. An RER ensures that you take account of this work before starting a project. This avoids duplication of effort and gives you a firm foundation on which to build.

RERs can be run in a variety of ways. Because of the volume of published material, a review will normally source and scan selected research.

A model that could be used is by getting knowledge about emerging effective practices from consultants working in groups. It can be run as follows:

- Gather the group of people you are hoping to get information from. Ask them to write on paper any ideas and examples of work that relate to the issue you are researching.
- Stick these examples on the wall around the room and arrange them into themes
- Group people according to the theme that contains their ideas or example of work
- Run breakout groups by theme. Use group discussions to test the effectiveness of the practice. A facilitator should be present to record the discussion. As each person in the group discusses their work, the facilitator ensures that supporting evidence is recorded.

- Produce a report or document that summarises the discussion and outcomes. These findings should be published on the intranet, internet or as a paper publication, for anyone to use in future projects.

Retrospective review

A retrospective review is an in-depth discussion that happens after the completion of a project, event or activity. It is structured to help the people involved reflect on the project in detail. Retrospective reviews ensure that you to retain learning from what has happened, understand why it happened and it looks at what went well, what needs improvement and what lessons should inform future work. Every major project should conclude with a retrospective review. This is the main way of ensuring that lessons learned are recorded in an objective way. It also ensures that the information can be made available to others.

A retrospective review can be run in various formats, including a workshop or meeting. A simple method that works well involves the following steps:

Preparation for a retrospective review - Appoint a facilitator, someone who can help create an open environment and encourage discussion. Invite all members of the team to participate. Collate and distribute documents relating to the project being discussed.

During a retrospective review - Identify and review project objectives and deliverables. Identify and review the project plan and planned process. Discuss how success and lessons learned can be applied in the future. Discuss what could have gone better and how. Relay short summaries of main learning points to clarify understandings.

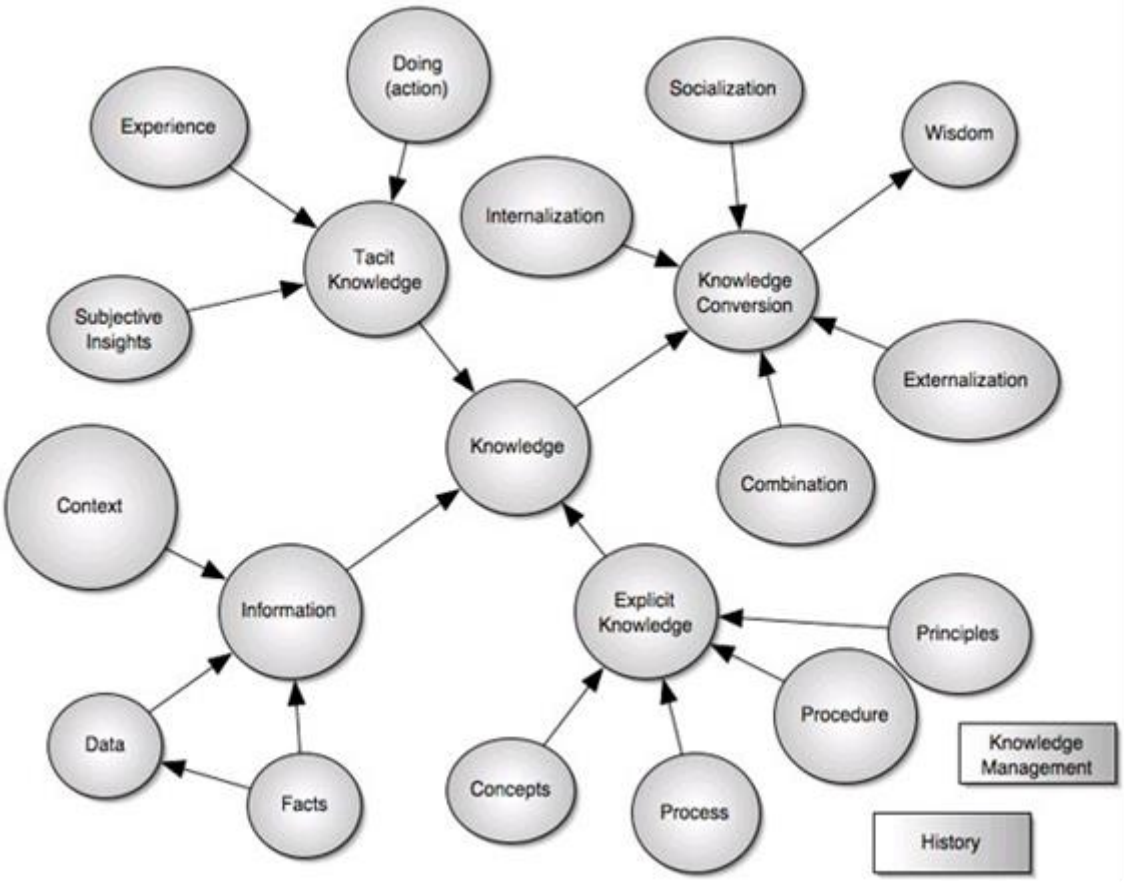
Post-retrospective review - Record findings in an appropriate format and circulate to all participants. Publish or store the main learning points and recommendations for future use. This can include online case studies (Knowledge website), printed publications or reports. Formally close the retrospective review.

Throughout the retrospective review process, invite comments and feedback. This will help you learn as much as possible before the team disbands. To inform future work, ensure that everything has been properly documented and stored or published before formally closing a project.

The above knowledge management techniques are ways and means that an enterprise can apply to manage the knowledge in its environment.

