



## **Ethiopian TVET-System**



# Electro Mechanical Equipment Operation and Maintenance

**NTQF Level -IV** 

Module Title: Developing and Supervising the Implementation of Operational Plan

TTLM Code: EIS EME4TTLM0920 v1











## This module includes the following Learning Guides

LG48: Develop operational plan

LG Code: EIS EME4 M10 LO1-LG 48

LG 49: Plan and schedule work activities

LG Code: EIS EME4 M10 LO2-LG-49

LG 50: Plan and manage resource acquisition

LG Code: EIS EME4 M10 LO3-LG-50

LG 51: Monitor and review operations

LG Code: EIS EME4 M10 LO2-LG-51

LG 52: Review and evaluate work performance

LG Code: EIS EME4 M10 LO3-LG-52





#### **Instruction Sheet 1**

#### **Learning Guide 48: Develop operational plan**

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics

- Researching, analyzing and documenting resource requirements for Developing and implementing operational plan
- Developing Consultation processes as an integrated part of the operational planning process
- setting performance indicators to measure organizational performance
- developing Contingency plans
- Developing proposals for resource requirements

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to

- Research, analyze and document resource requirement for Developing and implementing operational plan
- Develop Consultation processes as an integrated part of the operational planning process
- Set *performance indicators* to measure organizational performance
- Develop Contingency plans
- Developing proposals for resource requirements

#### **Learning Instructions:**

- 1. Read the specific objectives of this Learning Guide.
- 2. Follow the instructions described in number 3 to 14.
- 3. Read the information written in the "Information Sheets 1". Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
- 4. Accomplish the Self-check 1,
- 5. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).
- 6. If you earned a satisfactory evaluation proceed to "Information Sheet 2". However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1
- 7. Submit your accomplished Self-check. This will form part of your training portfolio.





- 8. Read the information written in the "Information Sheet 2". Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
- 9. Accomplish the "Self-check 2"
- 10. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 2).
- 11. Read the information written in the "Information Sheets 3 and 4". Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
- 12. Accomplish the "Self-check 3"
- 13. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 3).
- 14. If you earned a satisfactory <u>evaluation</u>, proceed to "Operation Sheet 1" However, if your rating is unsatisfactory, see your teacher for further instructions or go back to for each Learning Act





Information Sheet-1	Developing Operational plan

#### 1.1 Introduction

A plan is a projected course of action aimed at achieving objectives. The plan aims to coordinate action so that objectives can be reached in the most effective and efficient way.

"Plans are projected courses of action aimed at achieving future goals. They provide clear objectives and map the activities need to reach them effectively. Plans may be long term, like the strategic plans that guide the entire organisation...or they may be shorter term operational plans. Think of a strategic plan as the wheels that steer the entire organisation in a chosen direction and operational plans as the rudders that guide it and fine-tune its direction."

Good planning is an important management skill, which helps managers identify and concentrate on important issues.

Planning provides the groundwork for the future and gives you a way to track performance and assess achievements. It helps eliminate duplication of effort and meet schedules more easily. It helps managers to direct employees' efforts and skills effectively, coordinate employees and their jobs, and minimize disruptions and expenses.

Plans give the team's efforts purpose and direction. They help the work group reach the goals by telling them what needs to be done and in what order.

When a manager plans well, everyone knows why something is being done, what is to be done, who is to do it, where it is to be done, when it is to be done and how it is to be done. When your team members know this, they feel that things are under control, which helps them perform better. They can refer to the plan and take steps to ensure that the needed tools, people, information and materials are available to meet requirements so they won't be caught short.

## 1.2 Types of planning

There are many plans a manager may use. The purpose of each type of plan is shown in the table below.

Table 1.1 Types of plans

Type of plan	Purpose
Strategic	To establish the future direction of the organisation and show the big picture – usually contains the organisation's vision, mission, goals and key measures of success
Business	To chart the organisation's major activities for the next three to five years – provides the overall focus and direction
Operational	To provide guidance about how to get short-term activities done – leads to the achievement of the overall goals in the business plan
Contingency	To provide guidance in response to any unexpected events, risks or variations

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### 1.3 Operational planning

Managers prepare and manage operational plans. In this role, they use their management and leadership skills. By being aware of their organisation's strategic plans and business plans, they are able to ensure the objectives and activities in their operational plans reflect their department and organisation's goals and objectives.

The private sector focus is on achieving maximum performance levels to achieve maximum returns on costs. The public sector (more often) is a non-profit organisation. Therefore, the emphasis is on lower costs and providing quality services and products to the community. The public sector usually provides a necessary service, so the operational plan focuses on performance for quality and covering costs rather than performance for profit.

An operational plan may focus on:

- human resources
- · operational structure
- purchasing
- · financial information
- service delivery
- · policies and procedures
- technology upgrades
- · systems and
- reporting structures

In some organisations, activities are managed through operational plans. In others they are managed as projects. Operational planning brings together and optimizes the use of resources necessary to implement the work group or team activities successfully. These resources include

- people
- facilities
- tools
- equipment
- information
- techniques
- money

An operational plan shows how an area of operations will work to achieve one or more organisational or departmental objectives. Operational plans are shorter term than the strategic and business plans they support, generally looking ahead one week to one year. As the plan becomes more short term, their precision increases.

Operational plans allow the frontline manager and team leaders to:

- track performance and measure achievement
- · eliminate wasted resources
- reach their goals

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- identify and focus efforts on important issues
- · reduce uncertainty and help them prepare for any needed changes
- use people's efforts effectively, minimising disruptions
- allocate resources to meet requirements
- · meet schedules more easily and make operations smoother
- improve safety in the workplace

Typical operational plans may include:

- work schedules
- resource requirements
- performance targets
- other plans, such as: o holiday rosters o departmental training plans o health and safety improvement plans
- · project plans for once-only activities or special occurrences

## 1.4 Stages of operational planning

Operational plans have three main stages:

- 1. Development (scoping and planning) stage
- 2. Implementation stage
- 3. Monitoring and review stage

## 1.5 Developing operational plan

The purpose of the operational Plan should align with the organisation's vision, mission, goals and objectives as detailed in the strategic and business plans.

As part of the development stage, the manager needs to:

- Research, analyze and document resource requirements
- Set key performance indicators to measure operational performance
- Develop and implement contingency plans
- Develop proposals for resource requirements
- Present proposals and obtain approval for operational plan from relevant parties

The Operational Plan is the next step in the business planning process after the Strategic Plan has been formed. The strategies identified in the Strategic Plan become the start point for the Operational Plan. In reality, a Strategic Plan has limited value unless an Operational Plan follows. It is the Operational Plan that ensures that things get done.

The Operational Planning process should involve the planners in active consultation with those staff and volunteers that will be key drivers of the plan. This consultation determines many important factors such as timelines for getting things done, whether the budget is realistic and, of course, who will take responsibility for each strategy/task.



It is important to understand the difference between an "operational plan" and a "strategic plan". The strategic plan is about setting a direction for the organisation, devising goals and objectives and identifying a range of strategies to pursue so that the organisation might achieve its goals. The strategic plan is a general guide for the



management of the organisation according to the priorities and goals of stakeholders. The strategic plan DOES NOT stipulate the day-to-day tasks and activities involved in running the organisation.

On the other hand the Operational Plan DOES present highly detailed information specifically to direct people to perform the day-to-day tasks required in the running the organisation. Organisation management and staff should frequently refer to the operational plan in carrying out their everyday work. The Operational Plan provides the what, who, when and how much:

- what the strategies and tasks that must be undertaken
- who the persons who have responsibility of each of the strategies/tasks
- when the timelines in which strategies/tasks must be completed
- how much the amount of financial resources provided to complete each strategy/task

Table 1.2 the difference between and operational and strategic plans

Strategic Plan	Operational Plan
A general guide for the management of the organisation	A specific plan for the use of the organization's resources in pursuit of the strategic plan.
Suggests strategies to be employed in pursuit of the organization's goals	Details specific activities and events to be undertaken to implement strategies
Is a plan for the pursuit of the <u>organization's</u> <u>mission</u> in the longer term (3 - 5 years)	Is a plan for the day-to-day management of the organisation (one year time frame)
A strategic plan enables management to formulate an operational plan.	An operational plan should not be formulated without reference to a strategic plan
The strategic plan, once formulated, tends not to be significantly changed every year	Operational plans may differ from year to year significantly
The development of the strategic plan is a responsibility shared and involves different categories of stakeholders.	The chief executive and staff of the organisation produce the operational plan.

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Self-Check -1	Written Test

**Direction I:** Give short answer to the following questions. Use the Answer sheet provided in the next page:

- 1. List types of management plans
- 2. Define operational plan
- 3. What are the three stages of operational plan
- 4. What is the purpose of developing operational plan
- 5. Differentiate between operational plan and strategic plan





## **Answer Sheet-1**

Score =		_	
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#### **Information Sheet-2**

Researching, analyzing and documenting resource requirements for Developing and implementing operational plan

## 2.1 Introduction

For the development of an operational plan, an organisation needs to be able to research, analyze and document the resources on the following points

- The duration of the project; when it will start and the aim of completion. This should include current and upcoming desired and clear goals. Timeframes should be set at the start with clear plans about the project.
- Financial resources; how much fund is currently available to sustain the project and any risk that may occur in the funding needs to be identified prior. It is important to be able to convince investors and suppliers about the plan and the resources needed to help achieve a profitable completion of the project.
- Human resource and other capacity requirements; evaluate the labor and the skills needed and available that are important to complete the project. It is important to consider where the human resources will come from and how many staff are required. This should include maintenance and servicing resources such as customer service.
- Identify the risk and evaluate mitigation strategy what are these strategies and how
  to overcome if they were to arise. For instance, if there is a gap in resources, there
  need to be a plan to fill in the gap. Therefore, all risks are evaluated and plans are
  devised to be prepared and to minimize the occurrences of these risks. The ability
  to measure the performance to monitor improvements need to be available.

## 2.2 Establishing realistic operational goals and objectives

- Operational goals and objectives clarify the purpose of the operational plan; what
  you are trying to achieve and the major tasks within the plan. They allow managers
  to go ahead with planning, organizing, implementing, monitoring and controlling
  activities.
- The goal provides the overall or longer term aim, providing focus and direction for day-to-day activities and a reference for decision making, e.g. to provide a safe, healthy and satisfying work environment.
- Objectives are shorter term and more specific. One method that is often used is to break down goals into smaller goals, and break these down further and further until you have operational objectives that can be easily implemented.
- Objectives must be SMART: Specific, Measurable, Achievable, Relevant and Timebound. If you can't measure your objective, you will have no idea whether or not you have actually managed to achieve it, e.g. all employees to pass Work Health and Safety (WHS) test at a mark of 95% or above by September 2016.

#### 2.3 Defining tasks

Once you have defined the operational goals and objectives, you can begin to focus on the actual work required to implement the plan.

Defining tasks involves identifying all the tasks to be carried out in the implementation stage of the operational plan. This usually results in a detailed work breakdown structure from which your team has a complete understanding of the work that is required to achieve the goals and objectives of the operational plan.

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A task is an element of work and must be clearly defined. A guideline for defining tasks is outlined below:

- Identify tasks as precisely as possible. Each task should be short compared to the overall duration of the work plan
- Tasks must be significant enough to include in the work plan. Insignificant tasks only clutter your work breakdown structure.
- The level of detail in your list of tasks should be appropriate for planning and control you want.
- Remember to include reports, reviews and coordination activities in your work breakdown structure, as well as tasks for anticipated rework or modifications.

## 2.4 Researching, analyzing and documenting resource requirements

Once the goals, objectives and work breakdown structure of your plan are in place, the manager needs to think through the physical, financial and human resources aspects of the plan.

Obtaining details of resource requirements enables managers to match the appropriate resources to the tasks and activities needed to implement the operational plan. The process involves researching, analyzing and documenting the resources you need.

Reputable and relevant information that will help you collect details of resource requirements will include:

- Workplace policies and procedures
- Planning and organizational documents
- · Quality assurance reports
- WHS reports
- Marketing data
- Financial data
- Client/customer data
- Staff and client surveys
- · Archived, filed and historical background data
- Individual and team performance data
- · Continuous improvement outcomes

## 2.5 Resources required to implement your plan

- Time
- Human and Other Capacity Resources
- Physical resources
- Financial resources
  - 2.5.1 Time: In order to estimate how long the plan will take to implement, it is important to estimate the duration of each task or activity. For example, a Gantt chart provides a visual representation of a work plan, which helps sequencing the tasks or events by laying them out in the order in which they need to be completed. On the left of the chart is a list of the tasks and along the top is a suitable time scale. Each task is represented by a bar; the position and length of the bar reflects the start date, duration and end date of the task.

A typical format of Gantt chart is shown below.





- 1		Q1 2009			Q2 2009			Q3 2009	
Task Name	Dec '08	Jan '09	Feb '09	Mar '09	Apr '09	May '09	Jun '09	Jul '09	Aug
Planning									
Research									
Design									
Implementation									
Follow up							2		

The chart allows you to see at a glance:

- · What the various tasks are
- · When each task begins and ends
- How long each task is scheduled to last
- · Where tasks overlap with other activities, and by how much
- The start and end date of the whole work plan

#### 2.5.2 Human and other capacity resources

The next step is to identify the human capacity and skills required to implement your plan, and your current and potential sources of these resources.

Common human resources issues that you may need to investigate at this stage are:

- Do you need consultants or other experts to help you implement the plan?
- Can existing staff implement the plan? Do your staff need additional training or do you need additional staff?
- If you need more staff, should they be temporary or permanent? Should they be casuals or contractors? Could you obtain staff from another area of the organisation?

The human resource capability matrix is a very useful tool in identifying the best people to perform the activities and tasks in your plan. A typical format of the matrix is shown below.

Objective: [here you state the objective you want to achieve]						
Team member Capability 1 Capability 2 Capability n						

To complete the matrix you need to:

- 1. State the objective of the operational plan in the row labelled 'Objective'
- 2. List the names or roles of your team members in the left hand 'Team Member' column
- 3. Label each capability column with one of the skills needed to do the tasks required to deliver the operational plan
- 4. Record the skills that each team member currently has, deciding on an appropriate rating. For example:
  - + = Minimal proficiency
  - ++ = Some proficiency
  - +++ = Good proficiency
  - ++++ = Excellent proficiency can train others
- 5. Record the skill level of each team member in the appropriate cell.

The human resource capability matrix will identify strengths, weaknesses and skill gaps. This will allow you to recognize where you are strong, where you need to provide training and where you need to find new staff to fill any gaps.

Human resource capability matrix

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**Objective:** Establish organizational policies and procedures in line with the WHS committee's recommendations, by the end of September

Team member	Capability 1 Decision-making skills	Capability 2 Policy and procedure writing skills	Capability 3 Knowledge of WHS	Capability 4 Project management skills
Α	+++	++++	+	++++
В	++	+	+++	+++
С	+	++++	++++	+
D	++++	++	+++	+++
Е	+++	++	++++	++++

From the table above we can see that:

- Person A is highly proficient in writing policies and procedures, but has a poor knowledge of WHS
- Person E, on the other hand, is highly proficient in WHS, but has limited skills in writing policies and procedures.

Both person A and person E are good at decision-making and have strong project management skills, so between the two they might be able to complete the task required.

Other capacities required to implement your plan may include internal systems, management structures, specialist resource managers, and a supportive legal framework.

#### 2.5.3 Physical resources

Physical resources required may include:

- · Goods and services to be purchased and ordered
- Consumables
- Stock requirements and requisitions
- Plant and equipment
- Space
- Facilities
- Technology

The level of detail will vary depending on the size and complexity of your plan.

#### 2.5.4 Financial resources

Financial resources are the lifeblood that set the plan in motion. You need to estimate the funding required to implementing your plan and, identify your current and potential sources of these funds, and the funding gaps.

One of the most common tools used for estimating funding is the budget. A budget shows the target of an operational plan in financial terms. A sample budget of a Training and Development Department within a large company is shown below

#### Sample budget report

Training & Development	
DESCRIPTION	Jan
Labour	
Employees	32,083
Employee Development/Relation	
In-house Training Provided	47,655
External Training /Conferences	850
Course Materials	5400

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Operating Expenses	
Consultants - Other	31770
Couriers	142
Dues & Subscriptions	0
Newspapers & Publications	0
Photocopying	2215
Postage & Airfreight	500
Printing & Stationery	291
Rental/Hire Equipment	3916
Telephone	754
Travel/Accommodation - Local	500
TOTAL	126,076

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Self-Check -1	Written Test

Direction I: Give short answer to the following questions. Use the Answer sheet provided in the next page:

- 1. Define the following words
  - Consultation
  - II Stockholders
- 2. Describe the consultation process
- 3. Discuss the three stages of consultation process





## **Answer Sheet-1**

Score =	
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Name:	Date:
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#### **Information Sheet-3**

## Developing Consultation processes as an integrated part of the operational planning process

#### 3.1 Introduction

The process of consultation is an extremely important concept in the context of managing an organisation. Organizations exist to create value for stakeholders and consultation is a process by which the management of the organisation aims to better understand the needs, wants and expectations of stakeholders, so that value can be created.

Consultation is an active process in which organisation management opens formal and informal communication channels between the organisation and its stakeholders.



Fig 3.1 Ingredients of the operational plan

#### 3.2 Stakeholder

A stakeholder is anyone who can affect or is affected by the actions of a corporation. The concept of the stakeholder was first used in 1963, at the Stanford Research Institute. It defined stakeholders as:

"those groups without whose support the organization would cease to exist."

It was further developed in the 1980s by R. Edward Freeman and has subsequently been widely accepted in the business community. Broadly speaking, the stakeholder is actually anyone who has an interest in the matter to hand, and the net can be cast as widely, or as tightly, as the business wishes.

Post, Preston and Sachs (2002) link the interrelationship between a business and its stakeholders, particularly in relation to risk and reward...

"The stakeholders in a corporation are the individuals and constituencies that contribute, either voluntarily or involuntarily, to its wealth-creating capacity and activities, and that are therefore its potential beneficiaries and/or risk bearers."

This can also be applied to public service as well as the commercial environment; wealth relating to growth and development and *risk* being in failure of the venture.

#### 3.3 Who Are The Stakeholders

Stakeholders are generally divided into two groups; internal and external stakeholders. As the terms suggest, internal stakeholders come from within the corporation and external stakeholders are those outside the corporation but with a vested interest in it.

*Internal stakeholders* usually comprise employees, managers and owners, but in some businesses can involve volunteers, students, etc. Recognition of the importance of consultation with *internal stakeholders* i.e. employees, was formally given in the passing of the Information and Consultation of Employees Regulations





**External stakeholders** are those outside the corporation who interact with it in some way. Most commonly this includes funders or investors e.g. shareholders, banks and finance companies. Suppliers and customers are also significant external stakeholders. However, regulators, policy makers and legislators are also in this group. Some corporations also consider significant influential opinion leaders to be among their key external stakeholders as influencers of attitudes and beliefs. Each of these groups of stakeholders is usually termed "constituencies", and a constituency represents a homogeneous group usually holding a similar interest in the business's affairs. The diagram below shows common internal (orange) and external (blue) stakeholders.



Fig 3.2 common internal (orange) and external (blue) stakeholders.

#### 3.4 Stakeholder Consultation

Stakeholder consultation involves the development of constructive, productive relationships over the long term. It results in a relationship of mutual benefit; it enables us to identify trends and emerging challenges which are currently or will in the future impact on the business. Listening to stakeholder concerns and feedback is a valuable source of information that can be used to improve project design and outcomes, and help a corporation to identify and control external risks. It can also form the basis for future collaboration and partnerships.

Consultation enables us to identify and monitor trends, challenges and perceptions over time with specific groups of stakeholders. It therefore helps us to:

- Identify and track needs and expectations
- Identify and track perceptions and attitudes
- Provide feedback on specific planned developments
- Evaluate implementations and actions
- Establish the brand values and positioning of the corporation as seen by others

The internal and external stakeholder contribution can be vital to the effective allocation of resources, the success of individual developments, and the longer-term success and direction of the corporation.

Consultation usually takes on two forms:

- Consultation on specific developments, projects, ventures
- Ongoing consultation to track and monitor stakeholder perceptions within the broader operating environment

Specific project-based consultation is widely used for both commercial and social projects. In the public sector, it is often termed "public engagement" or "public consultation", and is

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usually related to local service developments within specific communities, and policy development at all levels.

In the commercial sphere, it is commonly used for development of new products and services. A company may consult with its customers to establish future needs and ensure these are incorporated into the development of new products and services. Customers are also likely to present *relative* perceptions i.e. in the competitive market providing valuable input about competitor activity. In addition, this can be followed up by feedback on prototypes, blueprints, etc. before the final products are presented to market.

Ongoing consultation is adopted to ensure buy-in from stakeholders and to ensure the corporation is not moving away from the expectations and needs of those who have an interest in its affairs. It is often related to company or brand positioning, competitive positioning, company mission or direction. It can be a metric in the evaluation of the trajectory towards a particular goal, or the anticipation of reactions towards a change in a corporation's direction or branding. As such, it is used widely in both the public and private sector. Political affiliations use it as a barometer of support. In all cases, it is a way of mitigating risk, especially if the corporation is dependent upon its stakeholders to provide funding. For example, a University with significant funding from its Alumni may engage in a regular program of tracking stakeholder perceptions to ensure it does not jeopardize its position, and to anticipate communications required about any change in policy or position. This type of stakeholder consultation can also have a good PR spin-off as it affords the opportunity to present new positions or remind of existing positions.

#### 3.5 Benefits of Consultation

Whatever the reason for conducting stakeholder research, there are some clear benefits for the organization:

- Firstly, decision-making will be more informed and in tune with those who the actions will affect.
- Secondly, there will be greater satisfaction from stakeholders with the
  outcome. Through the engagement process, those who decisions will affect
  will feel they have inputted into the outcome and that everyone's views have
  been taken into account. Depending on the method of consultation, they will
  also understand that their perspective may not be shared by all and that there
  is a need for compromise.
- This in turn will lead to a greater chance of a successful implementation of the initiative. Stakeholders will feel ownership of the venture, and are therefore more likely to want the venture to succeed.
- Finally, consulting with people who will be affected by a development is an
  example of **best practice**. It represents good governance and transparency,
  demonstrates a desire to engage in meaningful two-way communication, and
  recognizes the important contribution stakeholders at all levels can make to
  future changes, which will directly or indirectly affect them.

#### 3.6 The Consultation Process

A corporation's consultation process is an opportunity for stakeholders to get information as well as give feedback. Stakeholders can use the opportunity to educate the corporation about the local context in which a project will take place, to raise issues and concerns, ask questions, and potentially help shape the project by making suggestions for the corporation to consider and respond to. Therefore, a planned process for consultation needs to be in place, commencing with clear objectives about what is to be achieved.





The process generally involves five steps to successful execution. It can be ongoing and iterative, a one-off consultation related to a specific discrete issue, or a series of consultations related to a particular project. Either way, the process will generally involve four steps (the 4 Ps), as shown in Figure 1.

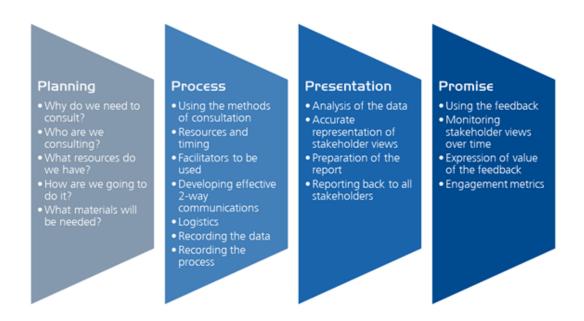


Fig 3: The Consultation Process

In the "planning" stage, the aims and objectives need to be clarified, along with identification of the usefulness of the process, i.e. the likelihood that stakeholder views will be incorporated into strategic planning. The availability of resources to carry out the process will need to be established and a method of consultation designed that is reflective of this. Consideration will need to be given as to whether any pre-release information is required e.g. about a project design, brief, plans, strategic positions, etc.

After establishing the aims and objectives, the actual process of consultation will need to be planned, i.e.:

- Who are the key stakeholder groups?
- How accessible are they?
- Are there any hard-to-reach groups?
- How can their co-operation and engagement be gained?
- What is the best method of consulting with the groups?
- What do they need to see beforehand?
- How can this be disseminated?
- Will any pre-consultation be required to prepare stakeholders for the exercise?

The method of consultation will need to be identified, balancing the resources available and the level of feedback required.

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The "**process**" stage is the "doing" stage; this involves carrying out the consultation. Good planning will ensure this stage runs smoothly. Considerations in this stage mainly centre on developing effective relationships with stakeholders and facilitating open and honest sharing of views, and accurate recording of the process and the data.

