TOOLKIT ON OPERATIONS
PLANNING AND CONTROL
Contents

1. INTRODUCTION ......................................................................................................................... 3

2. FORECASTING ............................................................................................................................. 5
   2.1 What is Forecasting? ............................................................................................................... 5
   2.2 Why do we have to forecast? ............................................................................................... 5
   2.3 Elements of a good forecast ............................................................................................... 6
   2.4 Steps in Forecasting ............................................................................................................ 7
   2.5 Forecasting Methods and Techniques ............................................................................... 8
       2.5.1 Forecasting techniques ............................................................................................... 8
       2.5.2 Forecasting methods ................................................................................................. 8
   2.6 Monitoring the Forecast ..................................................................................................... 12

3. OPERATIONAL PLANNING ......................................................................................................... 13
   3.1 What is Operational Planning? .......................................................................................... 13
   3.2 Why is it important to have an Operational Plan? ............................................................ 14
   3.3 How to develop an operational plan? ............................................................................... 14
       3.3.1 Where are we now? .................................................................................................... 14
       Analysing the External and Internal Environment ............................................................... 15
       Reviewing the organisation's vision, mission and values .................................................... 15
       3.3.2 Where does the organisation want to be? ................................................................. 15
       3.3.3 How do we get there? ................................................................................................. 16
       3.3.4 How do we measure our progress? .......................................................................... 18
   3.4 Building in monitoring and evaluation ............................................................................. 18
   3.5 Components of an operation plan ..................................................................................... 19
       3.5.1 Allocating Human Resources ...................................................................................... 19
       3.5.2 Allocating Financial Resources ................................................................................. 20
       3.5.3 Setting Timelines ....................................................................................................... 20
       3.5.4 Set Performance Indicators ....................................................................................... 21
   3.6 Implementing the Operational Plan .................................................................................... 21

4. OPERATIONS CONTROL ............................................................................................................ 23
   4.1 What is Operations Control ............................................................................................... 23
   4.2 Why Need We Need To Control Operations .................................................................. 24
   4.3 How Do We Control Operations ....................................................................................... 25
   4.4 Adjustment of Operation Plans ......................................................................................... 27

Annexure 1 .................................................................................................................................. 28
1. INTRODUCTION

Even after the operations system has been successfully designed and placed into actual use, considerable managerial discretion remains. This is because decisions must be made on a shorter term basis – month to month, day to day, even hour to hour as to how the system will be operated and controlled. Operational planning and control decisions involve scheduling and control of human resources, materials, and financial input to produce the desired quantity and quality of output most efficiently.

Operational planning and control are based on forecasts of future demand for the output of the system. Even with the best possible forecasting and the most finely tuned operations system, demand cannot always be met with existing system capacity in a given time period. Unexpected trends and new product developments, such as the smart card identity, as well as environmental and political conditions can throw the forecasts off, and problems in the operations system can reduce capacity. At these times, shorter term managerial decisions must be made to allocate system capacity to meet demand.

Planning and control is concerned with the reconciliation between what the service beneficiary requires and what the operation’s resources can deliver. Planning and control activities provide the systems, procedures and decisions which bring different aspects of supply and demand together. The purpose is always the same – to make a connection between supply and demand that will ensure that the operation’s processes run effectively and efficiently and produce products and services as required by service beneficiaries or dictated by relevant legislation.

Planning is a formalisation of what is intended to happen at some time in the future. However, a plan does not guarantee that an event will actually happen. Service beneficiaries change their minds about what they want and when they want it. Service providers may not always deliver on time, machines may fail, or staff may be absent through illness. Control is the process of coping with changes. It may mean that plans need to be redrawn. It may also mean that an ‘intervention’ will need to be made in the operation to bring it back ‘on track’ – for example, finding a new service provider that can deliver quickly, repairing the machine which failed, or moving staff from another part of the operation to cover for the absentees. Control makes the adjustments which allow the operation to achieve the objectives that the plan has set, even when the assumptions on which the plan was based do not hold true.

Within the constraints imposed by its design, an operation has to be run on an ongoing basis. ‘Planning and control’ is concerned with managing the ongoing activities of the operation so as to satisfy service beneficiary
demand. All operations require plans and require controlling, although the degree of formality and detail may vary. This toolkit introduces and provides an overview of some of the principles and methods of operations management to be used, which include:

- Forecasting
- Planning
- Controlling and Adjustment.
2. **FORECASTING**

2.1 **What is Forecasting?**

Forecasting helps operations managers and departments develop meaningful plans and reduce uncertainty of events in the future. Two important aspects associated with forecasting are the expected level of demand and the forecast's degree of accuracy.