COMPARE THE KNOWLEDGE MANAGEMENT PRACTICES TO THOSE OF OTHER UNITS

Knowledge management has a variety of activities which could be depicted in the following diagram:



A survey amongst companies practising knowledge management revealed that the top four knowledge management activities are the capture of lessons learnt (17%), capture of best practices (17%), implementation and use of a document/content management systems (15%) and the implementation and use of an enterprise portal system (14%). Other activities could be:

- Implement taxonomy (classification system)
- Capture customer knowledge
- Document business processes
- Build content repositories for business domains
- Conduct knowledge audit

Knowledge management applications rest on four important knowledge management pillars or activities. These pillars are the leadership/management, the organisation, technology and learning culture of an organisation.

Leadership/management - This deals with the environmental, strategic, and enterprise-level decision-making processes involving the values, objectives, knowledge requirements, knowledge sources, prioritisation, and resource allocation of the organisation's knowledge assets. It stresses the need for integrative management principles and techniques, primarily based on systems thinking and approaches.

Organisation - It deals with the operational aspects of knowledge assets, including, functions, processes, formal and informal organisational structures, control measures and metrics, process improvement, and business process reengineering. Underlying this pillar are system engineering principles and techniques to ensure a flow down, tracking, and optimum utilisation of all the organisation's knowledge assets.

Learning culture - Deals with organisational behavioural aspects and social engineering. This learning pillar focuses on the principles and practices to ensure that individuals collaborate and share knowledge to the maximum. Emphasis is given to identifying and applying the attributes necessary for a "learning

organisation." Organisational culture is one of the most important attributes in knowledge management – some authors estimate that 80% of the success of knowledge management rests on the pillar of culture.

Technology - Technology deals with the various information technologies peculiar to supporting and/or enabling knowledge management strategies and operations. One taxonomy used relates to technologies that support the collaboration and codification knowledge management strategies and functions.

Knowledge management applied in the public sector

A case study in a public sector domain (South Africa), revealed the following pertaining knowledge management:

Some of the **reasons** why knowledge management was needed in this public sector were:

- To achieve service delivery
- Achieving collaboration and common language and orientation
- Dealing with service delivery challenges such as by looking for solutions to the challenges and improving accordingly
- Make new partnerships and create new connections across department
- Avoiding repetition or re-inventing the wheel
- Strengthening relationships between spheres of government for effective service delivery
- Using e-learning to build capacity and competence
- To enhance knowledge sharing relating to customer needs and partner needs
- For culturally relevant changes
- For maximising the potential of the individuals and the organisation.

The idea of **using a charter** can be used as an important tool to ensure commitment from key role players towards a set of important values and principles. It is important that knowledge management role-players be active in knowledge management aspects such as:

- Knowledge generation (sources)
- Knowledge accounting (people, systems and processes)
- Knowledge application (using the knowledge to deliver services/products)
- Knowledge sharing (tools of sharing)
- Knowledge drivers/champions (who is involved; leading institutions)

The department under discussion discussed, adapted and adopted a knowledge management **vision** stating:

Vision: To position the South African public sector in all its spheres to be a leader in the creation, management, presentation, exchanges and use of knowledge.

Principles: Our people, their knowledge and their collective wisdom are essential resources that support the services we provide Knowledge, experience, and learning are assets to be shared internally and externally in all our relationships Active engagement, dialogue with citizens (and communities), partners and stakeholders are key to ensuring our policies, programs and services respond to the needs of the public. Our work environment is one that attracts, nurtures and retains people, foster teamwork and exemplify a culture where knowledge is valued, supported and rewarded. (This makes us an employer of choice)

It was concluded that the benefits from knowledge management are:

- Reduced duplication
- Reduced time spent on searching and retrieving information
- Reducing the costs of mistakes
- Improving evidence-based decision-making
- Improve transparency
- Discourage the SILO mentality in the public service
- Excite public servants

Some further aspects related to the knowledge management process were:

- **Costs of initiating** knowledge management - Especially in investing in personnel, systems and processes
- **Tools for sharing knowledge** - Tools such as internet/intranet/e-mail, communities of practice, video (story telling), sector workshops (virtual and real), documentation, post-mortems (close-out reports), database of experiences, brown-bag sessions, staff associations
- **Structural relationships** - A clear guideline was set on the relationship between innovation, HRM and IT, and knowledge management. The consensus was that innovation is an output of knowledge management, HRM is a complementary vehicle for knowledge management and IT is a tool, an enabler of knowledge management.