The next stage, "presentation", is concerned with the analysis and the reporting of the data. The data will need to be analysed and reporting prepared for the relevant audiences i.e. back to the corporation, to policy makers, etc. but also feedback to those who have engaged in the process and taken part. The form of reporting will need to take into account audiences and ensure the highest possibility of actions as a result of the consultation.

The final stage relates to actions as a result of the consultation; the "**promise**". Part of the process of engaging with stakeholders is the investment in a longer-term relationship of mutual benefit and trust. Without demonstrable use of stakeholder feedback in resultant action, this can be damaged. The final stage, therefore, has an element of PR contained within it; communications about resultant actions need to be carefully considered to reach stakeholder audiences.

#### 3.7 Methods Of Stakeholder Consultation

Consultation with stakeholders involves using methods commonly employed by market and academic researchers. Key issues of consideration when deciding on the methods are whether the consultation requires depth or breadth of knowledge (or a combination of the two).

The former calls for largely *qualitative* research approaches. These are approaches which use open styles of discussion and debate. It is the facilitator's job to tease out views and perceptions which are truly held by the stakeholder. The focus group, individual depth interviews, and observation are the most common methods used.

If breadth is required, approaches reaching larger numbers of people and using more standardized measurement tools are required i.e. *quantitative* methods such as surveys, short street interviews, e-surveys, etc. These methods will reach wider audiences but are restricted to largely closed questions and rating scales. The data is numerical and statistical analysis is used to demonstrate the generalist viewpoint. Some methods straddle these two poles and have the ability to gain both depth and breadth, such as the large public meeting and online open debate consultation tools now available to us through the digital media.

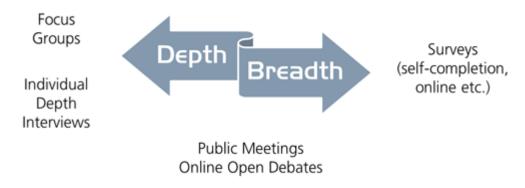


Fig 4: Approaches to Consultation





Each of these methods has its strengths and its weaknesses. The method – or combination of methods – selected should be reflective of the aims of the consultation process. The chart below demonstrates where the strengths of the common approaches lie.

Table 1: Strengths of Commonly Used Methods of Stakeholder Consultation

Attribute	Surveys	Focus groups	Public
Quality/depth of feedback		<b>✓</b>	
Speed of execution	✓		
Level of engagement with		✓	
Relationship building		<b>✓</b>	$\checkmark$
Opportunity for idea		✓	$\checkmark$
Ability to show		✓	$\checkmark$
Measurement of attitudes	✓		$\checkmark$
Cost	<b>✓</b>		<b>√</b>

## 3.8 The Longer-Term View

Stakeholder research has become increasingly popular, as both the public and the private sector apply principles of good governance to the way they operate. There is recognition that in order to improve an business or a company's success, it needs to look both inward and outward at those who are affected by the decisions it takes and the products it develops.

Many projects involve revisiting stakeholders after a period of time, using the relationship to maximum value to evaluate reactions to actions and to track perceptions. Corporations following this pattern are more likely to operate in harmony with those who are affected by their actions or who have a vested interest in their success.

Stakeholder consultation is therefore important insurance for the long-term effectiveness of a business, enabling it to build sustainable new directions and carry its audiences with it. It generally makes for a more informed, reflexive business, responsive to the needs of its users and in tune with prevailing perceptions.





Self-Check -1	Written Test

**Direction I:** Give short answer to the following questions. Use the Answer sheet provided in the next page:

- 1. Define the following words
  - III Consultation
  - IV Stockholders
- 2. Describe the consultation process
- 3. Discuss the three stages of consultation process





## **Answer Sheet-1**

Score =				
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Short	Answer Questions
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**Information Sheet-4** 

## setting key performance indicators to measure organizational performance

## 4.1 Setting key performance indicators to measure organizational performance

Key Performance Indicators help define and measure progress toward organizational goals and objectives. Once an organisation has defined its goals, it needs a way to measure progress toward those goals. Key Performance Indicators are those measurements.

#### I Key performance indicators reflect the organizational goals

An organisation that has as one of its goals "to provide maximum return on investment in our industry" will have key performance indicators that measure return on investment. "Earning per share" will be among them. On the other hand, a public school is not concerned with return on investment, so its Key Performance Indicators will be different. KPIs like "Graduation Rate" and "Success in finding employment after graduation".

### II Key performance indicators must be key to organizational Success

Many things are measurable. That does not make them key to the organisation's success. In selecting Key Performance Indicators, it is critical to limit them to those factors that are essential to the organisation reaching its goals. For example, if an organisation has one of its goals "to be the most profitable company in our industry" will have Key Performance Indicators that measure profit. "Net Profit Margin" will be among them. However, "Percent of Profit Contributed to Community Causes" probably will not be one of its Key Performance Indicators.

It is also important to keep the number of KPIs small just to keep everyone's attention focused on achieving the same KPIs. That is not to say that a company will have only three or four KPIs in total. Rather there will be three or four KPIs for the company and all the units within it will have three, four, or five KPIs that support the overall company goals and can be "rolled up" into them.

If a company's KPI is "Increased Customer Satisfaction", that KPI will be focused differently in different departments. The Manufacturing Department may have a KPI of "Number of Units Rejected by Quality Inspection", while the Sales Department has a KPI of "Minutes a customer is on hold before a Sales Rep answers". Success by the Sales and Manufacturing Departments in meeting their respective departmental KPIs will help the company meet its overall KPI.





#### III Key performance indicators must be quantifiable

If a KPI is going to be of any value, there must be a way to accurately define and measure it. "Generate More Sales from Repeat Customers" is useless as a KPI without some way to distinguish between sales generated from new customers and repeat customers. It is also important to define the KPI and stay with the same definition. You need to address considerations like whether to measure by number of sales transactions or by dollar value of sales. You also need to set targets for the KPI such as percentage increase of sales per year.

For example, a company goal to be the employer of choice might include a KPI of "Turnover Rate". After the Key Performance Indicator has been defined as "the number of voluntary resignations and terminations for performance reasons divided by the total number of employees at the beginning of the period" and a way to measure it has been set up by collecting the information in an HRIS (Human Resources Information System), the target has to be established. "Reduce turnover by five percent per year" is a clear target that everyone will understand and be able to take specific action to accomplish.

## IV Good key performance indicators vs. Bad Bad:

Title of KPI: Increase Sales

Defined: Change in Sales volume from month to month

Measured: Total of Sales by Region for all regions

Target: Increase each month

What is missing? Does this measure increases in sales volume by dollars or units? If by dollars, does it measure list price or sales price? Are returns considered? How much, by percentage, dollars, or units, do we want to increase sales volumes each month? (Note: Some of these questions may be answered by standard company procedures.)

#### Good:

Title of KPI: Employee Turnover

Defined: The total of the number of employees who resign for whatever reason, plus

the number of employees terminated for performance reasons, and that total

divided by the number of employees at the beginning of the year.

*Measured:* The HRIS contains records of each employee. Monthly or when requested,

the HRIS group will guery the database and provide Department Heads with

Turnover Reports.

Target: Reduce Employee Turnover by 5% per year.

V What do you do with key performance indicators?





Once you have good KPIs defined, ones that reflect your organisation's goals, ones that you can measure, what do you do with them? You use them as a performance management tool. KPIs give everyone in the organisation a clear picture of what is important, of what they need to make happen. You use that to manage performance. You make sure that everything the people in your organisation do is focused on meeting or exceeding those key performance indicators.

### **Example of a key performance indicator**

As a typical example, organisations in sport very often have a goal to reach a certain number of members. For example, a football club might have a goal to reach 1000 members within a period of 5 years. In such a case, it is important to periodically measure the total number of members and to determine whether progress is being made.

Obviously, the Key Performance Indicator for this goal is the number of members, and it is relatively easy to measure. For each of the 5 years of the strategic plan, a target can be set and this target is the Key Performance Indicator for that goal.

However not all goals contained within the strategic plan will have obvious key performance indicators. The following table provides examples of key performance indicators for difficult-to-measure objectives.

Table 4.1 Examples of key performance indicators for difficult-to-measure objectives.

Objective	Possible Key Performance Indicator (KPI)
Increase the quality of programs	<ul> <li>Attainment of results (e.g. desired placings in national championships)</li> <li>The number of reported injuries (is there a reduction?)</li> <li>The number of complaints (is there a reduction?)</li> </ul>
Improve facilities to national standard	<ul> <li>Construction / re-development of a facility suitable for national and international championships and tournaments</li> <li>Certification (as a national standard facility)</li> </ul>
Increase clubs in North Queensland	<ul> <li>Existence of clubs in Cairns, Townsville and Mackay</li> <li>The number of fully constituted clubs in Northern Queensland</li> </ul>
Increase in sponsorship revenue	<ul> <li>Major state sponsor (\$30,000) found</li> <li>Total sponsorship revenue reaches \$50,000</li> </ul>

It is important to consider that key performance indicators will be reported to stakeholders. They provide "essential-to-know" information.

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Key performance indicators should be clear-cut, that is they are either achieved or not achieved. Using key performance indicators, the management process will compare what was desired with what actually happened.

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Self-Check -1	Written Test

**Direction I:** Give short answer to the following questions. Use the Answer sheet provided in the next page:

- 1. Define key performance indicator
- 2. What are the objectives of key performance indicators?
- 3. What should address the operational resource plan proposal?
- 4. What is cost benefit analysis?

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## **Answer Sheet-1**

Score =				
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Name:	Date:
Short A	Answer Questions
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**Information Sheet-5** 

#### Developing contingency plan

## 1.1 Developing and implementing contingency plans

Contingency planning continually confronts the likelihood of unexpected events or risks that may interrupt the normal operations of the organisation. There is a wide range of contingencies that you may have to face. The cause of the interruption does not matter, but being capable of gaining control of the interruption does.

The consequences that management has to face depend on the severity and length of the interruption. In a worst case scenario, the very survival of the organisation is on the line. The answer to this problem is to be prepared in advance. This involves foreseeing the risks or unexpected events that may arise and developing solutions to them before they occur.

The objectives of contingency planning are to:

- Ensure continuity and survival of the business
- Protect business assets
- Manage and control risks

### 1.2 Contingency planning challenges

You should be aware of a few common obstacles as you begin your contingency planning process:

- One of the greatest challenges of contingency planning is making sure you don't plan too much. You need a careful balance between over preparation for something that may never happen, and adequate preparation so that you can respond quickly and effectively to a crisis situation when necessary.
- People are often poorly motivated to develop a strong "Plan B" because they have too much of an emotional investment in the "Plan A" they want to deliver. Stress that Plan B should be properly thought-through.
- There is usually a low probability of a crisis occurring, so people often don't feel a sense of urgency to create a contingency plan, meaning that it gets stuck at the bottom of their 'To Do Lists'. Unfortunately, this may mean that contingency planning ends up as a task that never gets done.

## 1.3 Areas where contingency planning is important

- Outsourcing human resources/ labour to cut down the cost used mutil function or skills. Contracting out then help to get a person with special knowledge and skills to bring their input at a lower cost and some organisations may even look into this strategy when an internal department has ceased functioning.
- Diversification of outcomes may help towards an achievable and profitable end result when many departments help to contribute towards the final result. Since the target is spread over a larger area, increase productivity from human resources help to contribute towards a bigger outcome.





- Cheaper and lower quality products help to moderate the budget.
   Globalization helps towards competition and cost effective strategies and therefore more profit.
- Increasing sales or productions will increase profit. It is important to cater needs and resources towards the customer service department providing adequate training programs. By reinforcing their skills, it will help to reach key performance indicators.
- Recycling and re-using is a strategy to raise the organizational social responsibility towards the environment. Many customers are more inclined to buy consciously to protect the environment from these organisations.
- Rental and hiring alternatives are better ways to get hold of cheap resources than buying them. Negotiation helps to save on cost on the procurement of these resources needed.
- Restructuring of organisation to reduce labor costs is necessary at time to reduce expenses. Sometimes, some organisations will downsize in the aim of focusing on profitable departments only. Other departments that do not sell as their service or products, are not in high demands anymore, will cease to operate.
- Risk identification, assessment and management processes. Unfortunately, a
  rise in injuries due to hazards and risks put financial stress on organisations.
  So in order to minimize the risks of this happening, risk assessments are
  performed to reduce the occurrences of injuries. Sometimes, feedbacks from
  staff help to work out better strategies to manage injuries and also raise
  awareness of the importance of staving safe.
- Seeking further funding is important especially when the budget available is not adequate to reach the targeted goal.
- Strategies for reducing costs, wastage, stock of consumable can be done by using another supplier with lower costs that is able to produce at a cheaper rate
- Succession planning is important to identity good potentials within the organisation who are able to fill in important roles.





Self-Check -1	Written Test

**Direction I:** Give short answer to the following questions. Use the Answer sheet provided in the next page:

- 1. What are the objectives of contingency planning?
- 2. Discuss the challenges of contingency plan
- 3. What is the importance of contingency plan?

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## **Answer Sheet-1**

Score =	
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Name:	Date:
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#### **Information Sheet-6**

#### Developing proposals for resource requirements

#### 6.1Developing proposals for resource requirements

No organisation has unlimited resources. There will always be cost restrictions that limit the resources available to an organisation. However, cost restriction is not the sole reason why resources may not be available. Physical resources used by an organisation may not be readily available because of limited supplies and or suppliers. There may be limited numbers of skilled people with the required competencies available to work in an organisation.

Many techniques could be used to develop proposals for resource requirements. One of these techniques is the development of resource plans.

A typical resource plan format is shown below.

Table 6.1 Resource Plan Format

#### <company/department/business unit/work area name> Resource Plan

#### Objective

Here you state the objective that you want to achieve and how it relates to the organizational objectives.

#### Work schedule

Here you define exactly how you plan to achieve your objective. That is, the what and when:

- What tasks that must be performed
- When timelines in which tasks must be completed

#### Resources required

Here you list all the required resources to perform the relevant tasks. These include financial resources, physical resources (such as equipment, facilities, material), and staffing (including competencies, skills and training)

#### **Contingencies**

Here you describe the risks or unexpected events you foresee and how you go about resolving them if they arise

#### **Benefits**

Finally you should explain how the achievement of your objective will benefit the organisation.

A resource plan is a chart that outlines the objective you want to achieve, how you plan to achieve it and what resources are required. Each objective that you set yourself to achieve should have a resource plan provided. The outcome will form the basis of your proposal for resource requirements. Management will examine it to decide whether or not to approve your request for resources to implement the operational plan.

Completing the chart will assist you in identifying:

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- What and when tasks to be performed, and the completion date
- Resources you will need to perform the identified tasks
- Who you will need to assist you in achieving the objective
- Risks or unexpected events that may occur and how they will be resolved
- How the organisation will benefit as a result of achieving the stated objective

### 6.2Conducting cost-benefit analysis

Cost-benefit analysis can be used to determine the difference in the financial benefits offered by alternative uses of scarce organizational resources. There are variety of approaches to review the costs and benefits of a plan or activity.

One approach to cost-benefit analysis is the use of benefit-cost ratio where benefits are divided by costs to give a ratio of benefit to one. Where resources are sought, the ratio is calculated as follows:

Benefit-cost ratio = **B** / (**I** + **O**)

Where: **B** = the benefit that flows from the use of resources **I** = the initial investment in the plan or organizational activity

**O** = the operating cost of a plan or organizational activity.

As a rule, if the benefit-cost ratio is more than **one** then the use of the organisation's resources is acceptable. Where there may be competing uses for scarce resources then comparisons of the alternative uses of the resources would need to be made.

The following are two competing plans. There are only sufficient organizational resources to undertake one of the two proposed plans:

#### Plan A

Expected return/benefit from the plan = \$150,000.

Initial investment in the plan or organizational activity = \$80,000.

Operating cost of the plan = \$20,000.

Benefit-cost ratio = 150,000 / (80,000 + 20,000)

This simplifies to 150,000 / 100,000 = 1.5

#### Plan B

Expected return/benefit from the plan= \$110,000.

Initial investment in the plan or organizational activity = \$70,000.

Operating cost of the plan = \$30,000.

Benefit-cost ratio = 110,000 / (70,000 + 30,000)

This simplifies to 110,000 / 100,000 = 1.1





Both plans have a ratio above one. However, Plan A shows a greater benefit from the use of available resources. It would normally be the preferred use of the resources because it has the higher benefit-cost ratio.

Although the financial benefits are good reasons for proposing the use of resources, there are benefits that do not immediately result in a positive financial outcome, but they add value to the name of the organisation. Examples could be the use of resources to support a community activity, which may have long-term benefits in terms of community support for the organisation.

### 6.3Presenting proposals and obtaining approval for operational plan from relevant parties

Each proposal regardless of its purpose should:

- Add value to an organisation
- Comply with organizational purposes
- Contribute to meeting strategic objectives, and
- Fit with organizational policies.

Proposals for use of resources should emphasize the efficiency and effectiveness of the usage of operating resources. Any proposal should meet any legal requirements in relation to the behavior of an organisation.

However, some proposals for use of resources may be considered informally by an organisation many organizational proposals need to be formalized and presented in writing for consideration. Proposals for additional resources will generally need to be approved by the management.

The proposal is essentially a sales document. For a proposal to be successful it should be well organized and be able to persuade the manager who will make the decision to agree to the proposal. Although each proposal may be different in terms of the information you have and what you want to sell, the following is a general guideline that might be used:

- Title for the request
- Purpose of the request
- Introduction and background information including any issues and problems
- Reason for the request seeking funds to acquire resources to perform certain activities
- Objectives to be achieved and how they Relate to the organisation's objectives
- Nature of the resources required, including detailed timing and estimated costs
- Any risks to the organisation in using the resources and proposed solutions
- Proposed outcome of the request for resources benefits
- Possible consequences if the request is not granted
- Options available to acquire resources and methods of acquisition
- Conclusion reiteration of the importance of the request including key points that are likely to influence the manager who is to make the decision
- Attachment of graphs, tables, etc. as required.





Self-Check -1	Written Test

**Direction I:** Give short answer to the following questions. Use the Answer sheet provided in the next page:

- 1. What are the components of a typical resource plan format?
- 2. What should address the operational resource plan proposal?
- 3. What is cost benefit analysis?

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# **Answer Sheet-1**

Score =	-
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Name:	Date:
Short	Answer Questions
1.	
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# **Operation Sheet 1**

Developing proposals for resource requirements

Operation title: - Develop proposals for resource requirements

Purpose: - to develop proposals for resource requirements

Condition for the operation: -

#### **REQUIRED MATERIAL**

- A4 paper
- pen

Tools: -

#### **PROCEDURE**

Step.1 Time

Step.2 Human and other capacity resources

Step.3 Physical resources

Step.4 Financial **resources** 

Precautions: -

Quality criteria: -





LAP Test	Practical Demonstration			
Name:	Date:			
Time started:	Time finished:			
nstructions: Given necessary information and materials you are required to perform the following tasks within3hr hour				
Task 1. Develop proposals for	or resource requirements			
Material:-				
A4 Paper				
Pen				





Instruction Sheet 2	Learning Guide 49: Plan and schedule work activities

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics

- Planning and scheduling work activities
- Identifying and prioritizing Tasks/work activities
- Making break down Tasks/work activities
- Allocating Resources
- Coordinating Schedule of work activities

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to

- Plan and schedule work activities
- Identify and prioritize Tasks/work activities
- Make break down Tasks/work activities
- Allocate Resources
- Coordinate Schedule of work activities

#### **Learning Instructions:**

- 1. Read the specific objectives of this Learning Guide.
- 2. Follow the instructions described in number 3 to 14.
- 3. Read the information written in the "Information Sheets 1". Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
- 4. Accomplish the "Self-check 1"
- 5. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).
- 6. If you earned a satisfactory evaluation proceed to "Information Sheet 2". However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1
- 7. Submit your accomplished Self-check. This will form part of your training portfolio.





- 8. Read the information written in the "Information Sheet 2". Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
- 9. Accomplish the "Self-check 2"
- 10. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 2).
- 11. Read the information written in the "Information Sheets 3 and 4". Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
- 12. Accomplish the "Self-check 3"
- 13. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 3).
- 14. If you earned a satisfactory <u>evaluation\_evaluation</u>, proceed to "Operation Sheet 1" in page \_. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to for each Learning Act





**Information Sheet-1** 

### Planning and Scheduling

#### 1.1 Introduction

Planning and scheduling are distinct but inseparable aspects of managing the successful project. The process of *planning* primarily deals with selecting the appropriate policies and procedures in order to achieve the objectives of the project. *Scheduling* converts the project action plans for scope, time cost and quality into an operating timetable. The translating of the project criteria for scope, time, cost, and quality and the requirements for human resources, communications, risk and procurement into workable "machinery" for the project team a critical interface juncture for the project team. Taken together with the project plan and budget, the schedule becomes the major tool for the management of projects. In addition, the integrated cost-time schedule serves as the fundamental basis for monitoring and controlling project activity throughout its life cycle.

### 1.2 Project Schedule Planning in Project Management!

The procedure of building policies, methodology, and project documentation gives direction and guidance on how the task timetable will be overseen all through the project. The intention of a project schedule is organized and focused based on the advancement of the Schedule Management Plan.

The project plans should consider the following aspects,

The planning of the project schedule is an essential activity that incorporates identifying of the project activities, sequencing them and defining objectives for those activities alongside the project schedule management plan. As relevant as the project management scheduling ability is by all accounts, competency ought to obtain with significant experience.

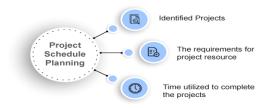


Fig 1.1 project schedule activities

### 1.3 Develop Project Schedule in Project Management!

<u>Developing Project Schedule</u> refers to planning the timing and sequence of project activities.

A project schedule assigns work to be done and indicates due dates to complete the tasks and deliverables. The project schedule portrays:

- 1. Time (duration) estimates for all project tasks
- 2. Start and finish dates for the tasks
- 3. Names of staff resources assigned to complete the tasks
- 4. Sequence of tasks

A noteworthy segment of a project schedule is a work breakdown structure (WBS). The project schedule is built to reflect the work breakdown structure.





Project scheduling is the key to ensuring the original project plan, and the final project outcome is at least close enough to call the project a success. Developing project schedules helps the project team to keep the necessary activities on track. PMBOK's Schedule Management knowledge area explains the critical processes in developing a project schedule.

### Steps that help to Develop a Schedule in a Project

Project Management has always been fascinating by how things work and how to make things work better. Thus, a project schedule comes through the planning phase of any project. Below mentioned are the means that is expected to schedule a project:

- 1. **Define activities** lets project managers use the Work Breakdown Structure (WBS) and a deliverables diagram to establish and start the assignments that are essential to finish on time. Thus ensuring they aware of what activities has to be included in the plan.
- 2. **Sequence activities** helps to determine the relationship between the project activities. The ordering of the tasks and identification of dependencies (Finish to start, Finish to Finish, Start to Start, Start to Finish) is the next step.
- 3. **Do Estimates**. The project team has the activities defined and the tasks in a breakdown structure; the following stage is to choose the time utilization to complete the project. To calculate schedule, having an estimation of what to do, how to do, and the essential part of the equation is to what extent should a project take to finish.
- 4. Determine Dependencies. Projects aren't simple always. On a regular basis, a project can't be started until the one in the process is finished. This is called task dependencies. Consequently, your schedule will need to reflect on these connected projects. As project supervisors, you can likewise pursue a methodology by monitoring your schedule to suit these related projects.
- 5. The last step is to **Assign Resources** to finish your planned schedule. It picks what resources you should complete the given assignments on time. As a project management team, you need to have the right resources and their time ought to be considered to plan the assignments.

When you have intended to formulate the schedule for a project, get the feedback from your manager and roll out the essential changes that have to be finished. You'll need to estimate the project plan before you move on to executing the plan. Once the project is in progress, it'll help you compare on the planned versus actual dates. Consider the task's goals that assist you to set up a schedule once you complete the process.