After the forecast has been made, it is important that departments study them and meet the demands of service beneficiaries by reacting to the forecast. However, there is no way to predict things with complete accuracy; operations managers can only choose the best forecasting to fit different situations.

A department uses a variety of forecasting methods to assess possible outcomes. The methods used by an individual department will depend on the data available and the sector or sphere in which the department operates. The primary advantage of forecasting is that it provides the department with valuable information that it can use to make decisions about the future of the organisation.

It is not possible to accurately forecast the future. Because of the qualitative nature of forecasting, a department can come up with different scenarios depending upon the interpretation of the data. For this reason, departments should never rely 100 percent on any forecasting method. However, a department can effectively use forecasting with other tools of analysis to give the organisation the best possible information about the future. Making a decision on a bad forecast can result in financial ruin for the department, so a department should never base decisions solely on forecasts.

2.2 **Why do we have to forecast?**

Forecasts are vital to departments and for every significant management decision. While a forecast is never perfect due to the dynamic nature of the external public service environment, it is beneficial for all levels of functional planning, strategic planning, and budgetary planning. Decision-makers use forecasts to make many important decisions regarding the future direction of the department.

Forecasting enables you to set in train actions that will deliver outcomes in time for when they are needed. Depending on the kind of lead time involved, you may have to do weekly, monthly or yearly forecast.
The primary goal of operations management is to match supply to demand. Having a forecast of demand is essential for determining how much capacity or supply will be needed to meet demand. For instance, operations needs to know what capacity will be needed to make staffing and equipment decisions, budgets must be prepared, supply chain management needs information for ordering from suppliers, and supply chain partners need to make their plans.

Forecasts play an important role in the planning process because they enable managers to anticipate the future so they can plan accordingly. Forecasts affect decisions and activities throughout a department, in finance, human resources, marketing, and management information systems (MIS), as well as in operations and other parts of an organization. Here are some examples of uses of forecasts in departments:

<table>
<thead>
<tr>
<th>Accounting</th>
<th>Product/process cost estimates, cash flow management.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance</td>
<td>Equipment/equipment replacement needs, timing and amount of funding needs.</td>
</tr>
<tr>
<td>Human resources</td>
<td>Hiring activities, including recruitment, interviewing, and training; counselling</td>
</tr>
<tr>
<td>MIS</td>
<td>New/revised information systems, Internet services.</td>
</tr>
<tr>
<td>Operation</td>
<td>Schedules, capacity planning, work assignments and workloads, inventory planning, make-or-buy decisions, outsourcing, project management.</td>
</tr>
<tr>
<td>Product/service design</td>
<td>Revision of current features, design of new products or services.</td>
</tr>
</tbody>
</table>

2.3 Elements of a good forecast

A properly prepared forecast should fulfil certain requirements:

- The forecast should be timely. Usually, a certain amount of time is needed to respond to the information contained in a forecast. For example, capacity cannot be expanded overnight, nor can inventory levels be changed immediately. Hence, the forecasting horizon must cover the time necessary to implement possible changes.
- The forecast should be accurate, and the degree of accuracy should be stated. This will enable managers to plan for possible errors and will provide a basis for comparing alternative forecasts.
• The forecast should be **reliable**; it should work consistently. A technique that sometimes provides a good forecast and sometimes a poor one will leave users with the uneasy feeling that they may get burned every time a new forecast is issued.

• The forecast should be expressed in **meaningful units**. Financial planners need to know how much funds will be needed, production planners need to know how many units will be needed, and schedulers need to know what machines and skills will be required. The choice of units depends on user needs.

• The forecast should be in **writing**. Although this will not guarantee that all concerned are using the same information, it will at least increase the likelihood of it. In addition, a written forecast will permit an objective basis for evaluating the forecast once actual results are in.

• The forecasting technique should be **simple to understand and use**. Users often lack confidence in forecasts based on sophisticated techniques; they do not understand either the circumstances in which the techniques are appropriate or the limitations of the techniques. Not surprisingly, fairly simple forecasting techniques enjoy widespread popularity because users are more comfortable working with them.

• The forecast should be **cost-effective**: The benefits should outweigh the costs.