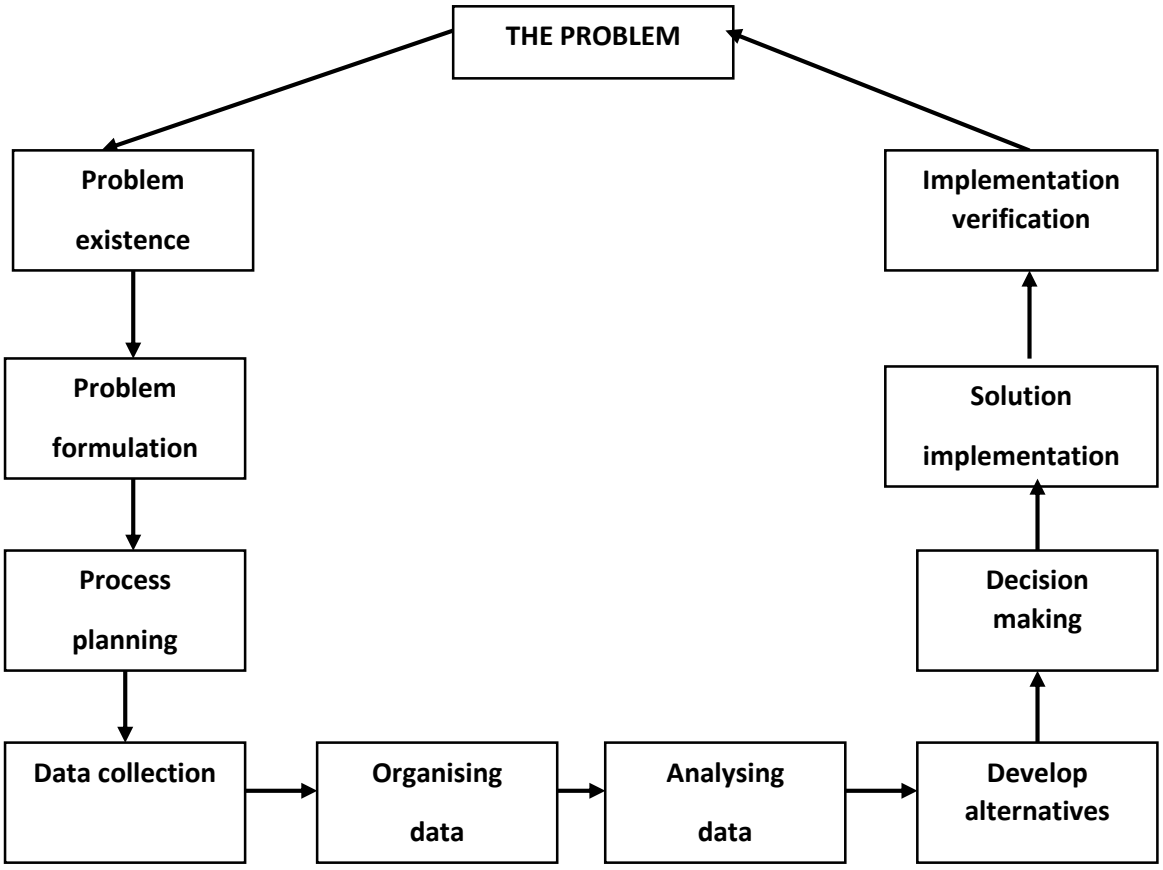
Interpret the findings of the analysis

The analysing of explicit knowledge management could follow the same procedure as any other "statistical or problem solving cycle" with the addition of attending to typical knowledge management matters.

Problem solving/statistical cycle:

In our daily lives we use verified knowledge derived from data through a process of decision making. By decision making we create a cycle from the unknown to the known to use the result for a specific purpose. We can call it a project cycle, an information cycle, a knowledge cycle, a statistical cycle or a problem solving cycle, but the fundamental procedure stays the same.

THE PROBLEM SOLVING CYCLE/PROCESS



The problem solving process can also be explained by considering the following steps:

1. Consider what is going on. What is the actual situation?
2. What are the successes? What are the ideal situations in order to solve the problem?
3. What are the questions? In other words what questions must be asked in order to develop alternatives.
4. Generate answers or rather, generate alternatives.
5. Forge the solutions; develop practical solutions.
6. Align the resources; implement the solutions.

Additional knowledge management factors

From a measurement viewpoint, qualitative data like stories, feedback, interviews, and focus groups can answer a question that quantitative data doesn't answer: Why? What caused us to get the numbers we got? What do they mean? In analysing the knowledge management system and in managing the knowledge, the emphasis should be on effective **measurement**.

In knowledge management it requires both strategic thinking and an understanding of how to **develop measures.** Unfortunately, a valid measurement of knowledge management isn't easy and failing to measure could mean that in-depth information to evaluate the programs is not available. Managers don't know if they should keep on doing what they're doing or make adjustments. Measurement must have a **purpose**; measurement for its own sake is a waste of time. There are plenty of purposes for which we can produce measures that give information in context for specific reasons, such as:

- The return on investment for their knowledge management projects, such as faster time to market, reduced costs, and higher customer satisfaction
- Barriers to sharing knowledge
- Success in gathering and using knowledge from customers
- How people feel about knowledge sharing
- The maturity level of their knowledge management effort
- Progress in reaching their goals and achieving their strategy
- The efficiency of the approaches being used
- Identifying gaps in the approaches being used
- An assessment of their intangible assets
- The continuing health of their knowledge management system

The purpose is the starting point. It drives the rest of the measurement development. "You can only solve a problem when you can define the problem" Whether you have related or independent purposes, you need to keep them distinct and separate.

Measures that give a sense of what was accomplished in the **past** without a clue as to what will happen in the **future** are lagging indicators. Such measures do have value and can give you some of the knowledge in context you need for an actionable understanding. The danger is in relying solely upon these types of measures, no matter what your purpose in measuring is. On the other hand, they don't tell you what to do next. Ideally, any set of measures should have a balance of both leading (future) and lagging (past) indicators. Identifying both the knowledge you need to guide your actions and also the knowledge that helps you judge your outcomes should be part of your purpose.

Measures are good, so the **more measures**, the better. However, measuring everything bypasses a critical benefit of a well-developed measurement system: a focus on what's important. As you develop measures, you need to look at your options. As you work through the requirements for defining and implementing effective measures, you'll discover that there are some things you just can't measure effectively. Sometimes you'll find it's too difficult to collect data. For others, it will turn out that the measures simply replicate the results of other activities. As in any creative process-and never lose sight of the fact that developing measures is creative - you need to generate many options before you come up with something you can

actually use. But you also need to practice convergent thinking, narrowing your choices of measures to a critical few. Some relevant points are:

- Is it part of the strategic planning process?
- Are there key measures for each part of your business strategy?
- Do the measures focus on the vital few, the things that really matter for the success of your strategy?
- Do they flow from the top of your organisation down to the lowest level, with modifications as needed for each level?
- Are they well understood throughout your organisation?
- Are the measures taken often enough to provide a consistent guide for action?
- Are the results used to make decisions?