Table 1.1 Recommended Strategies on How to Develop a Project Schedule

	What to do	How to do it	
1	Determine the tasks to be placed in the schedule	Refer to the tasks identified in the work breakdown structure.	
2	Determine the relationships between the tasks	Identify tasks that must be completed before other tasks can begin. Identify tasks that can be done while other tasks are being performed.  • A network diagram (a precedence diagramming method) can be used to diagram the dependencies.	
3	Assign each task to specific staff	This establishes ownership for the task.  Assigning the right person to the right task is one of the most critical factors in a project's ultimate success.	
4	Estimate the amount of effort required for each task	Work with individual team members or others who have experience with this type of project. Base the estimate on an assumed level of skill. Document assumptions used in estimating.	
5	Consider the other variables that go into building the schedule	<ul> <li>Example variables to consider:</li> <li>Project Constraints</li> <li>Assumptions</li> <li>Lead and lag time (delay) of materials</li> <li>When, where or how the task must be performed</li> <li>Project risks</li> <li>The realities of vacations, meetings, discussions and staff interactions, and any ongoing responsibilities team members may have.</li> <li>Staff Training time</li> </ul>	
6	Build a time reserve into the schedule for contingencies and unforeseen events	A contingency is a specific provision for unforeseeable elements that could cause schedule delay.  How much time contingency to allow can depend on:  • The degree of acceptable risk for delays  • The completeness of the project definition  • How well the work will be managed  A good rule of thumb for schedule contingency is 20%, but a project can include more or less based on the factors above.	
7	Identify the project's critical path	The critical path is a project management technique that analyzes what activities have the least amount of scheduling flexibility (i.e., are the most important) and then predicts project duration based on the activities that fall along the "critical path."  Activities that lie along the critical path cannot be delayed without delaying the finish time for the entire project.  If the critical path exceeds a required deadline, review methods to shorten the critical path.	
8	Check to see if the staff is over-allocated	If the staff is over-allocated, figure out a way to level the team so they are assigned the right amount of work.  Possible actions	

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		<ul> <li>Modify the schedule to accommodate the constraint</li> <li>Provide additional resources for the task</li> <li>Reduce task or project scope</li> <li>Make any adjustments to the staffing plan</li> <li>Caution: There is an overhead cost for bringing new staff up to speed. Not all team is truly interchangeable. The skill level of the new person may affect the time to complete and the quality of the work. Contract staff may need more oversight.</li> </ul>		
	Repeat steps 3 and 5-8 until a baseline is established.	Developing the project schedule is an iterative process.		
10	Place the schedule information in a Gantt chart	<ul> <li>Place the tasks, milestones, relationships, staff assigned, durations and work estimates in a Gantt chart to show the detailed timing of the project.</li> <li>A Gantt chart graphically represents a project by showing each task as a horizontal bar whose length is the time needed to complete the task.</li> <li>Various project management tools can generate Gantt charts. Other formats can be used to display the schedule information based on the needs and preferences of your customer.</li> </ul>		

### 1.4 Maintaining the Project Schedule in Project Management!

Amid the essential project management abilities, booking can influence, either decidedly or unfavorably, the most territories inside a task. Inadequate project schedules can create hindrance to your project schedule management thus creating an interruption for individuals and production equipment leading to project failures.

Here are a few techniques that can help you maintain your entire project schedule:

- **Planning about the Project:** A successful project is all about planning. A well-designed project plan will save the time, cash, and a considerable measure of cerebral pains once the undertaking dispatches. To begin with, creating a project plan, should focus on the following components:
  - Once the project plan is ready, present it to all the board members to utilize it as the road-map during the project.
- II Maintain the project on Track: A clearly and well-defined project plan can help guide a project team throughout the project. A constant reviewing, revising, and monitoring the project is also necessary from the start until the end of the project.





Schedule
Regular
Intervals To
Check On The
Project

Communicate
with your
team

Address any
problems
before they
occur

Provide
direction

- III Utilize Project Management Software: Regardless of how detailed the project plan is and how prepared you are, project managers face a lot of challenges. Gratefully, technology has made overseeing everything from online life records to client connections more powerful and advantageous. Project managers likewise prefer to get access to software's that have made their lives simpler.
- **IV Time Management:** For every project management team, it's always an advantage to be skilled in effectively managing the time in the workplace. While there are varieties of methods that a project management team could use to deal with the opportunity, here are a few best techniques to follow:
  - 1. Delegate Tasks
  - 2. Prioritize your tasks
  - 3. Run more effective meetings
  - 4. Learn to say 'no.'
  - 5. Write tomorrow's task today





1 Self-Check -1 Written Test	1	Self-Check -1	Written Test
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**Direction I:** Give short answer to the following questions. Use the Answer sheet provided in the next page:

- 1. Discuss the steps that help to develop a Schedule in a Project
- 2. What is the purpose of scheduling?
- 3. What is the purpose of project planning?

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# **Answer Sheet-1**

Score =	
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### **Information Sheet-2**

# Identifying and prioritizing Tasks/work activities

#### 2.1 Introduction

Prioritization refers to 'doing first things first' by evaluating a group of items and ranking them in their order of importance or urgency. In short, prioritization means identifying what is important and what is urgent (there is a difference!) before deciding what to do next.

### 2.2 How to prioritize tasks and work in the workplace.

### Ranking tasks on a To-do list

You can either give a number to every task or write them down in terms of their preference as well. For example, number 1 means the most important task of them all and so on. This technique works best to develop more accountability towards one's work.

Here are some easy and straightforward to-do list tips that will make your job a lot easier:

- **Keep your to-do list simple**. Keep it in mind that your to-do list needs to be completely checked off till the end of the day.
- Create your to-do list the day before. Make sure that you start your day with total clarity of what you have to do.
- Prioritized your to-do list and start with the most difficult task. If you are like most professionals, you usually have more than a dozen tasks to do on a regular day but not all of them are important. Think about tasks that are urgent and important and only add those tasks to your to-do list.
- Be strategic about your time and energy. You have got 7–8 hours a day to finish every task on your to-do list. Plan your time and energy around every task wisely and you will be good.
- Limit your to-do list to a maximum of three items. Make sure that these 3 tasks are the ones that you "really need to do".

### **II** Grouping

As the name suggests, in this method you can group tasks or other requirements in a group representing different priority levels. Each group acts as a certain part or stage that stakeholders can relate to. There are different ways to form groups. One of the ways is to define each group with critical, moderate, and optional priority levels so that you can group elements on their basis of priority.



Fig 2.1 Grouping

Make sure each group is distinctly categorized so that there is no confusion or overlapping of priorities. However, in reality, not many people use this technique due to its complex approach. However, feel free to try it out and be your own judge.





#### III ABCDE method

If you have too many tasks, then ABCDE method is definitely going to help you in a big way. It was created by Brian Tracy — a bestseller author and famous public speaker. The technique takes into account that different items on your checklist can take the same priority level.

**Here is how it works** — You create a list of everything you have to do on a given day. Once you are done with the list, start the ABCDE method.

- Tasks labeled "A" are most important. These are the tasks for which there can be serious consequences if you fail to complete them as planned/scheduled. If you have more than one "A" task on your to-do list, you must prioritize them as A-1, A-2, A-3, and so on, A-1 being the most important one.
- Tasks labeled "B" have minor consequences. These are the tasks that might make someone unhappy or inconvenienced if you don't complete them as planned/scheduled, but they're nowhere as important as an A task.
- Tasks labeled "C" have no consequences. These are the tasks that would be nice to do, but there are no consequences if you don't complete them as planned/scheduled. The rule is that you should never complete a C task before completing the B and A tasks.
- Tasks labeled "D" need to be delegated. These are the tasks that you can
  easily delegate to someone else. Delegating these tasks allows you to free up
  more time for your A and B activities.
- Tasks labeled "E" need to be eliminated. These are basically tasks that you should eliminate altogether.

**Note:** Do not start tasks of B unless you've ticked off every task assigned to A.

#### **IV** Eisenhower Matrix



Fig 2.1 Eisenhower Matrix

Eisenhower Matrix is a great productivity trick that helps you to make important decisions in figuring out what's important and what's urgent. If you have a ton of work and don't have any idea where to start from, Eisenhower Matrix seems like a good option.

. This way you can identify which tasks need to be done, delegated, or left undone. Also known as the **Urgent-Important matrix**, it is a quick way to get everything in order and save your day.

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The Eisenhower matrix consists of four categories:

- Urgent and important tasks. These are the "do first" tasks on your to-do list.
   They can have a major impact on your long-term goals and thereby require your immediate attention.
- **Not urgent but important tasks**. The next category consists of tasks that might not be urgent, but are quite important. It is a must that you schedule these tasks into your to-do list or calendar.
- **Urgent and not important tasks**. Tasks under this category are urgent but not as important as the ones we discussed earlier. The best way to manage these tasks is to delegate them to someone else, whenever possible
- **Not urgent and not important tasks**. Tasks under this category are total timewasters. These tasks are neither urgent nor important and don't have any impact on your personal or organizational goals.

## V Bubble Sort technique

Bubble sort is a sinking sort, is a simple sorting algorithm that repeatedly steps through the list, compares adjacent elements and swaps them if they are in the wrong order.

The Bubble sort technique is one of the simplest methods to sort and prioritize an array of tasks. It is also referred to as a "sinking sort" because the smallest, least-important task "sinks" to the bottom of the array (your to-do list).

6 5 3 1 8 7 2 4

To prioritize requirements using <u>bubble Sort technique</u>, you take two requirements and compare them with one another. Following steps would help you understand Bubble Sort technique:

- 1. Outline the requirements in a vertical column.
- 2. Compare the top two requirements with each other to find out which one should have more priority over the other.
- 3. If the lower set is more important than the one on the top, you can swap their positions.
- 4. Repeat this comparison and keep swapping one over the other to determine which is the most important requirement until the very last requirement is sorted.

### VI The Frog analogy by Brian Tracy

Mark Twain gave birth to this analogy between frogs and tasks. In his words, *if you eat a live frog each day for breakfast, nothing worse can happen for the rest of the day.* If you think how does this method work, then the idea is to eat the big and fat frogs (important tasks) as the first thing in the morning.

It helps you to beat the habit of procrastination at work. The technique suggests that if you're not doing a specific task, that's because it's hard. Probably that's why it suggests you to accomplish bigger tasks in the morning so that you have enough time to focus on other stuff at the end of the day.

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### VII Moscow technique

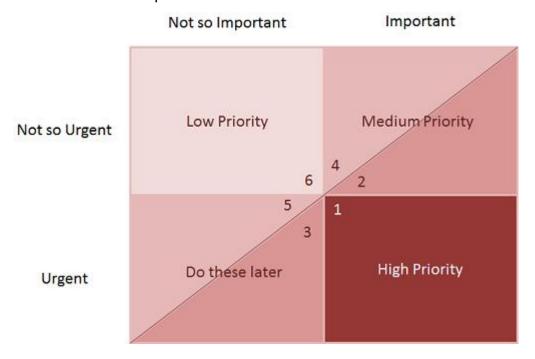


Fig 2.3 The MoSCoW method

The MoSCoW method is a prioritization technique used in management, business analysis, project management, and software development to reach a common understanding with stakeholders on the importance of each requirement.

In this prioritization technique, there are four priority groups: MUST have, SHOULD have, COULD have, and WON'T have that enable stakeholders to prioritize requirements in the most collaborative form.

The acronym stands for:

- MUST (Mandatory)- This category consists of must-have initiatives. These
  initiatives represent the non-negotiable needs of a project that are considered
  mandatory for the team to complete.
- **SHOULD** (High priority) This category consists of should-have initiatives. These initiatives are important to the project, but they are not vital. If left out, these initiatives will have a minor impact on the project outcome.
- **COULD** (Preferred but not necessary) -This category consists of could-have initiatives. These initiatives are nice-to-have, but not necessary to the project. If left out, the team and the project still functions.
- WOULD (Can be postponed for future) -This category consists of will not have initiatives. If a initiative is in this category, it's not a priority for the team, for now.

MoSCoW is often used with time boxing, where a deadline is fixed so that the focus must be on the most important requirements, and as such, the technique is commonly used in agile software development approaches.





### VIII The Hundred Dollar Method



The Hundred Dollar Method is prioritization technique that can be used to prioritize items in a group or in case of multiple stakeholders. In this activity, each person within a group is given 100 dollars (assumption) and is asked to distribute it across the available items. They can distribute dollars equally or in a weighted distribution where they can give higher priority to a certain task than others.

Imagine that a group has to prioritize 5 items. If a person thinks each task has an equal importance, he can assign 20 dollars to each item. Or, he can distribute 40 to one task and 10 to the other, until all dollars are allocated. In the end, you can count the accumulated dollars for each item which would eventually be the most prioritized task





2	Self-Check -1	Written Test

**Direction I:** Give short answer to the following questions. Use the Answer sheet provided in the next page:

- 1. What is prioritizing?
- 2. List the prioritizing methods
- 3. Explain how to prioritize using ABCDE method





# **Answer Sheet-1**

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#### Information sheet 3

### Making break down Tasks/work activities

### 3.1 Understand the Work Breakdown Structure (WBS)

The work breakdown structure can be confusing, especially for new project managers. Despite its name, it doesn't actually involve breaking down *work*; it involves breaking down *deliverables*.

This, among others, is one of several reasons why you need a thorough understanding of the work breakdown structure before you can create your own.

#### 3.2 What is a WBS or Work Breakdown Structure?

As with most things in project management, let's start by looking at what PMBOK has to say about the work breakdown structure.

- 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"
- A Work Breakdown Structure (WBS) is a hierarchical structure of things that the project will make or outcomes that it will deliver":
- A work breakdown structure defines all the things a project needs to accomplish, organized into multiple levels, and displayed graphically."

Essentially, the WBS defines the "what" of the project. Everything you need to accomplish in the project is displayed in a single, easy to understand chart. The purpose of this chart is to break down complex activities into smaller, more management constituents.

For example, here is a WBS example for an aircraft system:

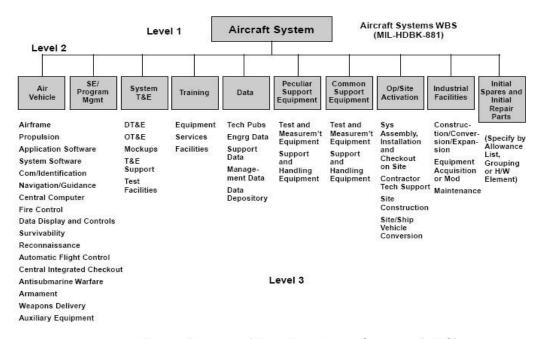


Fig 3.1 Example of Work Breakdown Structure (WBS)

Developing an aircraft system is obviously a very complex endeavor. You need an aircraft (which itself is an extremely complex undertaking), a system to train staff and pilots, a way to manage infrastructure, etc.

As shown above, a WBS breaks down all these complex activities into smaller, more management constituent parts.

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Thus, you might have one group responsible for building an aircraft. Within this group, you might have one team focused on building the airframe, another on creating a propulsion system, and so on.

It's common to have three levels of decomposition in the WBS. You might have a fourth and even a fifth level in case of extremely complex projects. For most projects, however, three levels will suffice.

Here's another example of a bicycle construction broken down into three levels:

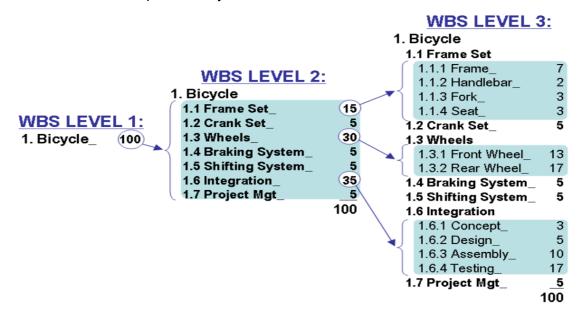


Fig 3.2 example of broken down into three levels

The numbers next to each item indicate the number of hours or resources required to complete the work. The sum of all these must be 100 at each level.

This is the oft-quoted "100% rule" - that the sum of the work at each "child" level must be 100% of the work at the "parent" level.

You'll notice that the WBS doesn't describe any actions. Instead, every item is a noun describing an end product - a bicycle seat, fork, handlebar, etc.

This is one of the fundamental features of a WBS: it describes deliverables, not the activities necessary to get there. Every item in the WBS must correspond to an end product (real or virtual). If there are any verbs in your WBS, then you're doing something wrong.

For example, if you're creating a work breakdown structure for manufacturing a car, you'll include items such as "car body" (a deliverable), not "welding steel" (an activity).

Before we dive further into the benefits and impact of a WBS, there are a few additional definitions you should know.

#### 3.3 Additional Definitions

Throughout this article and others related to WBS, you'll come across terms such as "work", "deliverable", "work package", etc.

In the context of project management, these terms often have very specific definitions:

• Work: According to PMBOK, work refers to "work products or deliverables that are the result of effort and not the effort itself". That is, "work" defines the end result of any activity. The work remains constant even though the amount of effort needed to get there might inflate/deflate.

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- **Deliverable:** PMBOK says that a deliverable is "any unique and verifiable product, result, or capability to perform a service that is required to be produced to complete a process, phase, or project". Deliverables will vary from project to project and client to client.
- Work package: According to PERT (which developed the WBS), a work package is
   "the work required to complete a specific job or process, such as a report, a design, a
   documentation requirement or portion thereof, a piece of hardware, or a service."
   PMBOk has a simpler definition: "a work package is a deliverable at the lowest level
   of the WBS."

For example, if you're building a bicycle, a "bike seat" might be one of your *deliverables*. All the work required to create the seat - cutting leather, shaping foam, creating metal frame, etc. - would be part of the *work package*.

#### 3.4 What are the Characteristics of the Work Breakdown Structure?

Not every breakdown of project deliverables can be classified as a WBS. For it to be called a work breakdown structure, it must have certain characteristics:

- Hierarchy: The WBS is hierarchical in nature. Each "child" level exists in a strict hierarchical relationship with the parent level. The sum of all the child elements should give you the parent element.
- **100% rule:** Every level of decomposition must make up 100% of the parent level. It should also have at least two child elements.
- Mutually exclusive: All elements at a particular level in a WBS must be mutually
  exclusive. There must be no overlap in either their deliverables or their work. This is
  meant to reduce miscommunication and duplicate work.
- Outcome-focused: The WBS must focus on the result of work, i.e. deliverables, rather than the activities necessary to get there. Every element should be described via nouns, not verbs. This is a big source of confusion for beginners to WBS.

# 3.5 Work Breakdown Structure (WBS) Examples

The best way to understand how work breakdown structures work is by looking at different wbs examples. Seeing how complex projects are actually broken down can help you do the same in your projects.

While work breakdown structures are technically supposed to focus on deliverables, not activities (i.e. nouns, not verbs), plenty of project managers skip this rule in actual projects. Which is why you'll see WBS examples where top-level "deliverables" actually describe activities.

This isn't ideal, but keep in mind that people use work breakdown structure for all sorts of things, even outside of project management - writing a book, planning a vacation, etc. If you're using it casually, you don't really have to follow all the hard rules we discussed above.

On that note, let's look at some work breakdown structure examples.





#### A construction project WBS example

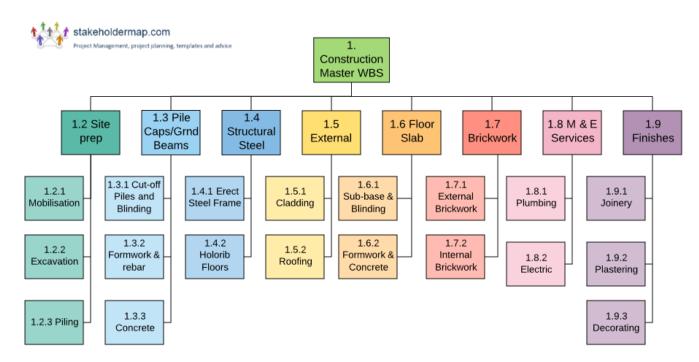


Fig 3.3 a construction project WBS example

This is a three-tier WBS with each level denoted with numerical notation (such as "1.1.2"). For each subsequent level, you'd add another decimal to the notation (such as "1.1.2.1").

Also note how the WBS is organized into broad deliverables and sub-deliverables, all of which are nouns, not activities. Further, if you were to add up all the deliverables together, you'd get the first level in the WBS, i.e. the 100% rule.

#### 3.6 Work Breakdown Structure vs Project Schedule vs Project Plan

Another common source of confusion for beginners is the difference between the work breakdown structure, project schedule, and project plan.

While these three things often describe the same thing - what is to be achieved in the project - they vary greatly in scope and details.

- Work breakdown structure describes the deliverables needed to complete the project, i.e. the "what" of the project. It doesn't include timelines or resources. The goal of the WBS is to give the project team a hyper-focused idea of what they need to achieve.
- **Project schedule** describes the project's deliverables as well as their deadlines and resource requirements. Think of it as the "what", "when", and "who" of the project.
- Project plan is an expansive document covering virtually every aspect of the project and its management. It includes details on how the project will be executed, managed, and controlled. It usually has several constituent plans governing communications, risk management, change management, etc.

In terms of the level of detail, you can think of the project plan as the broadest, followed by the project schedule, and finally, the work breakdown structure.

This might make you ask: why bother with the work breakdown structure at all? Can't you get all the same details in the project schedule?

As you'll see below, the WBS has several advantages over the project schedule.

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#### What are the benefits of a WBS?

The WBS is a laser-focused breakdown of all the key deliverables needed to make the project successful. Creating one offers several advantages, such as:

- Project schedule: The WBS is the foundation of the project schedule and budget.
   Once you know all the deliverables required to complete the project, as well as their hierarchical relationships, it will be much easier to assign resources and set deadlines.
- Accountability: Since all elements in a WBS are mutually exclusive, it helps create
  accountability. A team assigned to a single work package is wholly accountable for
  its completion. This reduces overlaps in responsibility.
- **Commitment:** The WBS gives teams a very high-level overview of their responsibilities. Since each team is responsible for a specific component at a time, it helps make them more committed to completing their assigned tasks.
- Reduces ambiguities: The process of developing the WBS involves the project manager, project team, and all relevant stakeholders. This encourages dialog and helps everyone involved flesh out their responsibilities. Thus, everyone has less ambiguity and a better idea of what they're supposed to do.

Creating a WBS is the first step in developing a comprehensive project schedule. It can be of massive help in getting everyone to understand the project's scope and deliverables at different levels.

### 3.7 Work Breakdown Structure in Project Management

This brings us to an important question: where does the WBS fit within the project management framework?

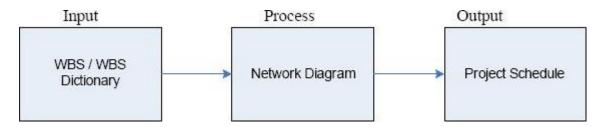
The work breakdown structure springs from the *project charter*. Ideally, the high-level deliverables in the WBS should match, word for word, the goals and deliverables listed in the project scope statement.

Consequently, the WBS is one of the first documents you create in the project management lifecycle. You'll create it before you create the Gantt chart or the project plan.

Which is to say, the WBS is often the first deliverable in a project.

While the stated benefit of a WBS is in helping you keep track of deliverables and managing project scope, it has another key use in project management: creating the project schedule.

Understanding the deliverables included in a WBS and mapping their relationships is crucial for charting a project schedule. Within this process, you first create a WBS dictionary (i.e. list of deliverables), turn these deliverables into a map of relationships (i.e. a network diagram) and use it to create the schedule.



You can also use the map of deliverables (and the relationships between them) in a WBS to figure out the resources to be used in their creation. This is called a **Resource Breakdown Structure (RBS).** 

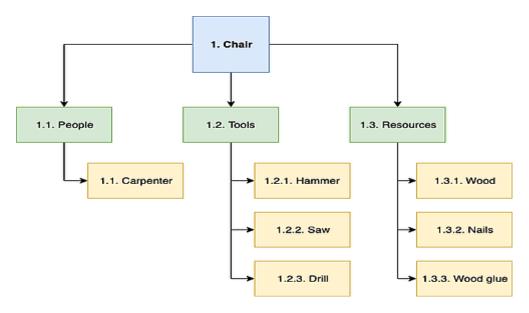




A resource breakdown structure consists of both the material and human resources required to complete a deliverable. For example, if you're creating a chair as part of a larger house remodeling project, you'll need:

- A carpenter
- Raw materials such as wood, polish, nails, glue, etc.
- Tools such as hammers, saws, drills, etc.

You can represent these resources as follows:



Once you understand how resources will be used to create each deliverable, you can also improve your project scheduling - one of the many ways a work breakdown structure finds use in project management.

#### 3.8 How to Create a Work Breakdown Structure

The output of the WBS development process might seem simple: a short document with a list of deliverables. To create it, however, you need a thorough understanding of the project's scope, your team's capabilities, and your stakeholders' requirements.

#### 3.9 Understand the Project's Scope

In our earlier project management guide, we identified the WBS as one of the key documents created at the end of the 'Planning' phase.

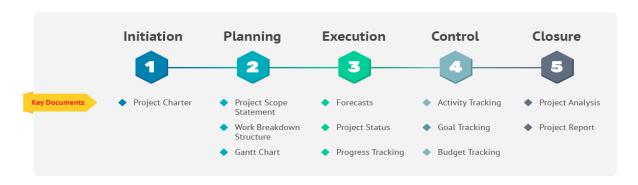


Fig 3.5 sequence of planning

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Before you can create it, however, you need a thorough understanding of the project's scope and objectives.