### 2.4 Steps in Forecasting

There are six basic steps in the forecasting process:

2.4.1 Determine the purpose of the forecast. How will it be used and when will it be needed? This step will provide an indication of the level of detail required in the forecast, the amount of resources (personnel, computer time, funds) that can be justified, and the level of accuracy necessary.

2.4.2 Establish a time horizon. The forecast must indicate a time interval, keeping in mind that accuracy decreases as the time horizon increases.

2.4.3 Obtain, clean, and analyse appropriate data. Obtaining the data can involve significant effort. Once obtained, the data may need to be "cleaned" to get rid of outliers and obviously incorrect data before analysis.

2.4.4 Select a forecasting technique.

2.4.5 Make the forecast.

2.4.6 Monitor the forecast. A forecast has to be monitored to determine whether it is performing in a satisfactory manner. If it is not, re-examine the method, assumptions, and validity of data, and so on; modify as needed; and prepare a revised forecast.
2.5 Forecasting Methods and Techniques

Forecasting techniques and models can be both qualitative and quantitative and their level of sophistication depends on the type of information and the impact of the decision. The forecasting model a department should adopt depends on several factors, including forecasting time horizon, data availability, accuracy required, size of the forecasting budget, and availability of qualified personnel.

2.5.1 Forecasting techniques

| Judgmental forecasts | • Rely on analysis of subjective inputs obtained from various sources, such as consumer surveys, the sales staff, managers and executives, and panels of experts.  
|                      | • Quite frequently, these sources provide insights that are not otherwise available. |
| Time-series forecasts | 1. Simply attempt to project past experience into the future.  
|                      | 2. These techniques use historical data with the assumption that the future will be like the past.  
|                      | 3. Some models merely attempt to smooth out random variations in historical data; others attempt to identify specific patterns in the data and project or extrapolate those patterns into the future, without trying to identify causes of the patterns |
| Associative models   | • Use equations that consist of one or more explanatory variables that can be used to predict demand.  
|                      | • For example, demand for a smart card identity document might be related to variables such as the price per card and the amount of time spent on the producing the card, as well as to specific characteristics of the card (e.g., turnaround time, accuracy, security). |

2.5.2 Forecasting methods

| Qualitative Methods | Quantitative methods |
### Characteristics

| Based on human judgement, options, subjective and non-mathematical | Based on mathematics.  
| Quantitative in nature |

### Strengths

| Can incorporate latest changes in the environment and within the department | Consistent and objective.  
| Able to consider much information and data at one time on which they are based. |

### Weaknesses

| Can bias the forecast and reduce forecast accuracy | Often quantifiable data I unavailable  
| Only as good on which the data on which they are based. |

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**Qualitative methods**

Qualitative techniques permit inclusion of soft information (e.g., human factors, personal opinions, hunches) in the forecasting process. Those factors are often omitted or downplayed when quantitative techniques are used because they are difficult or impossible to quantify.

In some situations, forecasters rely solely on judgment and opinion to make forecasts. If management must have a forecast quickly, there may not be enough time to gather and analyse quantitative data. At other times, especially when political and economic conditions are changing, available data may be obsolete and more up-to-date information might not yet be available. Similarly, the introduction of new products and the redesign of existing products or packaging suffer from the absence of historical data that would be useful in forecasting. In such instances, forecasts are based on executive opinions, service beneficiary surveys, and opinions of experts.

**Executive Opinions**

A small group of upper-level managers (e.g., in marketing, operations, and finance) may meet and collectively develop a forecast. This approach is often used as a part of long-range planning and new product development. It has the advantage of bringing together the considerable knowledge and talents of various managers. However, there is the risk that the view of one person will prevail, and the possibility that diffusing responsibility for the forecast over the entire group may result in less pressure to produce a good forecast.
Service Beneficiary Surveys

Because it is the service beneficiaries who ultimately determine demand, it seems natural to solicit input from them. In some instances, every service beneficiary or potential service beneficiary can be contacted. However, usually there are too many service beneficiaries or there is no way to identify all potential service beneficiaries. Therefore, departments seeking service beneficiary input usually resort to surveys, which enable them to sample service beneficiary opinions. The obvious advantage of service beneficiary surveys is that they can tap information that might not be available elsewhere. On the other hand, a considerable amount of knowledge and skill is required to construct a survey, administer it, and correctly interpret the results for valid information. Surveys can be expensive and time-consuming.

Opinion of Experts

A manager may solicit opinions from a number of other managers and staff people. Occasionally, outside experts are needed to help with a forecast. Advice may be needed on political or economic conditions in Africa or a foreign country, or some other aspect of importance with which a department lacks familiarity.