The generic **process** for developing measures has the following steps:

- Determine your goals
- Describe the audience for the measures
- Define the measures
- Decide what data will be collected and how it will be collected
- Decide how to display the measures
- Examine the team of measures

Developing measures is a reality check for your **goals.** For measures, you need goals that define the following:

- The success must be in clear terms
- Success in terms that are measurable
- A measurable success that is doable
- A measurable success that matters to the organisation

The level and scope of the measurement process help to define the **audience** for your measures. If the company is involved in a global knowledge management effort that costs a lot of money, it would be worthwhile to consider the CEO and corporate board to be a potential audience, not to mention the external stakeholders. If, on the other hand, the effort is located within a specific business unit, the corporate board may be an option but not a necessity. At the same time, the senior managers in the business unit are an important audience. Regardless of the level, some critical audiences that should be considered are:

- People who approve allocation of resources, such as funding
- Management at all appropriate levels, to include middle management
- The users, the people who implement and use the knowledge management approach or system
- Others affected by the knowledge management approach, including other employees, customers, and suppliers
- The people involved in running the knowledge management effort

It is important to define the measures by giving it an "**operational name**" acceptable in the company. The name needs to be in simple, everyday language understandable by the audience for the measure. A good name is brief and gives a general idea of what is being measured. This operational definition is the blueprint for the rest of your work developing the measure. It gives you the specifications in enough detail to guide the work. It also tells you what is and isn't included in the measure. An operational definition is a working definition. It gives you a description of the measure that is detailed enough for the remainder of the development process. It also sets the boundaries for what is and isn't included in the measure.

It is also an important step for developing a good measure, one that actually measures what it is supposed to measure, not something else. This is called **validity**, a key concept in measurement. A valid measure is one that gives you the correct information you need for your intended actionable understanding. Validity for measures is contextual. It depends upon what question you are asking and what inference you will make from the measure. For example, if a goal defines success for a community of practice, a valid measure actually gives you the information you need to decide if the community of practice is successful. An invalid

measure could lead you to assume that a community is successful when, in fact, it is not, or that a community has failed when it is, in fact, successful.

Another key concept for measurement is **reliability.** Reliability means consistency. The reliability of your measures will depend upon the consistency of the data collected. No matter how carefully you described the intended data and its collection, in practice, the actual data and its collection could vary widely from what you intended. For one thing, it may not be collected at the exact times you specify. While you can't control all of the variation that will happen (variation is inevitable), you do need to take special care when instituting new measures to give detailed descriptions for the data and to use effective communications. You'll also need to monitor how the data is collected over time. Reliability and validity are related. To be valid, a measure must be reliable. A scale that gives different results every time isn't valid. However, a reliable measure isn't necessarily a valid one. A measure can give you a consistent but dead-wrong result.

It is important to specify what data will be **collected** and how it will be collected. To determine what data will be collected and how, the following directive questions can be of use:

- Who will collect it?
- What data will be collected?
- When it will be collected?
- Where will the data be collected?
- How it will be collected?

You need not only to be specific, but also be able to describe and communicate the specifications well enough so that the data collected is consistent.

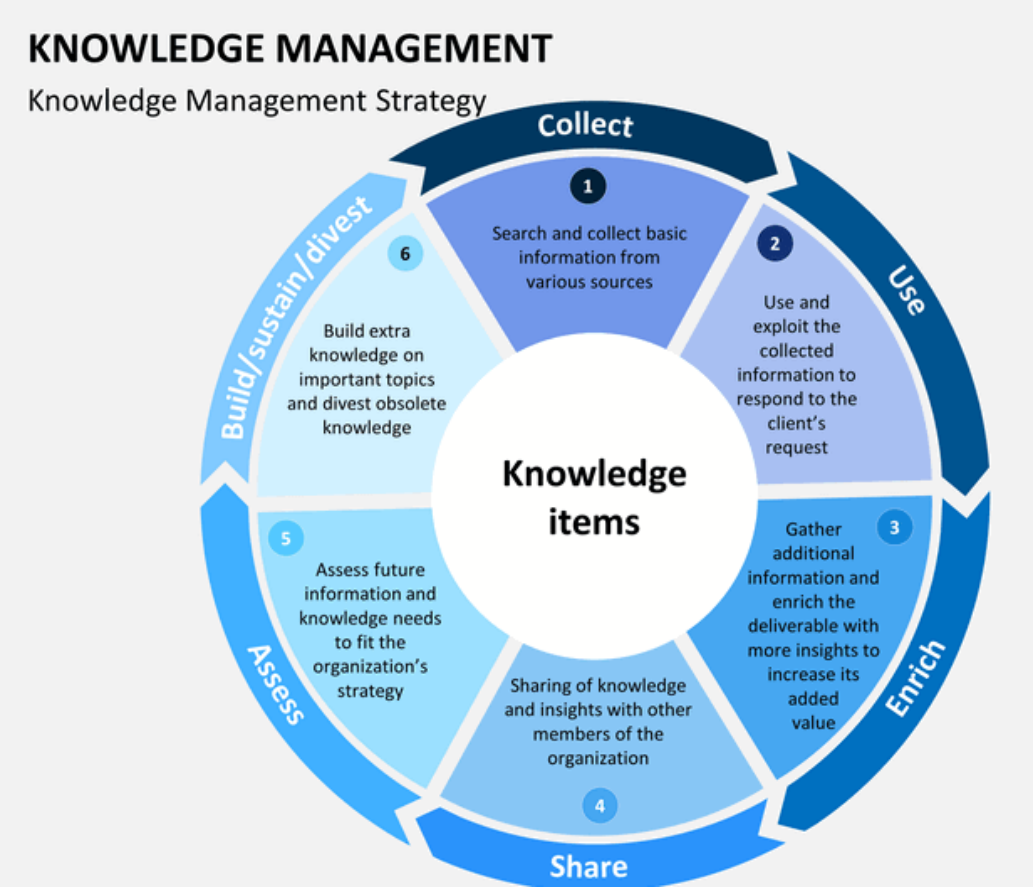
The results must/should be **communicated.** Consider beforehand how the measures will be presented graphically, preferably on your intranet. If you're able to present using computerised graphics, you'll have many more options both for presenting and for dissemination, but don't try to cram in too much information into a single display. The more things you try to present at one time, the harder it is to understand. Try to limit each graphic presentation to a key facet of the measure. Determine how often the graphic displays will be updated.