Chiefly, you need two things:

- Project scope statement to understand the project's scope in detail.
- **Project scope management plan** to understand how to deal with changes to the project's scope (which will affect your deliverables).

You will want to refer to your project charter to develop the scope statement and scope management plan.

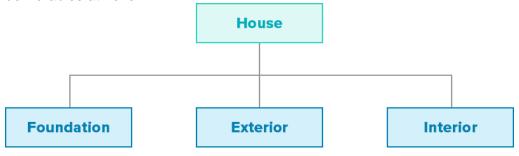
The output of the entire WBS development process is as follows:

- Work breakdown structure
- WBS dictionary
- Scope baseline

### 3.9 Determine Major Deliverables

Once you have an understanding of the project scope, start the WBS development process by figuring out the key deliverables.

For example, if your goal is to "build a house", you might have the following three broad deliverables at Level 2:



There are two heuristics you can follow for determining major deliverables at the 2nd level:

- Each deliverable must be essential to the success of the project. For example, you can't build a house without a foundation, exterior, or interior.
- Each deliverable should be the responsibility of an independent team. In the above example, the team responsible for laying the foundation won't be the same as the team building the interiors.

#### 3.10 Determine Work Packages

A work package, as you learned above, is a deliverable at the lowest level of a WBS.

In a typical 3-level WBS, determining work packages would be the next step after identifying major deliverables.

This is one of the most important parts of the WBS development process and one that will require extensive input from your project team and stakeholders.

Your goal is to pick a major deliverable, then identify all the work necessary to complete it. This work package must be:

- **Independent**: The work package must be mutually exclusive and have no dependence on other ongoing elements.
- **Definable**: The work package should have a definite beginning and end, and should be understood by all project participants.
- **Estimable**: You should be able to estimate the work package's duration and resource requirements.

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- Manageable: The package must represent a "meaningful unit of work", i.e. it must accomplish something concrete, and can be assigned to an individual or team. It should also be measurable.
- Integratable: The package must integrate with other elements to create the parent level.
- **Adaptable**: Ideally, the package must be able to accommodate changes in scope as per the project's requirements.

In case the work can't meet the above requirements, you can decompose the WBS into another level.

There are a few heuristics you can follow for determining work packages:

- **8/80 rule:** A common rule of the thumb is that each work package must be no longer than 80 hours and no less than 8 hours in total length. If it is longer, decompose it further. If it is shorter, think of going up by one level.
- **Reporting period:** Another common rule is to limit each work package to a single reporting period. If it takes longer than one reporting period (monthly, weekly, etc.), to accomplish, decompose it further.
- **Use nouns:** You should be able to describe each work package with a noun or an adjective. To break it down further, you'll need to use verbs. For example, "bike seat" is a noun describing a work package. If you break it down further, you'll need to use verbs like "cut foam", "stitch leather", etc.

### 3.11 Create a WBS Dictionary

The WBS dictionary is a document that outlines the definition and scope of each element contained in the WBS. It is a supporting document meant to help incoming project teams understand each work package better.

You don't necessarily need a WBS dictionary, especially if the project is simple or limited in scope. For complex projects with a lot of churn, however, the dictionary can greatly improve clarity.

Further, the WBS dictionary takes you one step closer to creating the project schedule. You can often transplant details from this dictionary straight to your project scheduling tool.

Here are a few details you can include for each item in the WBS dictionary:

- Work package ID (see the ID convention below)
- Work package name
- Work package description
- Assigned to (individual or team name)
- Department
- Date of assignment
- Due date
- Estimated cost

The level of detail you want to include is entirely up to you.

Here's an example of a more simplified WBS dictionary with element ID, name, and description:





Table 3.1 example of WBS dictionary with element ID, name, and description:

<b>WBS Level</b>	WBS Code	WBS Name	WBS Description	PWS/SOW Mapping
1	1	Aircraft System	X Series Aircraft System to fly to the moon	
2	1.1	Air Vehicle	X Series Air Vehicle to fly to the moon	
3	1.1.1	Air Frame	X seriese air frame	
3	1.1.2	Avionics	Brains behind the air frame	
4	1.1.2.1	Comms	Communications	
5	1.1.2.1.1	Antenna	Thinging to pick up signals	1.1, 1.2, 1.3.1, 1.13.1
5	1.1.2.1.2	Receiver	Box to interpert signals picked up by Antenna	1.1, 1.2, 1.13.2
5	1.1.2.1.3	Transmitter	Box to send out signals when we talk	1.1, 1.2, 1.3.1, 1.13.3
4	1.1.2.2	Navigation	Back seat driver	
4	1.1.2.3	Fire Control	Off/Def weapons in case we run into aliens	
3	1.1.3	Propulsion	Engine to propel x series air frame	
2	1.2	Training	Training for operation and maintenance of X Series Air Vehicle	

A WBS dictionary helps project team members understand each element (<a href="mage">lmage</a> source)

### 3.12 Use the Right WBS Format

Once you have all the work packages and WBS dictionary, it's time to create the WBS.

There are several WBS formats you can follow. The simplest way to do this is to create text-based hierarchical groupings. By convention, you use numbers and decimal points to indicate the level of the element.

For example, the number **1.1.1.3** means that you're referencing the *3rd element* of the *4th level* of the WBS.

Thus, you might have a text-based WBS as follows:

- 1.0 Complete System
  - 1.1 System Component A
    - 1.1.1 Element #1 of Component A
    - 1.1.2 Element #2 of Component A
    - 1.1.3 Element #3 of Component A
  - 1.2 System Component B
    - 1.2.1 Element #1 of Component B
    - 1.2.2 Element #2 of Component B
    - 1.2.3 Element #3 of Component B

Alternatively, you might use a more visual tabular structure as follows:





### Table 3.2 Example of tabular structure

Level 1	Level 2	Level 3
1 Complete System	1.1 System Component A	1.1.1 Element #1 of Component A
	The System Sempending	1.1.2 Element #2 of Component A
	1.2 System Component B	1.2.1 Element #1 of Component B
	1.2 dystom dempending	1.2.2 Element #2 of Component B
	1.3 System Component C	

### Another option is to create a flowchart:

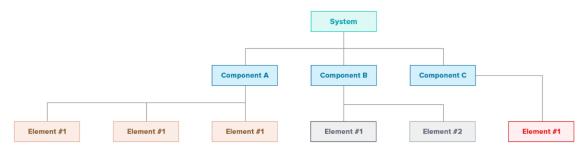


Fig 3.6 Example of a flow chart

Once you've made the work breakdown structure, share it with your team. Use it to get a high-level overview of the project's progress.

#### 3.13 Work Breakdown Structure Template

While creating a work breakdown structure is technically easy (it's just a flowchart or an Excel sheet, after all), it can be time consuming.

Which is why we created this work breakdown structure template to help you get started.





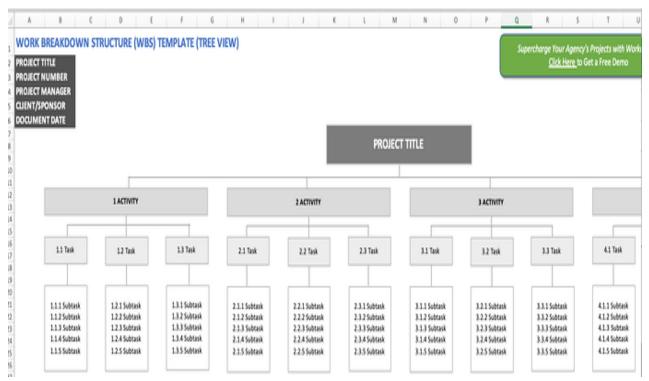


Fig 3.7 a template contains both a tree view and a tabular view.

### 3.14Key Work Breakdown Structure Best Practices

The work breakdown structure is the foundation of your project schedule, which, in turn, is the foundation of the entire project.

Following a few best practices in the WBS creation phase can greatly improve the accuracy of your project schedule. A clear breakdown of key deliverables will help you estimate and assign resources better.

Here are some key best practices you should follow when creating a work breakdown structure:

#### 3.15 Use Nouns, Not Verbs

The purpose of a WBS is to track deliverables, not activities. The "what" of the work matters, not the "how" of getting there.

One way to achieve this goal is to use nouns when adding elements to the WBS. That is, every element in the WBS should be either a noun or an adjective.

Think of "House foundation" instead of "Removing earth to create the foundation", or "Communication plan document" instead of "Gathering requirements for communication plan".

The goal of this "nouns, not verbs" exercise is to force you to keep your elements broad in scope. Activities usually describe the final level in any work package. Your WBS should focus on one level above that.

# 3.16 Follow the 100% Rule Closely

A work breakdown structure is meant to be exhaustive. There should be no deliverable outside of the WBS.

This is why it is crucial that you follow the 100% rule. Every level should be everything you need to deliver. Anything beyond that should be scrapped.

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This helps you spot gaps and redundancies. It also ensures that every project component is complete and nothing is left behind.

### 3.17 Keep All Elements Mutually Exclusive

The other cardinal rule of work breakdown structures - besides the 100% rule - is "mutual exclusivity". Every element should be independent. You shouldn't need any input from any other element to complete it. If you do, it's better to combine the two elements together and push the work package up a level.

For example, if you're building a bicycle, you can create a "handlebar" independently of the "bicycle frame". Thus, it would be a separate work package.

In contrast, to create the "wheel spokes", you first need to have the exact dimensions of the wheel rim. In such a case, it would be better to combine "wheel spokes" and "wheel rim" into a single work package.

#### 3.18 Mind the Level of Detail

A common mistake when creating work breakdown structures is to keep the level of detail either too broad (i.e. too few levels) or too narrow (i.e. too many levels). Like Goldilocks, there is a level of detail that's "just right".

Ideally, your decomposition should stop before you can use verbs to describe the element. For instance, if you're building a bicycle, "wheel rim" should be the final level since it describes a deliverable. If you decompose further, you'll have activities related to the deliverable such as "buy steel", "shape steel", "make holes for wheel spokes", etc.

If this happens, you know you've got too many levels.

Aim for between 3-5 levels. Any further than that and you're looking at a project that's likely too complex (and might be better as a program).





Self-Check -1	Written Test

**Direction I:** Give short answer to the following questions. Use the Answer sheet provided in the next page:

- 1. Define work break down(WBD)
- 2. What are the Characteristics of the Work Breakdown Structure?
- 3. Explain the following tems
  - I Follow the 100% Rule Closely
  - II Keep All Elements Mutually Exclusive

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# **Answer Sheet-1**

Score =
Rating:

Name	:	Date:
Short	Answer Questions	
1.		
2.		
3.		

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# Information sheet -4

## **Allocating Resources**

### 4.1 Introduction

In project management, resource allocation or resource management is the scheduling of activities and the resources required by those activities while taking into consideration both the resource availability and the project time.

In strategic planning, resource allocation is a plan for using available resources, for example human resources, especially in the near term, to achieve goals for the future. It is the process of allocating scarce resources among the various projects or business units.

Resource allocation is the process of assigning and scheduling resources to project tasks.

Resources are the lifeblood of <u>project management</u>. Resources are used to carry out the project, and are returned to their owners if not consumed by the project.

There are 6 steps to performing a proper resource allocation:

- 1. Divide the Project into Tasks
- 2. Assign the Resources
- 3. Determine resource attributes
- 4. Resource Leveling
- 5. Re-allocate as necessary
- 6. Track resource utilization

# 4.1 Divide the Project into Tasks

In project management, the project is divided into tasks and managed on a task, rather than a project, level. Resource allocation is an integral component of this process because each task is assigned the necessary resources, and the <u>resources are managed</u> by task.

During the project planning phase, the project's constituent tasks are determined and listed, like this:

ID	Task
100	Dig Holes
200	Build Fence

Each task is assigned a start and end date and a budget, like this:

ID	Task	Start	End	Budget
100	Dig Holes	July 1	July 10	\$1,000
200	Build Fence	July 8	July 31	\$9.000

This is called a <u>work breakdown structure</u> (WBS), and it is the minimum <u>planning</u> phase for a small project, according to all of the three main <u>project management</u> methodologies.

Once the project is successfully divided into tasks, the resources can be assigned.

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## 4.2 Assign the Resources

Each task requires resources in order to be successfully performed. As a minimum, most tasks require a human resource to carry out some actions. Usually, the person starts with some input materials which are used to produce an output.

Generally, there are five types of resources:

#### 1. Labor

Human resources are an integral part of most projects. The <u>project team</u> has needs that require active management, like:

- A satisfying work environment that does not involve conflicts with other team members.
- Making an important contribution to the project, and/or greater society.
- Leaving the project with something more than they started with, for example additional knowledge or skills, or a strong resume/CV entry that results in a better chance at future work.

#### 2. Equipment

Tools and equipment that are used to produce the product, but don't become part of it, must be identified and allocated to each task. This equipment must be paid a reasonable rate that takes into account the wear and tear experienced during the project. Specialty equipment often requires significant investment of time and money.

#### 3. Materials

Materials that become a part of the final product must be allocated so that they can be procured at the right time and their availability is confirmed.

#### 4. Facilities

Buildings and work areas are often a significant cost to the project. If they are not readily available, they also require space in the project schedule and budget to ensure they are ready for the project team.

#### 5. Miscellaneous

Most projects require other resources that impact the <u>budget</u> or <u>schedule</u>. This can include project financing and insurance costs, performance bonding, administration, contingencies, risk premiums, transportation and delivery, or any other item necessary to perform the project.

The resources are assigned to each task, so that the table looks like this:

ID	Task	Start	End	Budget	Resources
100	Dig Holes	July	July	\$1,000	Bob, shovel
		1	10		
200	Build Fence	July	July	\$9,000	Bob, Bill, shovel, fence posts, fence
		8	31		material

For the human resources (project team), it is often helpful to communicate project roles using a <u>RACI chart</u>, pronounced "racy," which assigns each task to each team member according to one of the four responsibility levels:



Responsible (R) Accountable (A)

Consulted (C)

Informed (I)



- **RACI Chart** Activity Prepare Bill of Materials Α R Prepare Estimate Ι Α R Ι Authorize Expenditure Ι Ι R Т Send Procurement Documents С Evaluate Bids С Α R Perform Inspections Ι Α R
  - R = Responsible A = Accountable C = Consult I = Inform

Fig 4.1 RACI Chart

All project managers use RACI charts, even if they don't know it. Writing out the chart is a highly effective way to communicate project roles to project members and ensure there is no confusion.

#### 4.3 Determine Resource Attributes

Each resource comes with attributes (project manager lingo) which must be sufficient to carry out the project work. These attributes include:

- Grade -Grade refers to the technical specification level of the resource. In this case, the the length of the fenceposts, the depth of the holes, and the strength of the fence material are all characteristics of grade. In short, the resources must be adequate for the task.
- **Skill** -Skill is the same as grade but specific to the human resources. Bill and Bob, in this case, must know how to pound the fence posts and be strong enough to drive the posts.
- Quality -Quality and grade are not the same thing. Quality refers to the
  degree to which the resource meets specifications, that is, if poor quality
  fence material arrives at the site it is not acceptable and must be rejected,
  adding unexpected costs and schedule implications. This is different from the
  grade of the fence material, which can be low. The fence may not need high
  grade fence material. Low grade is acceptable (in the right circumstances),
  whereas low quality is never acceptable.
- Resource-specific attributes: Size, shape, length, speed, color, strength, etc.
  - Each resource has many specific attributes that define its function. for example, if the paint is supposed to be brown, but a green paint arrives on site, it is probably still high quality as well as grade, yet not sufficient for the project. The required attributes must be determined individually for each resource.
- Availability In project management lingo this is called a resource calendar. The resource calendar can range from a simple listing of employee vacation time to

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sophisticated material tracking software. But its purpose is to ensure the project resource is available when needed.

At this stage we drill down into the table for each resource. Hence, a new table of information is formed for each resource:

Resource	Attributes	Availability
Bob		Needs 1 week notice
Shovel	<ul><li>Garden style</li><li>large</li></ul>	Immediately

## 4.4 Resource Leveling

Project schedules are usually created without the resources in mind. That is, the <a href="network diagram">network diagram</a> and <a href="gantt chart">gantt chart</a> are manipulated to minimize the schedule duration based on the number of hours or days required to carry out each task, but the resources assigned to the task might be highly volatile, incurring sometimes major cost and schedule implications.

For example, if we need Bob for 2 hours one day and 18 hours the next, we might need to pay him overtime thereby driving the project over budget.

Resource leveling refers to the process of inspecting the resources to ensure their use is as "smooth" and level as possible. It is a common scenario that it is more advantageous to extend the project schedule to avoid large spikes and dips in resource usage.

In addition, the resources used to carry out those tasks must be procured (purchased), delivered, and prepared. During the project, they must be maintained and serviced. All of these tasks must be accounted for within the project schedule and budget.

#### 4.5 Re-allocate as Necessary

Throughout the project, resource re-allocation tends to be a constant and inescapable function of the project manager.

Resources are scarce. They sometimes do not show up on time, are needed by other projects, or lose their usefulness over time. Many things can happen that require a shift of resources from one task to another, or a change in the project schedule or budget.

#### 4.6 Track Utilization Rates

It is a surprisingly common occurrence that a resource arrives at a project and sits idle for a long period of time.

It is equally common that project managers have no idea that the resource is being paid for but not being used.

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A simple solution is to track <u>resource utilization</u> rates. The utilization rate is simply the percentage of billable time:

Utilization Rate = Number of Billable Hours / Number of Total Hours

For example, if Bill worked 4 hours out of a possible 40 hours for the week, his utilization rate is 4 / 40 = 10%. Clearly this would suggest corrective action is warranted on the part of the <u>project manager</u>.

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Self-Check -1	Written Test

**Direction I:** Give short answer to the following questions. Use the Answer sheet provided in the next page:

- 1. What are the 6 steps to performing a proper resource allocation
- 2. Explain resource Leveling
- 3. List five types of resources

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# **Answer Sheet-1**

Score =	
Rating:	

Name	:	Date:
Short	Answer Questions	
1.		
2.		
3.		

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# **Operation Sheet 1**

# **Developing project Schedule**

Operation title: - Develop project Schedule

Purpose: - to develop project Schedule

Condition for the operation: -

### **REQUIRED MATERIAL**

A4 paper

pen

Tools: -

### **PROCEDURE**

Step.5 Define activities

**Step.6** Sequence activities

Step.7 Do Estimates

Step.8 Determine Dependencies

Step.9 Assign Resources

Precautions: -

Quality criteria: -





LAP Test	Practical Demonstration
Name:	Date:
Time started:	Time finished:
	ry information and materials you are required to perform asks within3hr hour
Task 1. Develop Develop pro	oject Schedule
Material:-	
A4 Paper	
Pen	





#### **Instruction Sheet 3**

**Learning Guide 50: Plan and manage resource acquisition** 

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics

- Developing and implementing strategies for employee recruitment and induction
- Developing and implementing strategies to ensure that physical resources and services

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to

- Develop and implement employee recruiting strategies
- Develop and implement strategies to ensure that physical resources and services

## **Learning Instructions:**

- 1. Read the specific objectives of this Learning Guide.
- 2. Follow the instructions described in number 3 to 20.
- 3. Read the information written in the "Information Sheets 1". Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
- 4. Accomplish the "Self-check 1"
- 5. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).
- 6. If you earned a satisfactory evaluation proceed to "Information Sheet 2". However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1
- 7. Submit your accomplished Self-check. This will form part of your training portfolio.
- 8. Read the information written in the "Information Sheet 2". Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
- 9. Accomplish the "Self-check 2"
- 10. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 2).





- 11. Read the information written in the "Information Sheets 3 and 4". Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
- 12. Accomplish the "Self-check 3" in page \_\_\_.
- 13. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 3).
- 14. If you earned a satisfactory <u>valuation</u>, proceed to "Operation Sheet 1" in page \_. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to for each Learning Act





Information Sheet-1	Resource planning

#### 1.1 Introduction

Resource planning is an indispensable component of project management. In fact, it's so important that the <u>Project Management Body of Knowledge</u> (PMBOK Guide) dedicates a full knowledge area to <u>resource management</u>. In order to effectively manage project resources, they must be planned in advance. The primary output of the Project Resource Management <u>knowledge area</u> is a resource management plan.

There are four steps to a strong project <u>resource management</u>.

- 1. Determine required resources
- 2. Acquire resources
- 3. Manage resources
- 4. Control resource usage

# 1.2 Determine Required Resources

The first step in resource planning is to determine the resources required to perform the work.

Generally speaking, there are five <u>types of resources</u> that are required to complete a project:

#### 1. Labor

The human resources are often the resource most critical to <u>project success</u>. People manage the physical resources required to complete the project and ensure it gets done. Humans have needs that need to be met, that is, they wish to leave the project in a slightly better position than when they started. This can include improving their knowledge and skill set. It can also include better job prospects. In fact, most people join the <u>project team</u> with the expectation that it produces a strong addition to their resume (CV). Of course, these things only materialize after the project is complete. But if the employee loses confidence that they will be achieved they will lose motivation for their project work (or leave altogether). Human resources come in as many variations as there are people, so it is important that the right one is chosen. Human resources have two components:

- I Type is the skill set of the person, for example, a carpenter or an engineer.
- II Class is the skill level of the person, for example, junior, intermediate, or senior.

#### 2. Materials

This category includes the components that become part of the finished product. This includes supplies like construction materials, databases for a web application, or handouts for a training course. The finished product must be rigorously analyzed during the resource planning stage to ensure that all of its constituent materials are identified. Often you have to order more than the exact quantity to account for defective product, production methods, manufacturing waste, and so forth.

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# 3. Equipment

This category includes the tools, equipment, machines, and other items that don't become part of the finished product but are necessary to produce the product. Tools and equipment are often rented, leased, or obtained from another part of the business, particularly the larger items. In this case, the organizational unit that owns the equipment must be compensated. Rental rates become part of the <u>project estimate</u> and are attributed to the task that requires the equipment.

### 4. Facilities

All projects require some sort of facility to perform their work in. Whether just a small office or a large manufacturing plant, this is a major consideration for many projects. Facilities are often rented or leased as well, and the cost is attributed to the project administration, or a dedicated facilities budget if one exists.

#### 5. Other

There are a few other categories of resources that must be accounted for:

- I Organizational / Administration resources are the organizational costs that the project must bear. Although outside of the project, these costs include administration, shared resources, and shared facilities. For example, the CEO's salary must be spread out among all projects.
- II Subcontractors and vendors that must be <u>procured</u> to ensure necessary products and services that cannot be produced with internal resources.
- III Financing costs can be a major burden on some projects.
- IV Contingencies are often tracked separately from individual project resources.
- V Overtime is often tracked separately and applies to the project team as well as rental equipment via higher rates for greater use.

Employee and resource availability are recorded in a resource calendar. This ranges from a simple listing of employee vacation time to sophisticated tracking software.

The result is a list of resources <u>allocated</u> to each project task. For example, here is a resource list for the task Build Fence:

100 – Build Fence				
Type Average Use Total				
Jon	50 hrs @ \$75/hr	\$3,750		
Bob	30 hrs @ \$50/hr	\$1,500		
Fence Material	Lump Sum	\$650		
Tools	Lump Sum	\$100		
TOTAL		\$6,000		

In a perfect world, all of the project resources would be available and ready to be used on your project. But unfortunately, it's not a perfect world and consideration must be given during resource planning to acquiring those resources.

Human resources are usually, but not always, require the most <u>management</u> effort. The project team requirements must be determined and the job descriptions written.

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These job descriptions are advertised in the appropriate media, resumes (CV's) are received and interviews are held.

Project equipment must be sourced and contractors procured.

The following items are important components of the resource plan:

- Project management team roles
- Project team roles
- Procurement needs
- Types and sizes of contracts
- Pre-qualification methods
- Contractor selection criteria
- · Resource budgets
- Advertising media and methods
- Performance measurement
- Off-specification policies and procedures

## 1.3 Manage Resources

Once the resources are acquired and available to perform the project work, they must be <u>managed</u> to ensure they contribute at their maximum performance level:

• Human resources need to be assured that they are obtaining something that they did not have prior to their involvement on the project. This can be a new knowledge or skill set, or a better job opportunities via a strong addition to their resume (CV). Since a project is by definition temporary, the project team must know that their career has been advanced by being part of it, or they will not be fully motivated to ensure the project's success. The project team is assigned to each project task via a RACI chart, which delegates authority for



R = Responsible A = Accountable C = Consult I = Inform

each task based on one of the four authority levels: Responsible (R), Accountable (A), Consulted (C), or Informed (I):

- Subcontractors similarly need to know that a strong reference is available
  after the project is complete. However, they are highly motivated by fair
  treatment of project changes. Most projects experience changes from their
  original plans. It's how these changes are managed that determine the
  performance level of the project management team.
- **Tools and equipment** must be returned in a condition that includes normal wear and tear.