Most importantly the measurement process should take the **corporate culture** into account. In this regard you have to be aware that the measures could be communicated to everybody in the organisation and it will thus mean to visit the corporate norms and culture. Verify how measures are usually handled.

CONSOLIDATE THE FINDINGS AND MAKE RECOMMENDATIONS

Consolidate the findings in a report with recommendations on improvements within a unit and an entity.

Developing a knowledge management implementation plan



[57]

Paul Miller in his book, "*Mobilising the Power of what you Know*", explains twelve practical steps to get knowledge management in "action":

Step 1: Start with a business strategy:

The primary purpose of a company is to provide services and products that people choose to buy instead of those of the company's competitors. Before spending time and effort changing the way you work, you must ensure you understand your business strategy to which knowledge mobilisation can contribute.

Step 2: Create a knowledge-sharing culture:

Creating a knowledge-sharing culture can take many years, but every step takes you closer. It recognised the paradox between the traditional culture of client confidentiality and its goal of encouraging its employees to share what they have learnt from cases. In actual fact, employees are not breaking client confidentiality by sharing information between colleagues. Some companies ensure that every employee is aware of everyone else's role around them, so they can turn to the right person when seeking knowledge. This has empowered employees by allowing them to take responsibility for finding the knowledge they need in speaking to the right people. Other companies have created centralised databases for and about their employees. Allowing people to understand who the expert is on what encourages employees to turn to each other for information and knowledge.

Step 3: Get the right structure:

The structure of an organisation defines who reports to who and who works on what. Consequently, the structure will affect your knowledge mobilisation. A structure which draws different people together for projects or encourages functions to work together will naturally encourage knowledge sharing. A flatter organisational structure encourages knowledge mobilisation. If there are too many layers within an

[57] Picture: www.sketchbubble.com/en/powerpoint-knowledge-management.html

organisation, knowledge mobilisation automatically becomes more difficult. Bureaucracies are not conducive to mobilising knowledge since the culture of 'information is power' pervades them.

Step 4: Create a dedicated team:

Changing the culture of an organisation is a major initiative so it needs a dedicated team to push it forward. When adopting a culture of knowledge mobilisation, it is vital to enlist support to carry it through. This can either be a dedicated group of knowledge professionals or a project team consisting of employees from various functions. The team should assess what is needed and how this fit in with achieving business goals, review current channels of communication, encourage and involve people in the move towards knowledge sharing sustain, reinforce, reward and maximise knowledge sharing.

Step 5: Help people to feel secure:

Employees don't share knowledge willingly when they fear for their jobs and employees have become wary of becoming dispensable. It is almost impossible to create an open, knowledge sharing environment when experiencing employee cutbacks. People become suspicious of each other and of management; they want to hold on to their own knowledge as a way of maintaining something unique to offer the company. Companies must be aware that employees must feel secure in their jobs in order to share their knowledge. They usually do not feel part of the organisation and they usually feel connected to their skill area and so share knowledge among other professionals with those skills, some of whom may be in the competitors' company.

Step 6: Reward those who share knowledge:

When changing a culture, you need to create methods of reinforcing the new approach to business, and remuneration is one of the most powerful ways of doing this. knowledge management contributions should be recognised in the pay structure. If employees are being rewarded for initiating methods of mobilising knowledge, or for their contribution to a team, it will assist with creating a culture where this happens.

Step 7: Ensure commitment from the top:

A Culture change needs to be led by example. Commitment from the top is essential to a successful culture change. The role of the CEO is essential to culture changes. If the CEO changes, so does the company culture.

Step 8: Capture soft knowledge:

Connect people with people - not systems - so that the knowledge can be captured. There appears to be a correlation between how difficult knowledge is to capture and its usefulness to a company. Soft knowledge, which resides in the minds of employees, is difficult and at times impossible to access. Companies are recognising that it is vital to share ideas, creativity and opinions, as well as facts and figures, to give themselves a competitive edge.

Many companies operate systems of monitoring competitor activity. Employees are asked to contribute any information, even rumours, on their competitors through intranets and databases. Each item can be discussed or added to through a feedback system; it assesses opinion rather than hard facts. Asking employees to contribute rumours, can be an important method of keeping as up to date as possible with the market. In this way it is possible to prepare for potential competitor activity prior to its occurrence. Looking at facts along can only provide historic information. One way to capture soft knowledge is to create networks so that people can communicate with each other on more than one level.