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 Facilities must be maintained in a condition that includes normal wear and tear, otherwise damage payments could be a significant (and unexpected) part of project costs.

Decision making is one of the primary day to day tasks of <u>project management</u>. How to best allocate resources, how to minimize resource conflicts, and how to resolve resource conflicts. The ability to make strong decisions is foundational to strong project management.

When resource conflicts occur, problem solving becomes a major part of a project manager's duties. There are six steps to effective problem solving:

- 1. Identify the problem
- 2. Define the problem
- 3. Investigate
- 4. Analyze
- 5. Solve
- 6. Check the Solution

# 1.4 Control Resource Usage

During resource planning, the methods for monitoring and controlling the resources to ensure they are delivering the required results are determined.

This involves calculating the utilization rate, which measures how efficiently the resources are being used. The utilization rate is calculated by taking the number of billable hours divided by the total working hours. For example, if a piece of construction equipment was working for 24 hours out of a total 40 hours, the utilization rate would be:

Utilization Rate = 24/40 = 60%

Generally, absence hours such as holidays, sick time, or leave are not included in the utilization rate, but the exact implementation of the method is open to whatever is most useful for you.

When resource utilization is <u>too low</u>, or corrective actions are required, a <u>cost benefit</u> analysis provides the basis for project changes





Self-Check -1	Written Test

**Direction I:** Give short answer to the following questions. Use the Answer sheet provided in the next page:

- 1. Explain Resource planning
- 2. What are the four steps to a strong project resource management.
- 3. What are the resources that are required to complete a project:
- 4. List important components of the resource plan:
- 5. What are the six steps to effective problem solving:

Sept 2020





# **Answer Sheet-1**

Score =	
Rating:	

Name:	Date:
Short	Answer Questions
1.	
2.	
3.	
4.	
5.	

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### **Information Sheet-2**

# Developing and implementing strategies for employee recruitment and induction

## 2.1 Plan and manage resource acquisition

Gathering details of resource requirements enables you to match the appropriate resources to work systems and procedures at the right time. While there is no set rule for defining resource acquisition strategies, most organisations will have policies and procedures that govern the way resources are obtained. These policies and procedures will be related to:

- Staff selection & recruitment
- Staff induction and training
- Requisitioning and purchasing of materials, equipment and supplies.
- **2.2 Developing and implementing strategies for acquiring human resources** Staff you employ must be competent to carry out the tasks required of them. Therefore, you need to have a clear idea of:
- What are the most important tasks of the job?
- What skills and experience are required to perform these tasks? And
- What do you require from your staff?

Following the organisation's human resources policies and procedures you may need to develop and implement strategies to ensure effective acquisition of human resources. These strategies include:

- Job analysis
- · Recruitment, and
- Induction

### 2.2.1 Job analysis

Job analysis is an important step in the human resource acquisition process. Job analysis not only breaks a job down into its component tasks, but also lets you understand its fundamental purpose, the responsibilities involved, and its relationship to other jobs. Job analysis should also document accountability and reporting channels – where the job lies in the chain of command – and the competencies required.

The following shows how job analysis relates to other parts of recruitment and selection.

### 2.2.2 Job description

- Job title
- Duties and responsibilities
- Relationships
- Working conditions

### 2.2.3 Person specification

Qualifications





- Experience
- Skills and knowledge
- Abilities
- Personality

The information you have collected and analysed should be used to decide:

- Which criteria the successful applicant must meet before beginning the job
- Which criteria would assist the applicant
- Which are not necessarily crucial to success, and
- Which criteria can be learned on the job

These criteria are going to assist you in screening, designing employment tests (if you feel that is necessary), designing interview questions and making your final decision. You should feel happy that you have reduced the tasks to an objective and measurable tool.

Your decisions on employment of staff must be made only on the job criteria and objective person specifications, such as qualifications and previous experience. You are looking for the best person for the job, regardless of age, sex, race, religion or any other characteristics that may be perceived as discriminatory or violating the EEO principles. You must also have objective evidence for both accepting and rejecting candidates for the job.

#### 2.2.4 Recruitment

Recruitment is all about gathering a suitable pool of job applicants for a particular job vacancy. It is inviting people to apply for a position. The aim of recruitment is to attract staff suited to organisational needs. Failure to correctly match the person specification with the job requirements often results in repeating the recruitment exercise.

Once you have established the job requirements, the remaining steps in the recruitment process can be thought of as a series of filters. It begins with the initial contact with applicants and ends with selecting the suitable candidate.

There are six major steps to take to improve your chances of recruiting the most effective staff

## step 1 Establishing job requirements

- <u>Ensure you have the correct job description</u> job title, purpose of the job, responsibilities an duties, relationships, special demands of the job and conditions of employment
- b. <u>Identify the qualities you are looking for</u> qualifications, communication skills, organisational and interpersonal skills, work skills, experience, and other specific attributes that you want for the job
- **c.** <u>Create a checklist</u> should be based on the job criteria and used during the interview to establish which attributes the candidate has





d. <u>Create a list of questions</u> – should be based on the job criteria and checklist, and used to collect information about the candidate to help you make your decision

step 2 Finding potential candidates

There are many sources of job applicants and several are listed below.

<u>Internal resources</u> - Often staff from other sections in a business are encouraged to apply for vacant positions within the organisation. The advantage of this is that the employee already knows many of the policies and procedures of the business and needs less training in technical and cultural aspects of the organisation's operations. Another advantage is that the business is seen to offer advancement opportunities for staff and an internal career pathway. This means that the employee does not have to look outside of the business for a promotion or competency development.

<u>Internal advertising</u> – Notice boards and staff bulletins provide an opportunity to advertise vacant positions not only to existing staff but also to their friends and family. Although friends and family are outsiders to the business they do at least have some personal connection with the organisation. Word of mouth or employee referrals are very cheap ways of advertising.

<u>External advertising</u> – Other sources of advertising include newspapers, trade and industry magazines, TAFE and University recruiting, job fairs, posting jobs on the organisation's website or specialist websites, etc.

<u>Employment agencies</u> – There are a large number of public and privately funded agencies that are able to source qualified job applicants. The advantage of engaging an agency is that they are able to screen job applicants so that they only refer candidates that are more likely to meet the needs of the business

step 3 Screening candidate applications and resumes

<u>Screen out candidates who are unqualified</u> – match their applications and CVs with the job description and person specification

<u>Narrow down the pool of candidates to the number that you want</u> – drop those candidates who are less qualified than others

step 4 Conducting the interviews

Interviewing is the most commonly used selection tool worldwide. Interviews are more reliable and valid as a tool for selecting staff if trained interviewers use a structured and consistent format to conduct them. Owners or supervisors, instead of a member of the personnel section, should conduct these interviews. For the interview to be effective, you need to:

- **a.** <u>Prepare for the interview</u> review the job description, review the candidate application and CV and formulate specific questions
- **b.** Before the interview begins make the applicant feel comfortable
- **c.** <u>During the interview</u> describe the job to the candidate, assess the candidate's interpersonal and communication skills; ask about qualifications,





experience, goals and expectations; learn details about the information provided in the application and CV; record impressions; close with a statement of what to expect; give the candidate an opportunity to ask questions.

step 5 Verifying information

- a. Personal references
- **b.** Academic references
- c. Employment references

step 6 Making the selection decision

The final decision is often a judgement call from the manager based on:

- a. Additional relevant selection criteria
- b. How comfortable the manager feels with the candidate
- c. How the decision is perceived by higher level managers

For some professional and technical jobs, organisations use professional recruiting agencies. Although this seems an expensive way to recruit, it can save organisations time and use of their own resources – so it may not be as expensive as it first looks.

Many of the more reputable agencies offer a 'guarantee'. If the new employee leaves within a certain length of time, usually three to 12 months, then the agency will recruit someone else for free or return the original fee. Recruiting agencies are particularly useful when recruiting at executive or specialist levels.

## 2.2.5 Induction

An induction program is a formal process that introduces employees to the workplace and familiarises them with their jobs, work group and the organisation. It provides new employees with an understanding of their role in the organisation and the performance standards required in their new job. Normally, induction is designed to make a new employee aware of their place within the organisation, making them a part of the organisation.

Induction starts in the recruitment process. When you advertise for staff you must tell the truth about the job and the organisation. Many people leave jobs because they were given unrealistic expectations of the job and/or the organisation by advertisements and interviewers. You are not trying to scare off potential applicants, but you are trying to tell them the truth about the organisation.

An effective employee induction will help the employee:

- Foster an understanding of the organisation's culture, its values and its diversity
- Make a successful adjustment to the new job
- Understand their role
- Fit into the organisation
- Shorten the learning curve of the new job

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To ensure effective employee induction, the process should be carried out in three stages

- **a.** All the necessary preparation and communication is completed before the employee arrives
- b. Employee orientation is organized on their first day on the job
- **c.** Follow-up meetings are arranged to complete the orientation within few days/weeks on the job





Self-Check -1	Written Test

**Direction I:** Give short answer to the following questions. Use the Answer sheet provided in the next page:

- 1. What are the strategies to ensure effective acquisition of human resources
- 2. Define the following terms
  - A. Job analysis
  - B. Recruitment, and
  - C. Induction
- 3. List the six major steps to take to improve your chances of recruiting the most effective staff





# Answer Sheet-1

Score = _	
Rating:	

Name:	Date:
Short	Answer Questions
1.	
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#### **Information Sheet-3**

# Developing and implementing strategies to ensure that physical resources and services

# 3.1 Developing and implementing strategies for acquiring physical resources and services

Acquiring physical resources and services is essential to achieving your operational plan.

Regardless of what physical resources and services you need to acquire, there will be procedures to follow and people whose approval you will need, to secure them.

From your search of relevant policies, practices and procedures, you will determine who is responsible in your organisation for purchasing resources. You will also be aware of how this process is managed and actioned.

## For example:

- You may need approval from appropriate managers to purchase beyond a certain limit.
- There may be organisations with which your organisation does not wish to trade because of past experiences.
- There may be quality requirements that need to be met that limit your selection of suppliers.
- Your organisation may have preferred customer status with another organisation that offers you discounts, prompt delivery, etc.
- Your organisation may have a strict guideline for making purchasing decisions. For example:
  - <u>Small purchases</u> made within the department using the petty cash allowance.
  - Regular purchases through purchasing department.
  - Large unique purchase methods Meet the unique business and technological needs
  - High volume continuous supply methods purchasing officer issues requests for quotations to several potential suppliers. Supplier is selected based on price, quality and ability to supply at desired levels. A blanket purchase order covers the supplies for the period.

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Your role, as the operational manager, is to develop and implement strategies for acquiring physical resources and services in accordance with these policies, practices and procedures.

# 3.2 Strategies for acquiring physical resources and services

Physical resources and services can be provided in-house or from external suppliers. These may include physical resources such as supplies, materials or equipment and services such as consulting, technical support or ICT.

Many of the physical resources and services required for undertaking operational activities may be acquired from outside the organisation. However, it is important to recognise that some goods and services will be supplied internally. There may be a mix of resources supplied by an internal source and an external source.

For example, sub-components for an engine can be manufactured in the engine factory or bought from another company. Similarly, computer services can be provided by the internal IT Department or contracted out to a service bureau. An essential service such as payroll may be provided by your internal HR or Finance Departments, or contracted out to a specialist pay processing company using records provided by a clerk in your office.

The choice of whether to have goods or services provided by internal or external suppliers will be influenced by factors such as the following:

- Cost: All other things being equal lower input costs increase profitability.
- Customer service: Providing excellent customer service is now acknowledged as important in every progressive organisation. Finding suppliers capable of providing you with high quality resources or services at the required point in time can increase productivity.
- Quality standards: Suppliers must be able to meet specifications.
- Risk: Replacing an in-house production process with an outside supplier may reduce costs, but because of long supply lines it may increase the chance of supplies not being available when required.
- **Control:** Managers have more control over the work done and the goods and services produced by employees than by outside suppliers.
- Continuity of service: There is always a risk of an external supplier deciding to discontinue a service or a production run. Creating an internal supply may eliminate such a risk.

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The emphasis everywhere is on increasing productivity, which means achieving desired plans at the lowest possible cost. This also means that attention must be given to the efficient sourcing and use of physical resources and services

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Self-Check -1	Written Test

**Direction I:** Give short answer to the following questions. Use the Answer sheet provided in the next page:

- 1. What are the strategies to ensure effective acquisition of human resources
- 2. Define the following terms
  - D. Job analysis
  - E. Recruitment, and
  - F. Induction
- 3. List the six major steps to take to improve your chances of recruiting the most effective staff





# **Answer Sheet-1**

Score =	
Rating:	

Name:	Date:
Short A	Answer Questions
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#### **Instruction Sheet 4**

**Learning Guide 51: Monitor and review operations** 

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics

- Developing, monitoring and reviewing performance systems and processes
- Using financial information to monitor and review profit and productivity performance
- Identifying under-performance, recommending solutions and rectifying the situation
- Ensuring mentoring and coaching are provided to support the effective, economical and safe use of resources
- Negotiating recommendations for variations to operational plans
- Ensuring procedures and records associated with performance documentation are managed appropriately

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to

- Develop, monitor and review performance systems and processes
- Use financial information to monitor and review profit and productivity performance
- Identify under-performance, recommend solutions and rectify the situation
- Ensure mentoring and coaching are provided to support the effective, economical and safe use of resources
- Negotiate recommendations for variations to operational plans
- Ensure procedures and records associated with performance documentation are managed appropriately

#### **Learning Instructions:**

- 1. Read the specific objectives of this Learning Guide.
- 2. Follow the instructions described in number 3 to 14.
- 3. Read the information written in the "Information Sheets 1". Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
- 4. Accomplish the "Self-check 1"
- 5. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).





- 6. If you earned a satisfactory evaluation proceed to "Information Sheet 2". However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1
- 7. Submit your accomplished Self-check. This will form part of your training portfolio.
- 8. Read the information written in the "Information Sheet 2". Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
- 9. Accomplish the "Self-check 2"
- 10. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 2).
- 11. Read the information written in the "Information Sheets 3 and 4". Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
- 12. Accomplish the "Self-check 3"
- 13. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 3).
- 14. If you earned a satisfactory <u>evaluation</u>, proceed to "Operation Sheet 1" in However, if your rating is unsatisfactory, see your teacher for further instructions or go back to for each Learning Act





#### Information Sheet-1

# Developing, monitoring and reviewing performance systems and processes

#### 1.1 Introduction

Performance management can be analysed at several levels in an organization: strategic, operational, team and individual. If the first one deals with the company's organizational objectives and the last two with the team's and each employee's performance results, the operational performance has a more functional purpose. Although aligned with the corporate strategy, it mainly focuses on how each department conducts its daily activities in order to contribute to the company's goals.

Is there any difference between performance monitoring and performance management?

Firstly, in order to monitor performance, it is sufficient to identify the Key Performance Indicators (KPIs) that are relevant for the company and to put them on a performance management instrument (e.g. dashboard or scorecard). Data is then collected and centralized over periods of time, allowing a clearer image over the company's progress.

However, when performance is not meeting the required levels, actions need to be taken, so as to put the company back on track. This is the beginning of performance management. The person responsible for improving companies' results, be it manager or director, has to identify the key people and processes that are not functioning properly and to direct them on the right path.

The linkage between the two concepts is given by decision management, which is crucial in moving from performance monitoring to performance management. Once vulnerable people and processes are identified, decisions need to be taken regarding the steps to be further implemented. The appropriate actions can lead the company towards development. Otherwise, it may be difficult to identify the right solutions.

Practically, the difference between these two concepts is that performance monitoring has to do with the strategy formulation, while performance management is connected to strategy execution. The objectives companies set need to be put in practice. They need to become realistic targets employees have to achieve, and the day-to-day activities create the framework for strategic goals to be met.

So, companies should first establish their objectives then monitor the performance in reaching them and, if necessary, take action to improve the existing performance. This is basically the performance monitoring – performance management flow.

# Developing operational performance systems and processes

Developing operational performance systems and processes involve:

- Identifying and describing essential job functions and relating them to the mission and goals
  of the organisation
- Developing realistic and appropriate performance standards

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- Giving and receiving feedback about performance
- Writing and communicating constructive performance appraisals
- Planning training and development opportunities to sustain, improve or build on employee work performance

We implement operational performance systems and processes because we need to assess the progress of the operational plan towards achieving its performance targets. We need to know at every moment how we are doing and what we can do better.

Operational performance systems and processes provide a systematic approach to assessing operational performance. They enable the operational manager and staff to:

- Align operational activities and processes to the goals of the organisation
- Focus on results rather than activities
- Focus performance reviews on contributions to organisational goals
- Maintain ongoing communication and feedback about organisational goals
- Optimize operations in the organisation because goals and results are more closely aligned

It's important to understand the benefits of such a system, because this will enhance its implementation and, at the same time, contribute to buy-in. That's a rule of thumb: we cannot accept something we don't understand and don't consider useful.

# 1.2 Assessing progress in achieving profit and productivity plans and targets

In order to assess operational performance we need to be able to measure it. The challenging question here is: how can we measure operational performance? The answer to this question lies in the ability of the operational manager to implementing an effective performance monitoring process and using appropriate operational monitoring tools.

# 1.3 Monitoring and measuring operational performance

Monitoring helps you to measure progress towards your goals and compare actual results with planned performance. You must be able to use control techniques to identify potential problems and take corrective action to keep operations on target. You also need to adapt when changes occur to schedules and resources due to variations in activities.

There are five characteristics of an effective monitoring process. These are:

- Accuracy: The information gathered must be accurate.
- Timeliness: The information gathered must be in time to allow corrective action to be taken.
- **Economy**: The benefits of gathering the information must be greater than the cost of gathering it.
- Ease of understanding: The information should be understandable by the target audience.
- Meeting needs: the information must meet the needs of the organisation and the individuals involved in the process.

The results of monitoring may be to:

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- reschedule activities
- allocate resources differently
- modify the operational plan
- acquire additional resources

The three steps of the monitoring and measuring process are:

# step 1 Establish where monitoring is needed

The key point for a manager in monitoring the implementation of operational plans is identifying where monitoring is needed.

In order to identify and establish the areas that require monitoring, ask yourself the following questions:

What are the most important areas in my operational plans? Are they:

Cutting costs?

Improving quality?

Reducing waste/electricity/water/paper?

Improving employee productivity?

Improving customer satisfaction?

Lowering employee turnover? -

Other?

- What would be their impact on the operational plan if they went wrong?
- How do these areas support the organisation's mission, vision an goals?

#### step 2 **Establish the performance measures**

The performance measures you set should allow you to monitor and review the key areas that you have identified in the first step, including those that support the organisation's goals.

There are two types of performance measures that are commonly used in the workplace.

- Lag indicators: These measures quantify the success of a process after it has completed a
  cycle. An example is the measure of trainee satisfaction after a training program has been
  completed. The negatives of using lag indicators include the fact that they are retrospective
  and do not therefore allow you to take corrective action during the process. Lag indicators
  may not assist in helping you to identify what went wrong and how the process could be run
  with more success in the future. Lag indicators tell you only what a process has achieved.
- Lead indicators: These measures are more effective than lag indicators as they allow you
  to monitor a process in real time. An example is evaluation of the effectiveness of a training
  program conducted during the program. If a process is failing, action can be taken
  immediately to improve the process. Lead indicators tell you if the target of a process is
  being achieved. Carefully chosen lead indicators can also help you to identify the type of
  corrective action that should be taken.

These types of indicators are usually set in the form of performance standards and key performance indicators, and used to monitor time, costs, quality and productivity.

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If the development of your operational plan has been effective, you will have identified indicators of planned performance:

# step 3 Compare actual performance with planned performance

The third step in the monitoring process is comparing what should be happening with what is happening in order to identify where actual performance is not in line with the indicators of planned performance. Remember that in any operational plan some variation to the planned outcome will occur. As a manager your role is to identify when this variation is important.

For instance, the planned customer service performance of your team may be reflected in a KPI such as '80% of telephone queries to be answered successfully by the first point of contact'

Monitoring of the team's actual performance may show that only 60% of telephone queries are answered successfully by the first point of contact. The **variance** between planned and actual performance is 20%. In most organisations this would be considered unacceptable, and actions would be taken to address this under-performance.

## 1.4 Operational monitoring tools

Operational monitoring tools provide a measure of the current status of an operational plan implementation, and a measure of where it is in relation to the overall targets of the plan. Here are some examples of operational monitoring tools.

#### Pareto chart

Many managers spend their days in a frenzy of activity, but achieve very little because they are not concentrating on the right things. Wilfredo Pareto was an Italian economist who formulated the general principle (now called the 'Pareto Principle' or 80/20 Rule) that says: 20% of the sources cause 80% of any problem.

We frequently see the Pareto Principle in action in our workplace. For example, you may find that:

- The bulk of absenteeism in an organisation is usually accounted for by a relatively small number of employees
- Within a department, section or unit, a few of the people tend to do much of the effective work
- Solving a few key problems leads to major improvement, and □ At meetings a few of the people do most of the talking!

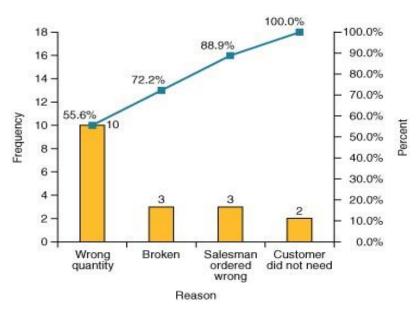
The Pareto chart offers a simple way for a manager to collect and analyse the relative importance of data relating to the implementation of an operational plan. Used well, a Pareto chart shows the 20% of problems where process changes or improvements are likely to give the 80% of pay-off.

An example of a Pareto chart that shows data about returned items in a retail store:

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#### Run charts

A run chart is an extremely important tool for a manager as it shows the change in a measured characteristic (e.g. customer numbers) over a set period of time. Run charts identify trends or patterns in the data — that is, if the values are consistently going up, down or moving cyclically.

An example of a run chart is provided below.

# Run chart showing absentees:



### Run charts are used to help:

- Monitor the performance of one or more processes over time to detect trends, shifts and cycles
- Identify a problem that may require investigation

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- Compare a performance measure before and after implementation of a solution to measure its impact
- · Focus attention on changes in a process, and
- Identify if there are other factors influencing the results you are getting.

#### **Histograms**

Histograms show the frequencies with which events are occurring, for example, the number of complaints received per product produced or sold by an organisation.

#### **Dashboards**

Studies show that using dashboards is the most effective way of measuring the operational performance. For example, air pilots use dashboard to measure and monitor the altitude, direction and speed of the aircraft. If pilots were unable to monitor their speed and direction, aircrafts would seldom reach their destination at all, let alone arrive at their scheduled times. Anyone who has flown interstate or internationally has heard pilots inform passengers of the time to the minute when they will arrive at the terminal even though they are still over 1000 kilometres away. This achievement results from well-informed performance measures with constant monitoring of key performance indicators and appropriate action.

Dashboards are performance monitoring tools that collect and centralise data relating to key performance indicators that are relevant to the business operations of an organisation. These specific indicators are tracked in graphs that enable managers to monitor the performance of their operational plans.





Self-Check -1	Written Test

**Direction I:** Give short answer to the following questions. Use the Answer sheet provided in the next page:

- 1. List the characteristics of an effective monitoring process
- 2. List the three steps of monitoring and measuring process
- 3. List the operational monitoring tools





#### **Answer Sheet-1**

Score = \_\_\_\_\_\_

Rating: \_\_\_\_\_

Name:	Date:
Short	Answer Questions
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#### **Information Sheet-2**

# Use financial information to monitor and review profit and productivity performance

# 2.1 Analyzing and interpreting budget and actual financial information to monitor and review profit and productivity performance

Some of the most common tools used for managing operational plans within organisations are those related to financial controls. The tool you are most likely to use is the budget. The budget lets the manager know where they are going and how they are going to get there.

The language around financial controls can be confusing. The objective of this section is simply to introduce some of the terms used within financial monitoring tools — in particular budgets — that may be used by those you work with.

You are not expected to have a detailed knowledge of financial controls and the application of finance in business.

#### 2.2 Budgets

Budgets are used in the management of operational plans. Operational plan budgets evolve from the strategic, group and operational plans in your workplace.

A budget is not so much about dollars or numbers; it has much more to do with collecting and using information about the day-to-day operation of a workplace and spotting budget related problems before they derail the operational plan.

Examples of the types of budget you may be involved with are:

- Sales budgets
- Training budgets
- · Staff budgets.
- Operating costs budgets

A budget shows the target of an operational plan in financial terms, e.g. dollars or sales forecast. A manager is usually required to reach budget (e.g. sales) or stay within budget (e.g. training).

#### Tips for creating and managing operational plan budgets

The following list provides generic tips for creating and managing operational planning budgets within the workplace.