Step 9: Handle technology with care:

Technology can enable knowledge mobilisation, but it is useless without the necessary culture - people must want to share knowledge. It is essential to invest in suitable channels of communication but, in itself, can hamper the process to achieve knowledge mobilisation. Those companies that had invested heavily in technology saw it as a useful tool. However, they were aware that it also brings its own set of problems, for example, face-to-face meetings can be replaced by electronic communication. However, the benefits of technology (when used properly) cannot be overlooked. It can create the lateral spread of information, it can make sharing knowledge feasible, both logistically and economically, and it can prevent information overload.

Step 10: Maximise employee know-how through active learning:

Investment in employee training is rising at a rapid rate. As competitive pressures increase, companies are spending more and more on training selected employees in specialist areas; this naturally creates islands of expertise. This can be minimised by ensuring that these employees can share their new-found knowledge by cascading learning through the organisation. Similarly, functions within large organisations are becoming increasingly distinct in their skills and operations. Using the intranet and similar systems enables cross-functional knowledge transfers, increasing awareness of functional roles and responsibilities as well as maintaining a relationship between departments.

Step 11: Persist and measure:

When people leave the company, they take their training and know-how with them. To minimise the impact of a departing employee, companies should capture as much as possible of that person's knowledge before they leave. This could be done through continuous participation in knowledge mobilisation systems. An exit interview is another useful way of recording an individual's history at a company. The interview should be carried out by an expert to ensure that the most useful information is extracted. Access to such interviews is an excellent starting point for the newcomer in understanding their role, the culture and some of the softer issues of their new position. It is essential to define success criteria and introduce instruments to measure the impact on the business before a project is implemented.

Step 12: Share with other companies and get a win-win strategy:

Be open to the idea of sharing non-sensitive information with other companies - it's better for this process to be managed than for you to turn a blind eye to unofficial channels of information sharing. Information can be shared through trade organisations, strategic alliances or other networks. Great savings can be made by sharing knowledge and pooling resources with other companies. It is interesting to note that the results of our knowledge sharing report are being shared by all the participants; in itself, the report is a knowledge mobilisation exercise.

It is almost impossible to measure and/or analyse knowledge, especially tacit knowledge, in the context of input-system-output as used in knowledge management. The so-called analysis of knowledge is fundamentally a human interaction between humans.

DESCRIBE THE ROLE OF THE MANAGER IN IMPLEMENTING THE PLAN

Somebody has to "manage" the knowledge management process. In knowledge management research it was found that it is a pivotal issue in migrating to a knowledge strategy to create a culture to support trust and collaboration. If knowledge is to permeate in an organisation, it would be worthwhile to redefine the manner in which value is measured, change the way in which individuals approach their work, and alter corporate culture forever and look for an internal champion to lead the knowledge cause. It is debate in the knowledge management field as to what form of leader is necessary and what level of authority that leader needs to be effective. It can be argued that knowledge leadership is not new. Managing the knowledge of a process is a requirement in any enterprise, even an enterprise of only one person. However, today, knowledge is not the proprietary property of a few craftspeople or executives working within the inner sanctum of an organisation. Instead, it is a common property of virtually all workers. Add to this the transient nature of today's workforce, the need to quickly connect and mobilise geographically disbursed teams, and the highly technical nature of modern work and you have an immense demand for greater sophistication in the way knowledge is managed.

Although there are a number of organisations with a knowledge management leader/manager in place, these are rare. Many other lesser-known titles and associated responsibilities are in use in organisations throughout the world to identify and characterise their knowledge leaders. You should consider each of these and determine the approach that is best for you and your organisation. Although no taxonomy could possibly set forth all of the titles and responsibilities included under this topic, the following are general categories that could be considered.

Knowledge engineer - The knowledge engineer is a leader typically associated with an organisation that is taking a very tactical/procedural approach to knowledge management. As the title infers, the knowledge

engineer is responsible for converting explicit knowledge to instructions, programs systems and codified applications. The knowledge engineer reduces knowledge-based work to replicable procedures by codifying them. The principle challenge of this position is performing it without outgrowing it. Effectively, the better knowledge engineers codify knowledge, the harder it is for the organisation to change when their environment demands it.

Knowledge analyst - This type of knowledge leader is a conduit to best practices. The knowledge analyst is responsible for collecting, organising and disseminating knowledge, usually on demand. Knowledge analysts provide knowledge leadership by becoming walking repositories of best practices. The liability, however, is that they can easily take all of the best practices with them if they leave. There is also a risk that these individuals become so valuable to the immediate constituency they serve that they are not able to move laterally to other parts of the organisation where their skills are equally needed.

Knowledge manager - As the title infers, the knowledge manager is an overseer. This approach to leadership works best in organisations that believe knowledge will primarily be the responsibility of multiple individuals throughout the organisation. The knowledge manager is responsible for coordinating the efforts of engineers, architects, and analysts. This position is most often required in large organisations in which the number of discrete knowledge sharing processes risk fragmentation and isolation and the knowledge manager provides the same level of coordination across these as a director of marketing may provide across a number of products. The risk in having knowledge managers is that fiefdoms may begin to form around the success of each manager's domain.

Chief knowledge officer (CKO) - This is a very traditional, hierarchical approach to the management of knowledge. The CKO is responsible for enterprise-wide coordination of all knowledge leadership and typically reports to, or is chartered by, the CEO. Although it would go to reason that the CKO be part of IT (perhaps reporting to the CIO) this is not often the case. The CKO is not tasked with the infrastructure technology but, rather, the practice of knowledge leadership. At present the role is almost always a solo performer with little, if any, staff and no immediate line-of-business responsibility. The principle liability of putting a CKO in place is doing it too early: the CKO is powerless before a culture of knowledge sharing, incentives, and the basic precepts of knowledge leadership have been acknowledged by the enterprise, or at least a significant portion of it.