#### See budgeting as a business tool, as it:

Forecasts revenue and expenditure

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- Records actual revenue and expenditure
- Reports and allows actions to be taken when there is a variance between the two.

#### Consider revenue and expenses separately, as:

- There will usually be a lag between expenses and revenue
- Expenses, the cost of your resources, will be incurred before any revenue is generated.

#### **Identify and list expenses** by:

- Identifying each resource as a separate item (also called a line item) in your budget
- Grouping resources. For example, administration might include stationery or office rental.

#### Forecast revenue, remembering that:

- Revenue is sales
- Revenue is usually broken down into monthly or weekly components
- You need to allow for variations between these instalments, based on historical data.
   For example, these might be caused by the end of the financial year or calendar year affecting business activity.

#### Prepare working papers that:

 Details the projections in terms of cash flow for each line item □ Shows your monthby-month projections.

#### 2.3 How to monitor and control using a budget

Once a budget is prepared, it can be used to control the work of your area by allowing you to compare the actual results with your planned expectations. To do this:

- Check for variance. For example, at the end of each month compare budget to actuals.
- Highlight both positive and negative variations in an action list for follow-up. These
  may mean the need to reassess the budget calculations, rethink how actuals are
  recorded or take action to address the cause of the variance.
- Determine actions that need to be taken, who will undertake them and when they will be completed.

#### **Preparing variance reports**

The key use of a budget is in preparing a variance report which shows variances between actual figures (i.e. cost/sales figures) and budgeted figures. These figures will be used to find areas where improvements can be made and support your requests for additional people or other resources.

The variance report will:

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- · Set out the variance, the reasons for the variations and recommend actions
- Provide you with a report to submit to your manager, or designated person, to agree on the actions you have recommended.

Here is a sample variance report of a Training and Development Department within a large company.

Table 2.1 variance report

Training & Development					
DESCRIPTION	January				
	Budget	Actual	Variance	Reason for variance	
Labour					
Employees	32,083	32,083	0		
Employee Development/Relation					
In-house Training Provided	47,655	47,655	0		
External Training /Conferences	850	1000	150	Increase in fees	
Course Materials	5400	6000	600	CPI adjustment	
Operating Expenses					
Consultants – Other	31770	40000	8230	Increase in hours	
Couriers	142	70	(82)	Less couriers	
Dues & Subscriptions	0	0	0		
Newspapers & Publications	0	0	0		
Photocopying	2215	2215	0		
Postage & Airfreight	500	500	0		
Printing & Stationery	291	291	0		
Rental/Hire Equipment	3916	4220	304	CPI adjustment	
Telephone	754	754	0		
Travel/Accommodation – Local	500	520	20	CPI adjustment	
TOTAL	126,076	135,308	9,222		

#### What does this example tell us?

This department may be in trouble! Look at the 'Variance' column:

- A zero (0) that tells us we have spent exactly what we expected to spend
- The numbers in brackets tell us we have spent less than we expected

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• The other numbers mean we have spent more than we expected The figure at the bottom tells us that overall, we have spent \$9,222 more than we expected we would in January.

#### 2.4 Investigating performance gaps

Variances shown in the variance report are gaps between actuals and estimates. When examining performance gaps in variance reports, you should look at reasons for:

- Variance in materials
- Variance in labour, and
- Variance in overhead costs

Where the variances are negative you should examine them, discover the real causes and decide on corrective actions you should take to achieve the targets. Where variances are positive you should look at what you have done well and try to apply the knowledge elsewhere.

#### Variance in materials

There are two reasons why you could have variance in materials used: the amount used and the cost price. However, there could be a number of causes for the variances, and while some are under control of the work team, others may not be.

Direct material usage variances could result from defects and rejects caused by:

- Poor quality materials
- Poor quality tools
- Poor workmanship
- Loss through damage or stealing.

Price variances would normally result from changed supplier prices and may often be out of your direct control. It may be necessary to negotiate long-term pricing contracts or change suppliers as long as there is no negative effect on the quality of materials supplied to reduce costs.

#### Variance in labour

Labour variances could result from more hours being used to make a product or deliver a service than expected. You may also experience increases in wage rates as a result of wage increases or increased overtime to make up for lost time.

The causes of additional hours being used include:

- Poor quality materials needing more work on defects, or rework if there are rejects
- Poor quality tools or equipment slowing the work process

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- Poor workmanship or work practices
- Equipment breakdowns
- Delays in supplies of materials leading to idle time
- Power failures
- · Increases in staff absenteeism.

#### Variance in overheads

Overhead costs are those costs that are required to keep an organisation operating but are not directly attributed to the production of goods and services. Examples are maintenance of machinery and rental of floor or office space. Changes in these overhead costs could result from increased usage of the variable items from reworks, poor workmanship or poor work practices.

Each of these could result in the use of more consumable items or electricity.

Whatever the type of variances you turn up, you will need to address their causes. You may need to provide training or coaching, implement new work practices, or negotiate with internal or external suppliers to ensure quality.

For a more details on this topic, it is recommended that you refer to the policies and procedures related to budgeting in your workplace.





Self-Check -1	Written Test

**Direction I:** Give short answer to the following questions. Use the Answer sheet provided in the next page:

- 1. List the ways to monitor and control work using a budget
- 2. When examining performance gaps in variance reports, what are the reasons you should look
- 3. What should be the variance report





#### Answer Sheet-1

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Score = _	
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Short	Answer Questions
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#### **Information Sheet-3**

# Identifying under-performance, recommending solutions and rectifying the situation

# 3.1 Identifying areas of under-performance, recommending solutions and taking prompt action to rectify the situation

If a variation is identified it may become necessary for you to take corrective action. Cole describes five types of action that are generally taken by the managers of operational plans. These are:

- Interim action: These are actions that you can take as a stopgap to allow for 'breathing time' before taking one of the actions listed below. An example could be the use of casual staff to deal with the loss of a full-time staff member.
- Adaptive action: These are actions that are required when the performance standards will not meet the operational objectives, or the operational plan environment has changed. These adaptive actions enable you to manage these changed conditions in the most effective way to achieve some of the original operational plan targets.
- Corrective action: Corrective actions remove current influences on an operational plan that may have a future negative effect on the performance of the plan. An example could be to implement an advertising campaign in an area if targets for sales are not being met.
- Preventative action: As the name suggests, preventative action is the action that
  you can take to remove the cause of a potential performance shortfall for an
  operational plan. Unlike adaptive action, the objective of preventative action is to
  continue to achieve all of the operational plan targets. For example, a nonperforming staff member may be rotated.
- Contingency action: Operational plan monitoring can sometimes show a negative trend in the operational plan performance, which may in future cause a drop in output below the original expectation. You can decide that if the negative trend continues an action should come into place to reverse the trend and prevent any future impact on the output of the operational plan.

Managing operational plans involves identifying, addressing and managing problems that arise. Financial analysis reports, production and product rejection reports, feedback from suppliers, customer complaints analysis, accident reports,

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equipment failure advice and analysis, observation in the workplace and informal discussions can bring problems to your attention.

How you determine a solution to a problem depends on the severity of the issue and potential impact if an identified problem is not addressed. The solution to some problems is obvious, such as a simple repair to a piece of equipment.

Being proactive in pre-empting a problem, considering solutions and taking appropriate action will, in most cases, have the least impact on the organisation. In general, a reactive approach in responding to a failure or an incident will cost the most in terms of disrupted production, lost time and money. An incident can even have fatal consequences if it relates to serious equipment failure that could have been foreseen.

Some examples of methods that can be used to identify problems are provided below.

#### Methods of identifying problems

- Routine service and maintenance reports on equipment including vehicles and machinery
- · Workplace inspections or audits by a WHS officer or representative
- Variation in production reports
- Number of customer complaints and the area of those complaints
- Customer feedback or requests
- Plant or equipment failure and breakdown, including computer systems or communications such as telephone or internet
- Analysis of incidents/accident reports
- Backlog of orders being fulfilled
- Emergencies such as fire and chemical spills
- Conflict in the workplace between workers
- Reports on breaches of compliance (legislative or codes of practice)
- Staff performance appraisals

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Self-Check -1	Written Test

**Direction I:** Give short answer to the following questions. Use the Answer sheet provided in the next page:

- 1. List the five type of actions that are taken by a manager of operational plan
- 2. List examples of methods that can be used to identify problems





#### **Answer Sheet-1**

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#### **Information Sheet-4**

Ensuring mentoring and coaching are provided to support the effective, economical and safe use of resources

# 4.1 Providing mentoring and coaching to support individuals and teams to effectively, economically and safely use resources

The ways in which a manager monitors, assesses and manages the performance of team members need to be flexible, and should enable and encourage the continuous learning and development of individuals and teams. Whatever action is taken to address poor performance, it should be done with objectivity, fairness and recognition of the feelings of the individual. Sometimes, what causes your plan to falter is poor usage of resources. In this case a plan may need to be implemented to ensure that mentoring and coaching are provided to support individuals and teams to effectively, economically and safely use resources.

#### 4.2 Coaching

All individuals need to undertake training from time-to-time to ensure they are up-to-date with current or new processes, practices and procedures. Training may occur off the job but more usually training occurs on the job. The training may take the form of individual and/or group coaching.

The person who provides the coaching will be technically up-to-date and capable of imparting their knowledge and skills to other people. The coach will concentrate on certain capabilities the employees being coached need to acquire in order to perform their current job in a more effective, efficient and safe way

#### 4.3 Mentoring

If a mentoring program is properly conducted, it can be a useful training tool. It allows those who are managing resources to promote best practice in resource management.

Mentors play a part in introducing employees to new systems, processes and people. They perform a valuable service, selecting employees with potential and delegating tasks and duties to train them for greater levels of responsibility.

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Self-Check -1	Written Test

**Direction I:** Give short answer to the following questions. Use the Answer sheet provided in the next page:

- 1. Describe the duty of a coach
- 2. Describe a monitor responsibility

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#### **Answer Sheet-1**

Score =	
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Name	:	Date:
Short	Answer Questions	
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	Negotiating recommendations for variations to operational plans
Information Sheet-5	And Ensuring procedures and records

# 5.1 Negotiating recommendations for variations to plans and gaining approval

Following the monitoring process, the manager may need to negotiate recommendations for variation to the plan. The recommendations may include prompt action to rectify a problem, mentoring and coaching to individuals or teams; increased documentation/instructions or rewriting the plan.

Variation on an existing plan needs to be agreed with, and approved by, an appropriate manager.

- Changes to strategic level plans need to be signed off by the owners or board of directors of the organisation
- Changes in tactical level plans need to be signed off by strategic level managers.
- Changes in operational plans should be signed off the by tactical level managers.

All the way up the line, revised plans must contribute to meeting the goals the organisation.

# 5.2 Developing and implementing systems to manage procedures and records associated with documenting performance in accordance with organizational requirements

For effective monitoring of operational plans, systems must be in place to manage procedures and records associated with documenting performance. These systems must be developed and implemented in accordance with organizational requirements.

Systems may include:

- Databases and other recording mechanisms for ensuring records are kept in accordance with organizational requirements
- Individual and team performance plans
- Organizational policies and procedures relating to performance.





Self-Check -1	Written Test

**Direction I:** Give short answer to the following questions. Use the Answer sheet provided in the next page:

- 1. List the cause of defects and rejection of direct material usage
- 2. List the cause of additional hours being used to make a product or deliver a service than expected
- 3. List a system to manage procedures and records associated with documenting a performance





#### **Answer Sheet-1**

Score =	
Rating:	

Name:	Date:
Short A	Answer Questions
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#### **Instruction Sheet 5**

Learning Guide 52: Review and evaluate work performance

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics

- Reviewing work plans, strategies and implementation
- Reviewing outcomes of work plans and reliable feedback
- Conducting Performance appraisal
- Preparing Performance appraisal format
- Preparing Performance appraisal report
- Implementing feedback mechanism

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to

- Review work plans, strategies and implementation
- Review outcomes of work plans and reliable feedback
- Conduct Performance appraisal
- Prepare Performance appraisal format
- Prepare Performance appraisal report
- Implement feedback mechanism

#### **Learning Instructions:**

- 1. Read the specific objectives of this Learning Guide.
- 2. Follow the instructions described in number 3 to 20.
- 3. Read the information written in the "Information Sheets 1". Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
- 4. Accomplish the "Self-check 1"
- 5. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).

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- 6. If you earned a satisfactory evaluation proceed to "Information Sheet 2". However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1
- 7. Submit your accomplished Self-check. This will form part of your training portfolio.
- 8. Read the information written in the "Information Sheet 2". Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
- 9. Accomplish the "Self-check 2"
- 10. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 2).
- 11. Read the information written in the "Information Sheets 3 and 4". Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
- 12. Accomplish the "Self-check 3" in page
- 13. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 3).
- 14. If you earned a satisfactory <u>evaluation</u>, proceed to "Operation Sheet 1" in page \_. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to for each Learning Act





#### **Information Sheet-1**

# Reviewing work plans, strategies, implementation and outcomes of work plan

#### 6.1Introduction

Monitoring, evaluation and review are not isolated actions, they are parts of the same process.

**Monitoring** is the ongoing process of regularly collecting and analysing relevant information to make sure you are doing what you set out to do. It tends to happen continuously, but sets of information may be gathered together at regular intervals, for example quarterly.

**Evaluation** is when you assess whether what you have been doing is really making the difference that you intended it to. It tends to happen less frequently, for example annually or at the end of a longer-term project.

**Review** is when you look at the results of an evaluation and decide whether it needs to change. Information from monitoring may also prompt a review of a small area of your work, but a substantial review can only take place once a proper evaluation of your effectiveness has taken place. Review may take place annually or at the end of a longer term project.

#### 6.2 Elements of effective monitoring, review and evaluation

As part of the planning process, clearly define the objectives and outcomes of the policy that is being implemented. It is essential to determine what successful outcomes will look like and what evidence will be needed to demonstrate success. As this has planning implications, thinking needs to occur from the outset and ensure activities are fit-for-purpose. Other important elements include:

- Report to others: There needs to be a clear purpose and demand for undertaking
  monitoring, review and evaluation activities. Information produced from this process
  must be targeted for specific audiences and be incorporated into the governance
  arrangements in order to enhance transparency and accountability. Activities that
  occur isolated from decision-making or commence after implementation is complete
  are of limited value to initiative participants.
- Involve stakeholders: All relevant stakeholders need to be engaged for monitoring, review and evaluation activities to be successful. Clearly communicating the benefits of activities and providing the necessary support creates opportunity for willing

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participation and ownership. An open process that allows stakeholders access to information increases credibility.

- Monitor progress: Successful monitoring delivers timely and relevant information that allows you to track progress towards outcomes and make adjustments to implementation arrangements as necessary. Track progress in a deliberate and systematic manner at regular intervals during implementation. Implementation planning must define the data to be collected and the method used for monitoring. Obtaining advice from experts in data collection during the planning process will contribute to a robust and credible methodology. Monitoring will inform other components of implementation such as risk management.
- Review regularly: Factor in reviews as part of your planning process to assess
  progress of implementation at critical milestones or in response to specific issues.
  Reviews are a 'snapshot' in the life of an initiative and tend to focus on operational
  issues, effectiveness of governance and project management structures, and may
  also include policy outcomes. Findings and recommendations from reviews should
  be used to improve implementation.
- Evaluate the outcomes: The success of an initiative is determined by the extent to which intended and unintended policy outcomes are achieved and how they have affected stakeholders. Planning for evaluation should identify and map baseline information as well as ensure that ongoing access to consistent data sources will be available through monitoring over the life of the initiative. Data can be quantitative (hard or numerical data) or qualitative (soft or categorical). Those managing an evaluation need to focus on asking good questions to assess the data collected. Credibility of an evaluation is enhanced through sound evidence, professional and ethical standards, and the degree of independence of the evaluator. Effective evaluation is the result of a planning process over the life of the initiative.

#### **6.3**Hurdles to effective monitoring, review and evaluation

Specific hurdles that may adversely impact the effectiveness of monitoring, review and evaluation from the outset include:

#### Inadequate resourcing

Successful monitoring, review and evaluation activities require adequate resourcing and early planning. Resources to establish a methodology for collecting and maintaining data, conducting the reviews and evaluations and engaging stakeholders will need to be addressed in the implementation plan. The more complex and higher risk the initiative the more upfront planning will be required.

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Resourcing must take into account the full costs of activities to all participants for the full duration of the initiative. Resist the temptation to use money set aside for review and evaluation to fill emerging resource gaps during implementation. While independent reviews and evaluations can enhance credibility, adequate resourcing must also be allocated to ensure correct and consistent data is collected to support quality findings.

#### Lack of a systematic planning approach

Without a systematic planning approach in place, it can be difficult to understand how processes and activities will contribute to intended outcomes, and how they will be measured along the way. An effective approach identifies all the main components of an initiative and plans out all the activities as a cause-and-effect chain and sets out what is to be monitored, reviewed and evaluated. It generally includes objectives, inputs, processes, activities, outputs and outcomes. When done thoroughly, a systematic planning approach can identify gaps and highlight the importance of particular activities.

Choose a planning methodology that best suits the initiative and draw on available resources and information that will be needed to conduct any analysis. There are a number of methods for systematic planning including program logic and the logical framework approach. It may be necessary to source training for staff or engage external expertise if the skills and capacity to conduct a planning process are not available internally. Include these costs as part of the implementation planning.

#### Irrelevant or insufficient data

Any number of problems can arise when the <u>data collected as part of the monitoring activity is not relevant or able to measure the expected outcomes of the initiative.</u> In turn, review and evaluation will be of little value if the available data cannot answer questions about actual delivery. Baseline data needs to be established as part of the early implementation phase so that monitoring data is comparable and collected consistently. Data may already exist or may need to be sourced to establish a baseline. Find out what data already exists, where it is available and if it is accessible. Be guided by professional and ethical standards when collecting and using data, and consider stakeholder sensitivities.

#### **6.4**Strategies for success

Successful implementation is underpinned by effective monitoring, review and evaluation processes. To ensure success of your project you should:

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#### Ask the right questions

Evaluation asks: Are we doing the right thing? It assesses an initiative's rationale in the context of the real world and looks at the outcomes for intended beneficiaries. Next it asks: Are we doing it the right way? It assesses all the components of how expected outcomes are being achieved. And finally it asks: Are there better ways of achieving the results? Evaluation identifies good practices, lessons learned and possible alternative options.

Evaluation plans should determine the purpose, the timing, the mechanism to be used, and how results will be shared and applied. Each review and evaluation activity should be designed specifically for the initiative, drawing on a range of resources.

#### Understand the objective

Sometimes it isn't clear what an initiative is trying to achieve because the aims were not established at the outset. Understanding the objective of the initiative is essential to defining why you need to do an evaluation, how it will be used and by whom. Monitoring reports should include substantive content with robust data to measure outcomes.

#### Involve participants

Create a culture where review and evaluation are seen as critical steps in implementation to gather evidence for informed decision-making about policy and next steps. The discussion about resource allocation is made easier once a genuine demand for an evaluation or review has been generated and a sense of ownership and collaboration has been fostered between the key participants. Review and evaluation show where an initiative is heading and highlights key achievements for celebration.

During planning, identify who will conduct the review or evaluation and who will receive the findings. Governance arrangements should take into consideration evaluation and review activities and be designed so decision-makers have a clear line of sight to the findings, in the same way as risk information is managed. The credibility of an evaluation is enhanced if all stakeholders can access the findings.

#### Apply the results

Make the best use of results. Findings and recommendations must be tailored for specific audiences, depending on how they are being applied for different contexts. The

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findings need to be applied to the decision-making process to ensure the original objective is achieved. They will inform any corrective actions that are required, including ending an initiative. Review and evaluation information can contribute to the evidence base for further policy development and provide justification for spending **priorities or savings.** 

Evaluations include outcome and impact evidence: they give a more comprehensive indication of performance measurement than the presentation of output information collected by monitoring. Be strategic about the focus of the evaluation. What is the most important thing to evaluate across the whole initiative and what is the best method? Identify critical checkpoints to conduct reviews and evaluations as the initiative matures through implementation.

1 Integrating monitoring, review and evaluation

Consider the following questions when developing the monitoring, review and evaluation section of your implementation plan.

#### **Planning**

- Is there a clear understanding of the objective for the purpose of monitoring?
- Has a systematic planning approach been developed?
- Is data available and accessible to establishing a base line and will data collected through monitoring be relevant to demonstrate outcome achievement?

#### Governance

- Has the demand for reviews and evaluations been established with decisionmakers?
- Have monitoring, review and evaluation activities been directly linked to decisionmaking?
- Will the activities provide useful information, in the correct format to decisionmakers?

#### Engaging stakeholders

- Has a sense of ownership and collaboration been fostered with key participants and stakeholders?
- Are affected stakeholders aware of their role and the costs involved?

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#### Risk management

- Will reviews and evaluations be planned strategically?
- How will findings from monitoring, review and evaluation inform risk and issue management?

#### Resource management

- Does the implementation plan identify adequate resources for monitoring, review and evaluation?
- Have you accounted for the cost of data collection and management?
- Have resources been allocated for systematic planning?

#### Management strategy

- Who is responsible for monitoring and gathering the data?
- How will findings of reviews and evaluations be given to decision-makers?
- If findings and recommendations require changes to the initiative, how will this be handled?

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Calf Chaale 4	Written Test
Self-Check -1	

**Direction I:** Which of the following criteria for a measure to be accurate is not met in each of the given situations?

Α.	valid	D. feasible			
В.	reliable	E. specific			
C.	accepted	F. based on the mission and objectives			
_	1 My boss asked me to fill out a self-ev refused to do it. Evaluation is her job, so le	• •			
_	2 My boss told me that I was not doing a very good job of data entry. When I asked him what he meant, he went around in circles and never gave me a good answer.				
_	3 The boss said I am not producing as not my fault that the machine jams every working to fix it.	, ,			
-	4 My boss asked to me to evaluate my only once. I told her I do not have the time possible to do a good review that often with are more important.	-			
_	5 My boss said I have a bad attitude an pointed out that I get all my work done well				

*Note:* Satisfactory rating - 7.5 points and above

Unsatisfactory - below 7.5 points

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4.\_\_\_\_



	Score = Rating:
Answer Sheet-1	
Name:	Date:
Short Answer Questions	
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Information Sheet-2	Conducting Performance appraisal

#### 2.1 Introduction

Yearly performance reviews are critical. Organization's are hard pressed to find good reasons why they can't dedicate an hour-long meeting once a year to ensure the mutual needs of the employee and organization are being met. Performance reviews help supervisors feel more honest in their relationships with their subordinates and feel better about themselves in their supervisoral roles. Subordinates are assured clear understanding of what's expected from them, their own personal strengths and areas for development and a solid sense of their relationship with their supervisor. Avoiding performance issues ultimately decreases morale, decreases credibility of management, decreases the organization's overall effectiveness and wastes more of management's time to do what isn't being done properly. Conduct the following activities.

#### 2.2 Design a legally valid performance review process

Patricia King, in her book, *Performance Planning and Appraisal,* states that the law requires that performance appraisals be: job-related and valid; based on a thorough analysis of the job; standardized for all employees; not biased against any race, color, sex, religion, or nationality; and performed by people who have adequate knowledge of the person or job. Be sure to build in the process, a route for recourse if an employee feels he or she has been dealt with unfairly in an appraisal process, e.g., that the employee can go to his or her supervisor's supervisor. The process should be clearly described in a personnel policy.

#### 2.3 Design a standard form for performance appraisals

Include the name of the employee, date, the performance form was completed,

Dates specifying the time interval over which the employee is being evaluated

Performance dimensions (include responsibilities from the job description, any assigned goals from the strategic plan, along with needed skills, such as communications, administration, etc.),

A rating system (e.g., poor, average, good, excellent), space for commentary for each dimension, a final section for overall commentary, a final section for action plans to address improvements, and lines for signatures of the supervisor and employee. Signatures may either specify that the employee accepts the appraisal or has seen it, depending on wording on the form.

### 2.4 Schedule the first performance review for six months after the employee starts employment

Schedule another six months later, and then every year on the employee's anniversary date.

#### 2.5 Initiate the performance review process and upcoming meeting

Tell the employee that you're initiating a scheduled performance review. Remind them of what's involved in the process. Schedule a meeting about two weeks out.

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# 2.6 Have the employee suggest any updates to the job description and provide written input to the appraisal

Have them record their input concurrent to the your recording theirs. Have them record their input on their own sheets (their feedback will be combined on the official form later on in the process). You and the employee can exchange each of your written feedback in the upcoming review meeting. (Note that by now, employees should have received the job descriptions and goals well in advance of the review, i.e., a year before. The employee should also be familiar with the performance appraisal procedure and form.)

#### 2.7 Document your input -- reference the job description and performance goals

Be sure you are familiar with the job requirements and have sufficient contact with the employee to be making valid judgments. Don't comment on the employee's race, sex, religion, nationality, or a handicap or veteran status. Record major accomplishments, exhibited strengths and weaknesses according to the dimensions on the appraisal form, and suggest actions and training or development to improve performance. Use examples of behaviors wherever you can in the appraisal to help avoid counting on hearsay. Always address behaviors, not characteristics of personalities. The best way to follow this guideline is to consider what you saw with your eyes. Be sure to address only the behaviors of that employee, rather than behaviors of other employees.

#### 2.8 Hold the performance appraisal meeting

State the meeting's goals of exchanging feedback and coming to action plans, where necessary. In the meeting, let the employee speak first and give their input. Respond with your own input. Then discuss areas where you disagree. Attempt to avoid defensiveness; admitting how you feel at the present time, helps a great deal. Discuss behaviors, not personalities. Avoid final terms such as "always," "never," etc. Encourage participation and be supportive. Come to terms on actions, where possible. Try to end the meeting on a positive note.

#### 2.9 Update and finalize the performance appraisal form

Add agreed-to commentary on to the form. Note that if the employee wants to add attach written input to the final form, he or she should be able to do so. The supervisor signs the form and asks the employee to sign it. The form and its action plans are reviewed every few months, usually during one-on-one meetings with the employee.

# 2.10 Nothing should be surprising to the employee during the appraisal meeting

Any performance issues should have been addressed as soon as those issues occurred. So nothing should be a surprise to the employee later on in the actual performance appraisal meeting. Surprises will appear to the employee as if the supervisor has not been doing his/her job and/or that the supervisor is not being fair. It is OK to mention the issues in the meeting, but the employee should have heard about them before.

Why We Hate the Performance Review

Most employees in companies today are all too familiar with the concept of the performance review. Just the mention of this often dreaded occurrence of discussion with one's supervisor where they get to critique every move you've made during the year while you sit

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ideally by is sure to send negative feelings throughout the mind's of employees everywhere. The performance review generally has a similar effect on managers and supervisors as well. So why is this performance review so dreaded and loathed by many? A few of the reasons are listed below.

#### **Employees - Why They Hate the Performance Review Process**

They have no control in the situation. Managers get to provide ratings and comments on multiple areas of performance that are most often subjective in nature. If an employee disagrees, they might get a small "employee comments" area to provide their rebuttal all the while knowing that if they push too much the person controlling their future still has control.

Reviews sheets are completed before the actual discussion occurs. Therefore bringing up comments has little effect on the actual rating which is most often tied to their annual increase which is usually only a few cents different from the person with the next highest or lowest rating.

Employees are often forced to write a self evaluation prior to the meeting as well. Unfortunately, these usually only serve as annoyance to employees because the majority of the time it is ignored by the supervisor any way.

#### **Managers - Why They Hate the Performance Review Process**

Managers often dread the discussion of the employee performance review assuming the discussion will turn into a battle with the manager left to convince the employee that their ratings are accurate. Managers usually assume employees think they perform better than they actually do.

Managers are busy with tasks and goals of their own. Taking the time to thoroughly review a whole year's worth of performance is time consuming. They often rush through the forms because the HR department has a deadline they are struggling to meet?

The forms are too complicated, long, short or don't cover what is really important to success in this department.

So, What's the Answer to Overcoming Negativity Around the Performance Appraisal? Here's a few tips to get you started:

- 1. Set clear expectations. Provide them on the first day of employment.
- 2. Provide feedback all year. Create a culture where performance discussions are a regular part of the work day and review meetings are held at frequent intervals such as monthly.
- 3. Ask first, tell later. Begin a performance discussion by asking the employee to rate their performance. Have them provide examples of where they have met and exceeded the expectations.
- 4. **Do not** complete the form until you have the discussions. Do monitor performance all year and have examples ready to discuss.
- 5. Guarantee no surprises at the annual meeting. If you are waiting for annual meeting to discuss performance, you lost your chance to be effective.





#### **The Performance Appraisal Process**

**Step 1. Job analysis.** This is logically our first step because if we don't know what a job consists of, how can we possibly evaluate an employee's performance? We already learned how to do a job analysis in Chapter 4, but as shown in Exhibit 8-1, we should realize that the job must be based on the organizational mission and objectives, the department, and the job itself.

**Step 2. Develop standards and measurement methods.** If we don't have standards of acceptable behavior and methods to measure performance, how can we assess performance? We will discuss performance measurement methods in the next part of this section, and in the major section "How Do We Use Appraisal Methods and Forms?" we will discuss these topics in more detail.

**Step 3. Informal performance appraisal—coaching and disciplining.** Performance appraisal should not be simply a once- or twice-yearly formal interview. As its definition states, performance appraisal is an ongoing process. While a formal evaluation may only take place once or twice a year, people need regular feedback on their performance to know how they are doing.<sup>4</sup> We will briefly discuss coaching in the "Critical Incidents Method" subsection of "How Do We Use Appraisal Methods and Forms?" and in more detail along with teaching how to discipline in the next chapter.

**Step 4. Prepare for and conduct the formal performance appraisal.** The common practice is to have a formal performance review with the boss once or sometimes twice a year using one or more of the measurement forms we will be learning about. Later in this chapter we will discuss the steps of preparing for and conducting the performance appraisal.

In the major sections to come, we discuss "why" we assess performance, "what" we assess, "how" we assess, and "who" conducts the performance appraisal. Then we discuss performance appraisal problems and how to avoid them, and we end the performance appraisal process with the actual formal review session. But before we leave this section, we need to understand a critically important part of each step in the performance appraisal process—accurate performance measurement.

#### Accurate Performance Measures

Performance should be accurately measured so employees will know where they can improve. Knowing where to improve should lead to training employees to develop new skills to improve. To be an accurate measure of performance, our measure must be valid and reliable, acceptable and feasible, specific, and based on the mission and objectives. Let's discuss each here.

Valid and reliable. As with all areas of our people management process, we must make sure that all of our performance management tools are valid and reliable. Here again, we

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can pull out and dust off the OUCH test as a quick measure to ensure fairness and equity in the performance management and appraisal process. We remember by now that OUCH stands for *Objective*, *Uniform in application*, *Consistent in effect*, and *has job relatedness*, right? However, we still need to analyze validity and reliability in some detail.

If our method of measurement is not valid and reliable, then it makes no sense to use it. We discussed reliability and validity in Chapter 4. Recall that a valid measure is "true and correct." When a measure has validity, it is a factual measure that measures the process that you wanted to measure. A reliable measure is consistent; it works in generally the same way each time we use it.

Acceptable and feasible. In addition to validity and reliability, we need to look at a couple of other characteristics of our performance measures. We need to analyze acceptability and feasibility. Acceptability means that the use of the measure is satisfactory or appropriate to the people who must use it. However, in performance appraisal, this isn't enough. Acceptability must include whether or not the evaluation tool is feasible. Is it possible to reasonably apply the evaluation tool in a particular case? As an example, if the performance evaluation form is two or three pages long and covers the major aspects of the job that is being evaluated, and both managers and employees believe that the form truly evaluates performance measures that identify success in the job, then they are likely to feel that the tool is acceptable and feasible

Why Do We Conduct Performance Appraisals?

As you can begin to see already, the appraisal process gets extremely complicated very quickly. And remember, anytime a process in an organization is complicated, it costs a lot of money. So why do we even do performance appraisals? What value provided to the organization and to the individual makes the process of evaluating the performance of our workers so critical?

If performance appraisals are done in the correct manner, they can provide us with a series of valuable results. However, done incorrectly, the process of evaluating employee performance can actually lead to lower levels of job satisfaction and pro ductivity. In this section, let's discuss three major reasons why organizations complete performance evaluations—communicating, decision making, and motivating.

#### Communicating

The first major reason for performance appraisal is to provide an opportunity for formal communication between management and the employees concerning how the organization believes each employee is performing. All of us know intuitively that successful communication requires two-way interaction between people. "Organizations can prevent or remedy the majority of performance problems by ensuring that two-way conversation occurs between the manager and the employee, resulting in a complete understanding of what is required, when it is required and how the employee's contribution measures up."





Communication always requires that employees have the opportunity and ability to provide feedback to their bosses in order to make sure that the communication is understood. So, in performance appraisals the communication process requires that we as managers communicate with the employees to provide them information about how we believe they're doing in their job, but the process also requires that we provide the opportunity for the employees to speak to us concerning factors that inhibit their ability to successfully perform for the organization.

Factors in a job that management may not know about can include many things, including lack of training, poorly maintained equipment, lack of tools necessary to perform, conflict within work groups, and many other things that management may not see on a daily basis. If the communication component of the performance appraisal process does not allow for this two-way communication, managers may not know of the obstacles that the employees have to overcome. The only way that we can resolve problems is to know about them. So, as managers, we need to communicate with our employees to find out when issues within the work environment cause loss of productivity so we can fix them. Thus, two-way communication is a critical component of correcting problems through the performance appraisal process.

# **Decision Making (Evaluating)**

The second major purpose of performance appraisals is to allow management to make decisions about employees within the organization. We need to make decisions based on information, the information we get from our communication. Accurate information is necessary for management decision making and is an absolutely critical component to allow the manager to improve organizational productivity. We use information from annual performance appraisals to make evaluative decisions concerning our workforce including pay raises, promotions, demotions, training and development, and termination. When we have valid and reliable information concerning each individual within our division or department, this gives us the ability to make decisions that can enhance productivity for the firm.

If, for instance, through the process of coaching (the third step of the performance appraisal process) we find that several machine operators are having trouble keeping their equipment in working order, this piece of information would quite likely lead to a *needs assessment* to determine whether or not maintenance training is necessary for our group of operators. Without our rigorous evaluation process, we might not learn of this common problem as early, and as a result could do some significant damage to very expensive equipment. This and similar types of information frequently come to the forefront as we go through the performance appraisal process. Decision-making based on good communication is a very large part of why we take the time to do annual performance appraisals.

#### **Motivating (Developing)**

The third major purpose for performance appraisal is to provide motivation to our employees to improve the way they work individually for developmental purposes, which in turn will improve organizational productivity overall. What is motivation, and are performance appraisals normally motivational? Well, from a business perspective, **motivation** can be defined as *the willingness to achieve organizational objectives*. We

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want to create this willingness to achieve the organization's objectives, which in turn will increase organizational productivity.

Our evaluative decisions should lead to development of employees. Returning to the machine operators having trouble keeping their equipment in working order, making the decision to train the employees leads to their development through improving their performance, as well as better utilizing the resources to improve organizational performance.

#### **Evaluating and Motivating (Development)**

An effective performance appraisal process has two parts (evaluating and motivating), and it does both parts well. Evaluating is about assessing *past* performance, and motivating is about developing employees to improve their *future* performance. But, are both parts done well? Have you ever been in a position of being evaluated and debriefed as an employee? Was the process motivational? Probably not. Think about the appraisal process and how it was carried out. Here we discuss problems with evaluation and how to overcome them, explain how to motivate, and suggest separating evaluation and motivation.

**Problems with evaluation.** A common problem in appraisals is overpowering employees during an evaluation debrief with large amounts of negative information that they have not heard during coaching. This tends to cause the employees to "turn off," or stop listening to their managers as they explain what is wrong. Employees will just "raise their shields" to ward off all of the negative information. This is a natural human characteristic. We are naturally suspicious of negative information for a variety of psychological reasons (defense mechanisms), so when employees are presented with a large amount of negative information, they tend to discount or even disbelieve it. They may consider the process unfair or one-sided and not an accurate measure of their performance, and as a result the evaluation may be useless as a motivator.

**Avoiding problems with evaluation.** To help overcome such problems with evaluation, an effective manager who is a good coach will generally never identify a weakness that the employee has not previously been made aware of during the formal appraisal interview—there are no surprises. The evaluative part of the appraisal should only be a review of what the employee already knows and should be willing to hear. However, avoiding surprises is not enough.

The appraisal debrief must be a well-rounded look at individual employees; it should identify both positive and negative factors in the employees' behaviors and results within their job (and remember that the communication needs to be two-way). As managers, we want to tell employees what they are doing right, but also where they have room for improvement. This more balanced approach to the debriefing process will minimize the potential that the employees will raise those shields and avoid listening.

**Motivating development.** The important part of development is the need for managers to provide motivational opportunities for employees to improve their performance over time. In other words, we need to tell them how to fix the problem. We need to provide them with tools, training, or other methods that will allow them to improve to the point where their behavior is sufficient, and we then must continually strive to get them to perform at an above-average level and ultimately to be superior through ongoing coaching between formal reviews.

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If we provide employees with tools to allow them to improve over time, we're focusing not on the negative past results but on the positive future potential results. <sup>12</sup> If they are given an honest opportunity to fix something that they know is a problem and are given the necessary tools or training, most will take advantage of that opportunity. So performance appraisals *can* be motivational if they are properly used and debriefed.

**Separating evaluation and development.** To improve both parts of the performance appraisal, we suggest splitting the debriefing into two separate interviews. The first meeting is to evaluate the employees' *past* performance, pointing out strengths and areas for improvement; the employees are asked to think about how they can improve their performance. At the second meeting, manager and employee *jointly* come up with a developmental plan that should lead to increased performance that will result in a higher *future* evaluative rating during the next formal appraisal





Self-Check -1	Written Test

**Direction I:** Which of the following criteria for a measure to be accurate is not met in each of the given situations?

Which of the following criteria for a measure to be accurate is not met in each of the given situations?

A.	valid	D. feasible
В.	reliable	E. specific
C.	accepted	F. based on the mission and objectives
_	1 My boss asked me to fill out a self refused to do it. Evaluation is her job, s	evaluation of my performance. But I to let her do it.
_	•	ng a very good job of data entry. When I und in circles and never gave me a good
_	,	as many widgets as I used to. But it's not now and then and I have to stop working to
_	only once. I told her I don't have the tim	my employees four times a year instead of ne to do it that many times. It's just not n without cutting back other things that
-	5 My boss said I have a bad attitude pointed out that I get all my work done questioned what my attitude had to do	

Note: Satisfactory rating - 7.5 points and above Unsatisfactory - below 7.5 points

You can ask you teacher for the copy of the correct answers.

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5.\_\_\_\_



Answer S	heet-1
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Score =	
Rating:	

Name:	Date:
Short Answer Questions	
1	
2	
3	
Δ	

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#### **Information Sheet-3**

# **Preparing Performance appraisal form**

#### **Performance Appraisal Measurement Methods and Forms**

#### 3.1 Critical Incidents Method

The **critical incidents method** is a performance appraisal method in which a manager keeps a written record of positive and negative performance of employees throughout the performance period. There is no standard form used, so it is a method. Here, and for each of the other methods and forms, let's answer two questions: Why and when is it used, and how is it used?

Why and when do we use the critical incidents method? Most formal reviews take place only once or twice a year. Do you want to wait for formal reviews to talk to employees about what they are doing well and when they are not performing up to expectations? Of course you want to let them know how they are doing on an ongoing basis. Also, let's say we are a manager with 12 employees. Can we remember everything each of them did well, and when they messed up, and on what dates, so we can evaluate their total performance for the past 6–12 months? Very few, if any, of us can say yes. However, many managers don't keep a record of critical incidents, which leads to problems of accurate measures during the formal review meeting.

We use critical incidents to do a good assessment of the entire review period, and we coach when needed during the entire review period for developmental decisions. We need to continually conduct informal coaching and disciplining when needed as we make notes of critical incidents to use during the formal review. With clear standards and coaching, you can minimize disagreements over performance during the formal performance appraisal because there are no surprises, because employees know what is coming.

Although critical incidents are commonly used for developmental decisions, they are also used for evaluative decisions. For legal purposes, a list of documented critical incidents is especially important to have leading up the evaluative decision of firing employees.

#### How do we use critical incidents

Managers commonly simply have a file folder for each employee, which can be hard copy or electronic. Critical incidents are important employee actions, not minor ones, which help or hurt performance. Every time employees do something very well, such as beat a tough deadline or save angry customers from terminating their business relationship with the firm, a note goes in the employees' file. Notes also go into the file every time the employees' behavior hurts performance, such as coming to work late or the quality of work not meeting standards.

The note is usually written by the manager and/or is in the form of documentation, such as a warning that is given, performance reports, or a letter from a happy customer thanking the employee for doing a great job. Coaching is part of this ongoing process, and it involves helping employees succeed by monitoring performance through giving feedback to praise progress and to redirect inappropriate behavior as often as needed.

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One error managers tend to make is to focus on the negative actions of employees. Remember that a good balanced evaluation includes both positive and negative, so look for good performance, not just poor, and praise it when you see it.

# 3.2 Management by Objectives (MBO) Method

The Management by Objectives (MBO) method is a process in which managers and employees jointly set objectives for the employees, periodically evaluate performance, and reward according to the results. Although it is a three-step process, no standard form is used with MBO, so it is a method. MBO is also referred to as work planning and review, goals management, goals and controls, and management by results.

Why and when do we use the MBO method? The MBO method is one of the best methods of developing employees. Like critical incidents, employees get ongoing feedback on how they are doing, usually at scheduled interval meetings. We can use the MBO method successfully with our employees if we commit to the process and truly involve employees rather than trying to make them believe that our objectives are theirs—accurate measures.

On an organization-wide basis, MBO is not too commonly used as the sole assessment method. It is more commonly used based on the evaluative assessment during the development part of the performance appraisal. One difficult part of MBO is that in many situations, most, if not all, employees will have different goals, making MBO more difficult and time-consuming than using a standard assessment form.

#### How do we use the MBO method? MBO is a three-step process:

**Step 1.** Set individual objectives and plans. The manager sets objectives jointly with each individual employee. The objectives are the heart of the MBO process and should be accurate measures of performance results. To be accurate, objectives should be SMART. They need to be *Specific, Measurable, Attainable, Relevant,* and *Timebased*. Being specific, measurable, and timebased is fairly easy to determine in a written goal, but being attainable and relevant is more difficult. So we developed a model based on the work of Max E. Douglas with two examples in Model 8-1 that we can use when setting objectives for ourselves or with others.

- **Step 2.** *Give feedback and evaluate performance.* Communication is the key factor in determining MBO's success or failure, and employees should continually critique their own performance. <sup>28</sup> Thus, the manager and employee must communicate often to review progress. <sup>29</sup> The frequency of evaluations depends on the individual and the job performed. However, most managers do not conduct enough review sessions.
- **Step 3.** Reward according to performance. Employees' performance should be measured against their objectives. Employees who meet their objectives should be rewarded through recognition, praise, pay raises, promotions, and so on.<sup>30</sup> Employees who do not meet their goals, so long as the reason is not out of their control, usually have rewards withheld and even punishment when necessary.





#### 3.3 Narrative Method or Form

The **narrative method or form** *requires a manager to write a statement about the employee's performance*. There often is no actual standard form used, but there can be a form, so narrative can be a method or a form.

Why and when do we use the narrative method or form? A narrative gives managers the opportunity to give their evaluative assessment in a written form that can go beyond a simple "check of a box" to describe an assessment item. Managers can also write up a developmental plan of how the employee will improve performance in the future. Narratives can be used alone, but are often combined with another method or form. Although the narrative is ongoing, it is commonly used during the formal review.

How do we use the narrative method or form? The system can vary. Managers may be allowed to write whatever they want (method), or they may be required to answer questions with a written narrative about the employee's performance (form). Let's discuss both here.

The no-form narrative method can be the only assessment method used during the formal review process. But the narrative method, when used alone, is more commonly used with professionals and executives, not operative employees. How we write the formal narrative assessment varies, as writing content and styles are different. A narrative based on critical incidents and MBO results is clearly the best basis for the written assessment.

The narrative is also often used as part of a form. For example, you have most likely seen an assessment form (such as a recommendation) that has a list of items to be checked off. Following the checklist, the form may ask one or more questions requiring a narrative written statement.

# 3.4 Graphic Rating Scale Form

The **graphic rating scale form** is a performance appraisal checklist on which a manager simply rates performance on a continuum such as excellent, good, average, fair, and poor. The continuum often includes a numerical scale, for example from 1 (lowest performance level) to 5 (highest performance level). Self-Assessment and Skill Builder 8-1 uses a graphic rating scale form; it is found at the end of this chapter.

Why and when do we use the graphic rating scale form? Graphic rating scales are probably the most commonly used form during the formal performance appraisal (primarily for evaluative decisions), but they should lead to development decisions as well. Why the popularity? Because graphic rating scales can be used for many different types of jobs, they are a kind of "one form fits all" form that requires minimal time, effort, cost, and training. If we walk into an office supply store, we can find pads of them. But on the negative side, graphic rating scales are not very accurate measures of performance because the selection of one rating over another, such as an excellent versus good rating, is very subjective. For example, think about professors and how they measure performance with grades. Some give lots of work and few As, while others give less work and almost all As.

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How do we use the graphic rating scale form? It is very simple, and we have most likely all used one. For example, many colleges have student assessments of professors at the end of the course. All we do is check off, or usually fill in a circle for, our rating. One problem is that some of us don't bother to actually read the questions. Based on our biases, some of us just go down the list checking the same rating regardless of actual performance on the item. To be fair, this problem is not common with managers formally evaluating their employees. However, it does tend to occur when customers evaluate products and services, including student assessments of professors.

To overcome this problem, which is unfortunately not commonly done, we can reverse the scale from good to poor on different questions. Why isn't this done all the time? Some HR, or other, managers who make the scales do not know they should do this. Some who do know they should reverse the scales don't because they don't want to end up with overall ratings being pushed to the middle because people don't read the questions.

#### 3.5 Behaviorally Anchored Rating Scale (BARS) Form

The **Behaviorally Anchored Rating Scale (BARS) form** is a performance appraisal that provides a description of each assessment along a continuum. Like with rating scales, the continuum often includes a numerical scale from low to high.

Why and when do we use the BARS form? The answer to why and when is the same as for graphic rating scales. So let's focus on the differences between graphic rating scale and BARS forms. BARS forms overcome the problem of subjectivity by providing an actual description of the performance for each rating along the continuum, rather than one simple word (excellent, good, etc.) like graphic rating scales. A description of each level of performance makes the assessment a more objective accurate measure. So if BARS forms are more accurate, why aren't they more commonly used than graphic rating scale forms?

It's partly economics and partly expertise. Again, the graphic rating scale can be used for many different jobs, but BARS forms have to be customized to every different type of job. And developing potentially hundreds of different BARS forms takes a lot of time (which costs money) and expertise. Even when a firm has an HR staff, the question becomes whether developing BARS forms is the most effective use of staff members' time. Obviously, it depends on the types of jobs being evaluated and the resources available to complete the evaluation process.

How do we use BARS forms? Like graphic rating scales, we simply select a level of performance along the continuum. College accreditation associations are requiring more measures of student outcomes as assurance of learning, and as part of the process they want more BARS rubrics as evidence. So in college courses, especially for written assignments, professors give out rubrics that describe in some detail the difference between excellent (A), good (B), average (C), poor (D), and not acceptable (F) grades for multiple criteria put together to provide a final grade. Here is a very simple example of making a graphic rating scale item into the more objective BARS form.

Attendance—excellent, good, average, fair, poor

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Attendance—number of days missed 1, 2, 3-4, 5, 6 or more

# 3.6 Ranking Method

The **ranking method** is a performance appraisal method that is used to evaluate employee performance from best to worst. There often is no actual standard form used, and we don't always have to rank all employees.

Why and when do we use the ranking method? Managers have to make evaluative decisions, such as who is the employee of the month, who gets a raise or promotion, and who gets laid off. So when we have to make evaluative decisions, we generally have to use ranking. However, our ranking can, and when possible should, be based on other methods and forms.

Ranking can also be used for developmental purposes by letting employees know where they stand in comparison to their peers—they can be motivated to improve performance. For example, when one of the authors passes back exams, he places the grade distribution on the board. It does not in any way affect the current grades—but it lets students know where they stand, and he does it to motivate improvement.

**How do we use the ranking method?** Under the ranking method, the manager compares an employee to other similar employees, rather than to a standard measurement. An offshoot of ranking is the forced distribution method, which is similar to grading on a curve. Predetermined percentages of employees are placed in various performance categories, for example, *excellent*, 5%; *above average*, 15%; *average*, 60%; *below average*, 15%; and *poor*, 5%. The employees ranked in the top group usually get the rewards (raise, bonus, promotion), those not at the top tend to have the reward withheld, and those at the bottom sometimes get punished. In Self-Assessment and Skill Builder 8-1, you are asked to rank the performance of your peers.





Self-Check -1	Written Test

Which of the following assessments is being described in each of the given situations?