Knowledge steward - The knowledge steward is similar to a knowledge manager. The steward thrives in organisations that do not view knowledge as a corporate resource that must be managed from the top down. This role is responsible for providing minimal but ongoing support to knowledge users in the form of expertise in the tools, practices and methods of knowledge leadership. The steward is in the most precarious and most opportunistic of positions. Usually he or she is an individual who has fallen into the role of helping others to better understand and leverage the power of new technologies and practices in managing knowledge.

CoP - It is just good practice to incorporate CoPs (Codes of Good Practice) in a knowledge management structure. As previously stated, a CoP is a network of individuals with common problems or interests who get together to explore ways of working, identify common solutions and share good practice and ideas.

It is up to the organisation to decide upon the most suitable knowledge management structure in the company; obviously the knowledge management culture would dictate which structure to use.

DEVELOP AN OPERATIONAL PLAN FOR MANAGING KNOWLEDGE IN A UNIT

The operational plan includes activities, role players, timescale, measurements, costs, benefits and potential risks.

How to assess an environment and begin implementing a Knowledge Management Program:

1. Develop an information/content management survey.

2. Identify the gaps in current information/content management methodologies, identifying information categories, types, access locations, owners/authors, usage, effectiveness, feedback, and any existence of communities of practice.
3. Build relationships by leveraging the people and the work they have been doing in trying to organise their information/content. Do not discredit people's attempts build upon them.
4. Build a comprehensive taxonomy and migration plan and begin moving current information into new taxonomy.
5. Develop information/content management processes, roles and responsibilities.
6. Build digital communities of practice to keep your core knowledge champions and mentors engaged.
7. Set expectations/objectives for information provision and use.
8. Conduct knowledge management awareness seminars addressing issues of "Knowledge is power," "Not my job," and "I don't have time."
9. Develop incentive methodologies to encourage *quality* contribution of information/content.
10. Develop constant and consistent communication methodologies to keep people excited and informed.

How to avoid pitfalls and obstacles during Knowledge Management Implementation:

- Educate, communicate, educate, and communicate.
- When assessing an opportunity that requires people's time give a plan of action back designed to fix their problem and deliver on that plan by exceeding expectations. (ROT) return on time. This builds creditability and trust. *People spread good news and bad news with the same enthusiasm.*
- Don't become discouraged with push back. Exercise the 20 – 30 – 50 rule. 20 % of the culture will be willing to change; 30 % will resist change, and 50 % will be undecided. Focus on the 50 % undecided. Give rave recognition to the 20% that are participating and the 50 % will soon follow. After 70% of the organisation has crossed over the 30% will stand so far outside the circle they will be obligated to join or lose creditability.

How to obtain support for a Knowledge Management project at the Executive Level:

- Find an opportunity to apply knowledge management principles and practices in a small pilot; show the benefit and support will soon follow. You are building a reputation; respect for your efforts will follow your ability to improve the existing environment.
- Show the return on investment in quantitative or qualitative terms in areas of increased productivity, increased capacity, and time savings. (Increased innovations would be nice, too) Some companies or industries are more conducive to innovations by design (i.e. drug and food) than others, but innovation is still valid in all areas.

How to evaluate and chose the right Knowledge Management Technology:

- Develop your people, process, and content components first and then select a technology to enable them.
- Many vendors claim to have a knowledge management solution. You may find that no one technology or tool will work for your environment. Many tools/technology may have to be integrated into back-end architecture to meet all the requirements.
- Run a side by side comparison of each tool/technology weighing the risk, benefits, pros and cons in the areas of functionality provided to meet your requirements; evaluate long-term relationship/costs with supplier. Do they insist on their knowledge engineers be used any time new functionality or changes need to be made or knowledge provided? Does it make more sense to develop a knowledge management environment of knowledge managers, engineers, practitioners, editors, etc. within your company?

- Technology is changing all the time; be sure your knowledge infrastructure can adjust; plug and unplug technologies without breaking your people, process, and content components.

How to measure the result of Knowledge Management Implementation:

- After determining the gaps rate the environment with levels of knowledge management maturity. Example: Level 0 (No plan to fill gap), Level 1 (Planned), Level 2 (Developed), Level 3 (Deployed), Level 4 (Performed), Level 5 (Adopted). After the program has been adopted measure the usage and effectiveness of the knowledge management processes and products being used to accelerate the pre- knowledge management environment. The success or failure of the environment will be a direct reflection of the knowledge management processes and products.
- Before implementing knowledge management principles and practices into a targeted department or organisation record previous moral, productivity, and bandwidth. After implementation use story-telling for a qualitative measure of morale and look for quantitative methods to measure the delta in productivity and bandwidth or increased capacity. Time to access information before and after, time spent researching and rediscovering before accessing a knowledge base of previously discovered answers or solutions.
- Replace the traditional industrial age practice of "create more quantity when asked for it, with provide more value when made aware of it". To simply demand information contribution by metric may result in poor quality information; further resulting in the reactionary practice of cleansing.
- Integrate communities of practice into your knowledge management program and measure the productivity and efficiency gains of digitally collaborating on common objectives vs. E-Mail correspondence and cost intensive physical status update and action assigning meetings.

PROMOTE THE OPERATIONAL PLAN

The promotion of the plan could include explaining the principles of knowledge management to team members, acting as a change agent for knowledge management, and creating an enabling environment for the creation, transfer and sharing of knowledge within a unit and an entity.

Every organisation has a unique environment, defined by factors such as:

- Purpose and activities of the organisation
- Overall strategic direction
- Organisational culture
- Size of the organisation
- Geographic spread
- Staff skills and experience
- Organisational history
- Available resources
- Marketplace factors

For this reason, each organisation has a unique set of needs and issues to be addressed by knowledge management. It is easy to jump into 'solutions mode', recommending approaches such as communities of practice, storytelling, content management systems, and much more.