- a. critical incidents method
- b. BARS form
- c. MBO method
- d. graphic rating scale form
- e. narrative method or form
- f. ranking method
  \_\_\_\_\_ 1. One of your employees has applied for a better job at another company and asked you for a letter of recommendation.
  \_\_\_\_\_ 2. You are overworked, so you want to develop a performance appraisal form you can use with all 25 of your employees who do a variety of jobs.
  \_\_\_\_ 3. You have been promoted from a supervisory position to a middle management
- order to improve her performance.

  \_\_\_\_\_ 5. You want to create a system for developing each of your employees individually

4. One of your employees is not performing up to standard. You decide to talk to her in

position. You have been asked to select your replacement.

Note: Satisfactory rating - 7.5 points and above Unsatisfactory - below 7.5 points

You can ask you teacher for the copy of the correct answers.

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Answer	Sheet-1

Score = _	
Rating: _	

# **Short Answer Questions**

1.	

- 2.\_\_\_\_
- 3.\_\_\_\_
- 4.\_\_\_\_
- 5.\_\_\_\_\_





#### **Information Sheet-4**

## **Preparing Performance appraisal report**

#### 4.1 PURPOSE OF REPORT

Performance evaluation is not just a once-a-year affair. Whether the employees realizes it or not work performance is being evaluated continually. Every day worked, every assignment completed gives the supervisor a chance to observe how well duties are performed. The performance evaluation report is designed to put down on paper a summary of these day-to-day evaluations and is intended to help the supervisor form these evaluations as objectively as possible.

#### WHEN TO RATE

A performance evaluation report shall be prepared for each salaried employee at least every twelve (12) months. An interim report may be prepared whenever there is a change in the employee's performance sufficient to affect the overall rating on the last annual report on file for the employee, or whenever departmental procedures require an interim report for a special purpose.

# Special Requirements for Non-Civil Service Employees:

If an individual agency has a probationary period for non-civil service employees, performance evaluation reports shall be prepared for employees upon completion of the probationary period established by the agency.

Complete policy and procedures for employee performance evaluation are published through the Directives Management System.

# WHO IS TO RATE

Rating shall be completed by supervisors who are familiar with the work performance of the employee. Generally, this shall be the immediate supervisor. However, the person who completes and signs a performance evaluation report as the rater of an employee should not be a member of the same collective bargaining or meet and discuss unit as that of the employee being evaluated. The reviewing officer shall generally be the rater's immediate supervisor.

# 4.2 DEFINITION OF ADJECTIVAL RATINGS

**UNSATISFACTORY**: A rating of unsatisfactory means that the employee's performance with respect to the factor under consideration is below acceptable standards.

**FAIR:** A rating of fair means that the employee's performance with respect to the factor under consideration no more than meets and occasionally falls below acceptable standards.

**GOOD:** A rating of good means that the employee's performance with respect to the factor under consideration meets and occasionally exceeds acceptable standards.

**VERY GOOD:** A rating of very good means that the employee's performance with respect to the factor under consideration frequently exceeds acceptable standards.

**EXCELLENT**: A rating of excellent means that the employee's performance with respect to the factor under consideration consistently exceeds acceptable standards.





Each factor, which is rated excellent or unsatisfactory, should be documented in comments section of the performance evaluation report.

The three (3) gradations within each adjectival rating (except Unsatisfactory) act as a measuring stick and enable the rater to describe the degree of performance within the rating more accurately.

#### 4.3 OVERALL RATING

Because the importance of different performance factors varies from job to job, there is no prescribed formula for arriving at an overall rating. If the overall rating is to be accurate, it must be consistent with all the factor ratings. It is not an average of the individual factor ratings, but rather reflects the influence of the more important work performance factors as determined for a position.

#### 4.4 REVIEW OF REPORT

After signing the performance evaluation report, and before it is shown and discussed with the employee, it shall be forwarded to the reviewing officer for review and signature. A discussion of the employee's rating between the rater and the reviewing officer is desirable and every effort should be made to accomplish this.

Any difference of opinion between the rater and reviewing officer as to the employee's performance should be resolved before the reviewing officer signs the report. If any changes result, a new report should be made out reflecting such change. Erasures should not be made. After the reviewing officer signs the report it shall be returned to the rater for discussion with the employee.

#### 4.5 RATING INTERVIEW

This is the most important step in the performance evaluation process. Each report shall be reviewed with the employee in a face-to-face discussion. The discussion should be under circumstances affording an informal, relaxed and private interview. It is strongly recommended that the interview be held at the time the employee is shown the report for the first time.

At the close of the interview, the rater shall ask the employee to sign the report, not for the purpose of securing approval of the rating, but to obtain the employee's acknowledgement that the report was reviewed. If the employee refuses to sign the report, the rater should write in the space for the employee's signature, "Employee refuses to sign".

If the employee desires to discuss the rating with the reviewing officer, the rater shall inform the employee that an appointment will be made. The rater shall then make an appointment for the employee with the reviewing officer and subsequently notify the employee. If, as a result of this discussion, the reviewing officer sees merit in making any changes the rater should be conferred with to resolve the question. If changes are made at this point, the employee, the rater, and the reviewing officer shall initial them. If the employee wishes to formally appeal the rating, this may be done in accordance with departmental procedures.



EMPLOYEE:



# **Table 4.1 PERFORMANCE EVALUATION REPORT FORM**

SOCIAL SECURITY NUMBER:		Ev	aluation F	Period:		
CLASSIFICATION:		Туре	e of Evalua	ation:	Regular	
LOCATION:		(C	heck One	)	Probationary	, 🗆
					Interim	
PERFORMANCE MONTH:						
GENERAL PERFORMANCE FACTORS- All employees should be evaluated on the first six factors.	EXCELLENT	VERY GOOD	GOOD	FAIR	UNSATIS FACTOR	
1. QUALITY OF WORK – Completion; accuracy; professional; or technical proficiency.						
<ol><li>WORK HABITS- Planning and organization of work; care of equipment and supplies.</li></ol>						
3. RELATIONSHIP WITH PEOPLE- Ability to get along with others. Effectiveness in dealing with the public.						
4. DEPENDABILITY- Degree to which employee can be relied upon to work steadily and effectively; punctuality; regularity of attendance.						
5. QUANTITY OF WORK-Amount of work performed.						
6. INITIATIVE-Resourcefulness; versatility; originality; ability to conceive and carry out program improvements.						
7. ANALYTICAL ABILITY-Thoroughness and accuracy of analysis of data, facts, laws, rules, and procedures.						
8. ABILITY AS SUPERVISOR-Proficiency in training employees. In planning, organizing, laying out work for work unit. Activity in promoting cost reduction leadership.						
9. ADMINISTRATIVE ABILITY-Promptness of action; soundness of decision; application of good management principles.						
10. SAFETY-Application of accident prevention techniques and unit's safety.						
SPECIAL PERFORMANCE FACTORS- List below. Define and rate employee on any appropriate factors not listed above.						
11. COMMITMENT TO SOCIAL EQUITY						
OVERALL EVLAUATION						
Comments (Continue on additional sheets of 8.5 x 11	white paper.)					

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EVALUATOR SIGNATURE (EMPLOYEE'S IMMEDIATE SUPERVISOR)	TITLE	DATE	
REVIEWING OFFICER SIGNATURE (EVALUATOR'S IMMEDIATE SUPERVISOR)	TITLE	DATE	
I WOULD LIKE TO DISCUSS THIS REPORT WITH THE REVIEWING OFFICER:  YES NO	AS REQUESTED, REVIEWING OFFICER DISCUSSED REPORT. REVIEWING OFFICER SIGNATURE.	DATE	
I ACKNOWLEDGE THT I HAVE READ THIS REPORT AND THAT I HAVE BEEN GIVEN AN OPPORTUNITY TO DISCUSS IT WITH THE EVALUATOR. MY SIGNATURE DOES NOT NECESSARILY MEAN THAT I AGREE WITH THE REPORT.			
EMPLOYEE SIGNATURE			

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**Information Sheet-5** 

## Implementing feedback mechanism

#### 5.1 Introduction

Feedback can be simply defined as the ways in which we relate to others and how we give each other information about our experiences working together. It's about offering up insights to celebrate strengths and identify ways to learn and grow. Teams use many combinations of informal and formal feedback systems to connect, align, and accomplish their goals. Teams that make feedback a consistent habit, practice different forms of feedback, and use that feedback to set development goals, see more positive results.

# 5.2 Feedback comes in many forms:

- Positive feedback the big and small signals of 'keep doing that it's great
  work' are a necessary part of <u>feedback cultures</u>. You must be able to
  celebrate successes and cheer each other on when you've climbed a
  mountain (or at times even a molehill). Use positive feedback to build upon
  existing good behaviors and to stretch to new heights
- Negative feedback these are the 'stop that' signals or the less than stellar
  moments where the impact missed the mark. When negative feedback is
  objective and specific to behaviors and the impacts of those behaviors it can
  help people self-correct. When negative feedback is subjective or about a
  person instead of their work it becomes unproductive criticism
- Constructive feedback could be described as a bit of 'stop that and start this' it is (as the name suggests) about 'building' and focuses on agreeing to solutions for the future

Feedback can also be delivered in formal or informal systems and settings.

#### Formal feedback includes:

- Employee performance conversations
- Formally scheduled or highly structured meetings/events
- Regular one-on-one conversations between managers and employees
- Some types of employee surveys (e.g., engagement surveys, 360° or multirater assessments, employee lifecycle checkpoints, training measurements)

#### 5.3 Informal feedback comes in other settings, such as:

- Casual interpersonal interactions (e.g., water cooler chats)
- In-the-moment conversations or recaps
- Group-based settings like lunch & learns
- May be peer-to-peer or employee-to-manager
- May be requested or unsolicited

Despite the power and use of <u>employee feedback</u> for growth, development and to improve performance, it can sometimes be challenging to provide it. Too often feedback is given a negative connotation, when at its core it's simply about giving and receiving information. Across many workplaces, people are seeking more frequent and higher quality feedback.





Formal employee performance management systems may grant an opportunity for leaders and their direct reports to connect and discuss performance, but they tend to fall short for a myriad of reasons, especially when not complemented by other informal and more frequent ways of gathering and disseminating feedback.

For a truly distinctive <u>employee experience</u>, it's critical to make feedback - both giving and receiving it - part of your DNA, and a regular practice, more than just the formal performance conversations.

Feedback systems will continue to evolve as we digitally transform into the workplaces of tomorrow and things like rapid, smart feedback systems become more commonplace and an expectation of workers (like customer surveys that ask you to rate items you just bought or facilitate you returning an item that wasn't what you wanted).

#### 10 Factors in Exceptional Feedback:

- 1. Sincere mean what you're saying, avoid cliche
- 2. Clear talking about the real topic and saying what you mean
- 3. **Timely** comes when it's important and fresh
- 4. Safe avoids aggression and personal factors
- 5. Grounded based on facts and behaviors
- 6. Two-way all sides have a voice in the discussion and outcomes
- 7. **Important** worth working on and not a nitpick
- 8. Solution-Focused looking towards the future and prioritized
- 9. Supported lifelines are available
- 10. **Ongoing** it is not a single event never to be spoken of again

How to provide feedback to employees

Whether positive or negative, there are many ways of providing constructive employee feedback. The list below outlines best practices for employee feedback that apply to colleague and manager feedback as well.

#### Make it timely, specific, and relevant

Providing employee feedback on a project that happened six months ago will have little impact on either the employee or the project. Instead, give feedback right away. Top-performing employees who feel their efforts are unrecognized may disengage and look for other opportunities. Employees who are not performing well will continue to struggle until feedback points them in the right direction.

Specific and relevant feedback gives employees a clear understanding of the skills and behaviors that lead to success. Employees want to understand exactly what it is they are doing right — or wrong — and what changes they should make. A great way to do this is to keep the focus of the employee feedback on business outcomes; for example, "Because you did such a great job on this project, the client has increased their budget for our services."

#### Make it a two-way process

Eliciting thoughts and reactions from employees allows a manager to understand how the feedback has been received, and the impact it will have moving forward.





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Asking questions like, "What are your thoughts?" and "How do you feel you performed?" will lead to valuable insights and build trust.

Similarly, feedback between peers is important. Colleagues are often the best positioned to see others' behaviors, performance, and skills. Providing positive feedback to colleagues builds stronger relationships and leads to top-performing teams.

# Handle positive and negative feedback differently

Positive employee feedback is a joy to provide, and there are many ways to recognize and reward a job well done. A monetary bonus, team event, or simply providing social recognition are all great methods. Managers should find out what teams and individuals value most highly to ensure their rewards and recognition strategies are getting the highest motivational impact.

Negative feedback is more difficult to provide and should be addressed sensitively. Never provide <u>negative feedback</u> in public. Choose a private setting and do it face-to-face so you can have an honest, constructive conversation. Don't pile on the criticism; instead, be very specific about the issue(s) and offer examples of how to improve. It often helps to write down what you are planning to say before the meeting, but practice it ahead of time to avoid reading off a piece of paper. Provided honestly and sensitively, negative feedback will not make an employee feel punished, but instead will lead to improved skills and behaviors.

# Go beyond annual reviews

Annual reviews are an opportunity to look back over the previous year and assess accomplishments, skills, and areas for development. But packing everything into a single annual review can be overwhelming and hard to process. Giving and receiving employee feedback throughout the year offers real-time data on employee performance. Managers should provide feedback regularly, and open up channels to encourage employees to do the same.

#### Examples of employee feedback

While organizations vary widely and have different ways of providing employee feedback, the following examples offer some guidance that managers can use in providing constructive feedback.

# Positive employee feedback examples

Whether it's a recognition of good work or acknowledgment of perseverance, there are many instances where managers can take the opportunity to provide positive feedback. Here are some examples:

#### I Express appreciation for employee performance

"What a great job you did on the presentation yesterday! I hear the client was very pleased, and may significantly expand the project. Well done. I really appreciate all the hard work, creativity, and energy you put into it."

When an employee succeeds, they should hear about it. Express your recognition of the right behaviors and celebrate positive results. If possible, be specific about skills, achievements, and business outcomes.





Employee success often goes unrecognized as managers can be complacent and forget to call out positive performance. We <u>recently found</u> that 58 percent of employees said their manager relationship would improve with more recognition. Showing appreciation reinforces the right behaviors, makes employees feel valued and motivated, and is directly linked to increased employee engagement.

#### Il Note an employee's good qualities

"I noticed how well you responded to that customer's concerns. You were patient, understanding, and resourceful. Customer support is an important part of our company brand, and you certainly displayed it."

Let employees know what they are particularly good at, and what traits you appreciate. Tying good qualities to organizational values creates a line of sight to business results, and builds employee confidence.

# III Let employees know when they're setting a great example

"Jane told me that she is using the new network tool to keep track of sales, based on your positive feedback on the application. Thanks for supporting our new technology, and setting a great example for others."

When an employee does something that others should emulate, let them know. Colleagues tend to listen to each other, and setting a good example is the fastest way to incorporate the right behaviors into your workforce.

#### IV Call out actions you would like to see become habits

"Thank you for using a spreadsheet to keep track of all the project expenses. It was very helpful for the team and we were able to keep costs under budget. It was so effective, I'd like to use it on all our future projects."

Positive employee actions are more likely to become habits if you call them out. 92 percent of employees agree when they're recognized for a specific action, they're more likely to take that action again in the future. Employees may not realize their efforts are valued unless they are recognized. When an employee's actions are particularly important to job success, you should take the time to demonstrate the impact of their actions and suggest that the employee repeat them in the future.

# V Support employees when difficulties arise, and congratulate them when they persevere

"I understand there have been some very difficult days on the job due to the weather and short supplies. It's remarkable how you have managed to keep everything running smoothly. I really appreciate your hard work and perseverance."

Even the most successful businesses experience difficult times. It's important to recognize employee resilience and congratulate them for their efforts. Acknowledging issues allows employees to open up about concerns they might have, which builds trust. This can be hard if the issues are personal rather than work-related, but in either case, let employees know that the way they've weathered the storm has been noticed and appreciated

Constructive employee feedback examples

When things don't go as well as planned, constructive feedback helps redirect employees into adopting more successful actions and behaviors. Let's review some examples:

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# VI Handle problematic behavior

"Several of your colleagues have reported hearing you tell jokes in the lunchroom that they found offensive. This organization has very clear guidelines. Any comments or jokes that might cause offense to others are not appropriate and will not be tolerated."

Problematic behavior in the workplace must be addressed immediately to maintain a culture of respect, tolerance, and anti-discrimination. However, managers should not assume that offense was intended, as acceptable behavior for one individual may not be acceptable to another. Feedback should not be used to punish or blame the employee. Feedback should provide clear, specific guidelines as to what is acceptable and unacceptable in the workplace, and why.

# VII Follow up when employees fail to meet their goals

"We set performance goals to ensure that both you and our business succeed. Your goals are tied to organizational objectives and affect our overall results. I am concerned that you fell short. Let's discuss why that happened and what changes we can make to ensure you succeed in the future."

When an employee fails to meet goals, feedback should be provided as soon as possible to understand the underlying issue and get performance back on track. Connecting individual goals to business objectives is key. Encourage input and have a two-way conversation to ensure a common understanding of the importance of meeting goals and the reasons for falling short. Focus on the actions and behaviors that will boost performance and lead to future success.

# VIIIAddress changes in performance

"You are one of our top salespeople and your results are always excellent. Recently, however, I noticed a decline in your numbers. I was wondering if there is a reason for the change and if there's anything I can do to help you be successful."

Good managers will stay on top of business results and individual goals, and check in with employees immediately if there is a change in performance. The goal is to uncover the reason behind the change and provide support to get performance back on track. Start with positive feedback to show that you recognize and appreciate previous efforts. This provides a launching pad for discussing changes in performance and what the employee and manager can do to turn things around and ensure success.

#### IX Touch base when there's a disconnect

"The results of the IT project were not as successful as I had hoped. The team thought that you were going to be more involved and take on more responsibility. I would like to hear your perspective on the project and discuss how we can avoid misunderstandings in the future."

In today's digital world, team disconnects happen all too frequently. Managers should avoid personal observations but focus on the impact of the problem. Make sure there's a clear understanding of team responsibilities, and the importance of being on the same page. Solicit feedback to understand why the disconnect occurred, and suggest strategies to ensure it doesn't happen again.





# X Have a productive discussion about errors

"Unfortunately, the marketing materials that were recently mailed had the wrong logo. I understand that digital assets can be hard to manage but I thought we had a clear process in place. I'd like to get your perspective on how the mistake happened and how we can avoid it in the future."

Mistakes happen, and, while no one likes to talk about them, without constructive feedback they are likely to happen again. Employee feedback should not be about finger pointing. Instead, have a productive discussion about how the error happened, the impact, and how to address it. Most importantly, you want to ensure your employee learns from the mistake so that it is not repeated in the future.

The need for two-way feedback

For managers, listening to employee feedback is just as important as giving feedback. Providing a platform to share thoughts and ideas is critical to building and maintaining employee engagement. It's also a great mechanism for managers to better understand their workforce and potentially avoid costly errors and ineffective processes. Leverage the following listening tools:

- **Pulse surveys** include a short series of questions that are quick, easy to answer, and, ideally, distributed to employees regularly. With employee-centric topics like role, communication, and work environment, they provide a check on the health of an organization.
- **Chatbots** are becoming more and more prevalent. An HR chatbot, like Achievers' Allie, will initiate employee engagement conversations and confidentially invite employees to share their feelings and observations about their job.
- Annual surveys provide an in-depth analysis of an organization and are
  useful for measuring engagement and identifying issues. The real value,
  however, comes from how a company uses the results: incorporating changes
  and communicating results back to employees.

In addition to scheduled employee feedback mechanisms, managers should incorporate impromptu opportunities for employees to provide their input. Engage in active listening and be prepared to hear both the good and the bad. When employees feel that they can provide feedback without negative consequences, they will be much more likely to speak openly and honestly.

Following up on employee input is equally important. Thank employees for their feedback and let them know what actions are being taken. Change can often take a long time to implement in an organization, but initiating and communicating a plan will let employees know that their feedback has been heard and valued.

"Thank you for pointing out the concerns you have with the new online tool. We rely on input from employees to ensure our technology is working effectively. I have escalated the issue and will let you know when a solution is in the works."

"I really appreciate your feedback! I agree that the team did an outstanding job and I plan to celebrate the results at the next staff meeting."

Establish a culture of listening and reap the rewards





Keeping a feedback channel open allows employees to flag issues when they arise and the chance to express satisfaction when things go well. It also allows you to address concerns raised by feedback in real time.

# Types of employee feedback mechanisms

There are many types of employee feedback like 360-degree employee review, continuous feedback mechanism, employee performance evaluation to name a few.

**1. 360-degree feedback**: <u>360-degree feedback</u> is a process in which an employee receives feedback from his/her superiors, manager, peers to identify the strengths and weaknesses of an employee so that immediate corrective measures can be taken to improve employee performance.

The purpose of a 360-degree feedback is to understand an employee's performance and collect feedback and reviews, this mechanism of employee feedback allows a multi-pointer rating and serves as a benchmark for an employee's development plan.

However, in a 360-degree feedback is it essential that feedback remains anonymous. The purpose of this anonymity is to keep it strictly professional, so it doesn't lead to any differences between the employee receiving the feedback and the manager or peer giving the feedback.

**2. Continuous feedback mechanism:** Continuous feedback is a process where an employee receives feedback on a timely basis. Imagine an organization where employees are willing to get a feedback but managers are not willing to spend any time to give the needed feedback. No points for guessing, the lowered levels of <a href="employee motivation">employee motivation</a> that it would bring.

There are a number of benefits of continuous feedback- it promotes a healthy workplace culture, helps employees and organization set better goals, boosts employee morale and this, in turn, leads to happy employees. However, continuous feedback is a complex process and should be done carefully.

The process should not be scary for employees, a feedback doesn't have to negative, it needs to be constructive. No organization would want to promote a culture where employees don't trust the leadership and vice versa. This is not a process where you will blame the employees for why they have not achieved their targets, this is a process to help employees improve themselves through constructive feedback.

**3. Employee performance evaluation:** Employee performance evaluation is a formal method of providing feedback to the employee's performance based on their work and result based on their job responsibilities. It is used to measure the amount of value added by an employee in terms of organization growth, revenue generated and overall return on investment (ROI)

Any organization that has learned the art of winning from within, understand the importance of feedback. They rely on a systematic performance evaluation process and grade employees annually based on the feedback received from their managers.





Ideally, employees are graded, with a promotion or increase in the increment received and similar methods. Performance evaluation also plays a vital role in providing periodic feedback to employees to make them more self-aware in regards to their own performance metrics.

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Self-Check -1	Written Test

#### Α

- 1. Positive feedback
- 2. Negative feedback
- **3.** Constructive feedback
- 4. Sincere -
- 5. Timely -
- 6. Grounded -
- 7. Two-way -
- 8. Important -
- 9. Solution-Focused
- 10. Ongoing -

# В

- A. keep doing that
- B. stop that
- C. stop that and start this
- D. mean what you're saying, avoid cliche
- E. comes when it's important and fresh
- F. based on facts and behaviors
- G. all sides have a voice in the discussion and outcomes
- H. worth working on and not a nitpick
- looking towards the future and prioritized
- J. it is not a single event never to be spoken of again





Operation Sheet 1	Developing operational plan

Operation title: - develop operational plan

Purpose: - to develop operational plan

Condition for the operation: -

# **REQUIRED MATERIAL**

A4 paper

pen

Tools: -,

#### **PROCEDURE**

Step.1 start with your vision
Step.2 define your goal
Step.3 map out your strategies
Step.4 plan out your action
Step.5 Assign resources

Monitor the plan

Precautions: -

Quality criteria: -

Step.6





LAP Test	Practical Demonstration
Name:	Date:
Time started:	Time finished:
	ry information and materials you are required to perform asks within3hr hour
Task 1. Develop operational pl	an
Material:-	
A4 Paper	
Pen	

Sept 2020





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Score =	
Rating:	

Name:	Date:
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# **Short Answer Questions**

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#### References

Dwyer, J, Hopwood, N. 2013, *Management Strategies and Skills*, McGraw-Hill Education, Australia.

Cole, K. 2010, *Management: theory and practice*, 4<sup>th</sup> edition, Pearson Education Australia, Chapters 12, 15, 16.

Jones, R. 2010, Managing Human Resource Systems 2<sup>nd</sup> Edition, Pearson, Chapter 6.

Bacal, R. 2006, How to Manage Performance, McGraw-Hill Education Pty Ltd, Australia.

Hale, J. 2004, *Performance Based Management – What Every Manager Should do to get Results*, Pfeiffer, San Francisco, USA.

Carlopio, J, Anderwartha, G, & Armstrong, H. 1997, *Developing Management Skills in Australia*, Longman, South Melbourne.

Lees, I. 1996, Managing Performance and Goal Achievement, McGraw-Hill





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