While these approaches may have widespread success in other organisations, they will only succeed in the current environment if they meet actual staff needs.

In practice, organisations are littered with well-meaning but poorly targeted knowledge management activities. In many cases, these failed because they simply didn't address a clear, concrete and imperative problem within the organisation. This is now recognised as one of the 'critical success factors' for knowledge management: identify the needs within the organisation, and then design the activities accordingly.

Emerging technologies

Executives are more mobile in the new economy and depend upon telecommunications to conduct business away from the office. Today's executives are more challenged than previous due to the emerging mobile economy. Also, the convergences of Internet, e-business and wireless have created new opportunities for mobile economy (m-economy) companies in developing emerging management enterprise systems to meet the needs of mobile executives.

Today's workers are more mobile, and they look towards the telecommunications and information technology industries for solutions to allow them to conduct business while on the move. However, there many front-end mobile devices (e.g., personal digital assists, cellular phones, notebooks, hybrid x-boxes) that can connect to back-office information systems (e.g. web-based database) via wireless technologies (e.g., VoIP, and broadband) and standards (e.g., Bluetooth, WAP 2.0 and IEEE 802.11). Low cost telephone service via VoIP technologies will fuel the growth of the m-commerce market. Also, new security applications (e.g., encryption) will emerge to protect the data transactions and voice communications over wireless networks.

It can be argued that the convergence of telecommunications, Internet, Web and computer-mediated networks (post 3rd wave era) created new opportunities for information management companies. Executives with frequent travel schedules are challenged to make decisions away from their home offices. It is clear that the current management support systems must evolve to meet the needs of these busy managers and executives. Also, the borderless new global (24/7) economy has forced many organisations to respond to the customers' demands before competitors do. For example, major automakers (i.e., General Motors, Ford Motor Company, and DaimlerChrysler) are integrating emerging technologies into their business processes and manufacturing facilities to respond to customers' demands for competitive products and faster delivery dates.

It can be argued that most organisations are implementing new e-strategies to remain competitive in the new economy. Managers are participating in new information technology projects to take advantage of Internet capabilities, for example, business-to-business (B2B), business-to-consumer (B2C), customer-to-business (C2B), and e-commerce strategies are implemented in conjunction with enhanced MSS. This approach has streamlined the management decision process thereby improving organisational effectiveness. Customers can place their orders directly with companies via e-commerce technologies and the related information is automatically processed by the MSS.

Emerging management support systems models

Key drivers (i.e., business, legislative, technological) that are forcing many organisations to evaluate their current MSS and make a decision (reengineer, replace or retire) about which information tools are best suited to compete in the new global economy will also be examined. In addition, the relationship of tenets (inputs) of the emerging management enterprise management systems and the relationship to customise emerging management support systems (outputs) will be discussed.

DESCRIBE THE IMPLEMENTATION OF THE PLAN

Knowledge is the key for decision making and strategy building. But knowing does not always translate into doing it. It is very critical for organisations to implement right and effective tools for managing organisational knowledge to build and sustain competitive advantage.

Knowledge management facilitates creation, consolidation, transformation, sharing, distribution, and application of knowledge. No two organisations can follow the same methodology to implement knowledge management. And it is not necessarily true, if an approach works for one organisation, that another organisation can use it as a cookie cutter. Knowledge is very subjective by definition and varies from one organisation to another. Even if organisations are in the same business domain, knowledge management methodology may be the same but the implementation approach may be completely different.

Knowledge starts with understanding of an organisation's business perspective and future strategies. Organisations have not been able to implement effective knowledge management practice for the very reason that they do not understand their problems, opportunities and strategies clearly. Knowledge management starts with understanding of business processes and offerings. The organisation needs to understand what knowledge is for them and what is not. Initially while setting up a knowledge management program, technology should take a back seat. The focus should be on processes and people, and technology should be seen as an enabler. Many organisations make mistakes by implementing technology before understanding the organisational knowledge assets and processes.

For example, a software consulting organisation should know that organisational assets are project documentation and code. They need to organise and store the assets in a way that everyone in the organisation should be able to re-use them and thereby reduce the learning time. The organisation gains the competitive edge by transforming the assets into knowledge and thereby improving productivity and developing core competency. The tremendous growth and profitability of the Indian Software Industry is attributed to an effective knowledge management program.

Steps for implementing an effective knowledge management program or practice include:

Step 1: Identifying knowledge - Organisations need to identify all sources of the knowledge and information, so that it can be consolidated, stored in the centralised or distributed repositories, and shared and distributed when required.

Step 2: Organising Knowledge - Once the knowledge sources are identified, the next step is to organise and provide structure to knowledge in the organisational taxonomy. It helps in removing unnecessary and redundant information and also provides structured navigation to the information. In this step, organisations need to understand boundaries of explicit and tacit knowledge.

Step 3: Transforming Knowledge - Knowledge needs to be transformed in a way that facilitates decision making and enhances the building of new strategies. The knowledge needs to be internalised, socialised and externalised so that it is shared and applied in an efficient manner.

Step 4: Measuring knowledge benefits - No process can be improved if it is not measured for success. The key to the success of knowledge management is the ability to measure the effectiveness of the knowledge management system. The monitoring and control on processes are necessary to identify opportunities for eliminating redundancy and to allow for continuous improvement.

Remember, technology should be seen as a facilitator or enabler of a Knowledge Management program. Despite technology support, knowledge management may fail due to a lack of support from management and staff.