Another approach is the Delphi method, an iterative process intended to achieve a consensus forecast. This method involves circulating a series of questionnaires among individuals who possess the knowledge and ability to contribute meaningfully. Responses are kept anonymous, which tends to encourage honest responses and reduces the risk that one person’s opinion will prevail. Each new questionnaire is developed using the information extracted from the previous one, thus enlarging the scope of information on which participants can base their judgments.

The Delphi method has been applied to a variety of situations, not all of which involve forecasting. As a forecasting tool, the Delphi method is useful for technological forecasting, that is, for assessing changes in technology and their impact on an organization. Often the goal is to predict when a certain event will occur. For instance, the goal of a Delphi forecast might be to predict when video telephones might be installed in at least 50 percent of residential homes or when a vaccine for a disease might be developed and ready for mass distribution. For the most part, these are long-term, single-time forecasts, which usually have very little hard information to go by or data that are costly to obtain, so the problem does not lend itself to analytical techniques. Rather, judgments of experts or others who possess sufficient knowledge to make predictions are used.

Quantitative methods
Quantitative methods involve either the projection of historical data or the development of associative models that attempt to utilize causal (explanatory) variables to make a forecast. Quantitative techniques consist mainly of analysing objective, or hard, data. They usually avoid personal biases that sometimes contaminate qualitative methods. In practice, either approach or a combination of both approaches might be used to develop a forecast.

**Time Series**

A time series is a time-ordered sequence of observations taken at regular intervals (e.g. Hourly, daily, weekly, monthly, quarterly, annually). The data may be measurements of demand, shipments, accidents, output, precipitation, productivity, or the consumer price index. Forecasting techniques based on time-series data are made on the assumption that future values of the series can be estimated from past values. Although no attempt is made to identify variables that influence the series, these methods are widely used, often with quite satisfactory results.

Analysis of time-series data requires the analyst to identify the underlying behaviour of the series. This can often be accomplished by merely plotting the data and visually examining the plot. One or more patterns might appear: trends, seasonal variations, cycles, or variations around an average. In addition, there will be random and perhaps irregular variations. These behaviours can be described as follows:

- **Trend** refers to a long-term upward or downward movement in the data. Population shifts, changing incomes, and cultural changes often account for such movements.
- **Seasonality** refers to short-term, fairly regular variations generally related to factors such as the calendar or time of day. The health, home affairs, social development and education sectors within government experience weekly and even daily “seasonal” variations.
- **Cycles** are wavelike variations of more than one year’s duration. These are often related to a variety of economic, political, and even agricultural conditions.
- **Irregular variations** are due to unusual circumstances such as severe weather conditions, strikes, or a major change in a product or service. They do not reflect typical behaviour, and their inclusion in the series can distort the overall picture. Whenever possible, these should be identified and removed from the data.
- **Random variations** are residual variations that remain after all other behaviours have been accounted for.

**Averaging Techniques**
A simple moving average forecast is used when the demand for a product or service is constant without any seasonal variations. A weighted moving average forecast varies the weights, given a particular factor and is thus able to vary the effects between current and past data.

Exponential smoothing improves on the simple and weighted moving average forecast as it considers the more recent data points to be more important. To correct for any upward or downward trend in data collected over time periods to smoothing constants are used. Alpha is the smoothing constant, while delta reduces the impact of the error that occurs between the actual and the forecast.

Causal relationship forecasting attempts to determine the occurrence of one event based on the occurrence of another event. Focus forecasting tries several rules that seem logical and easy to understand to project past data into the future.

Today many computer forecasting programs are available to easily forecast variables. When making long-term decisions based on future forecasts, great care should be taken to develop the forecast. Likewise, multiple approaches to forecasting should be used.

### 2.6 Monitoring the Forecast

Many forecasts are made at regular intervals (e.g., weekly, monthly, and quarterly). Because forecast errors are the rule rather than the exception, there will be a succession of forecast errors. Tracking the forecast errors and analysing them can provide useful insight on whether forecasts are performing satisfactorily. There are a variety of possible sources of forecast errors, including the following:

- The model may be inadequate due to:
  - The omission of an important variable,
  - A change or shift in the variable that the model cannot deal with (e.g., sudden appearance of a trend or cycle), or
  - The appearance of a new variable
- Irregular variations may occur due to severe weather or other natural phenomena, temporary shortages or breakdowns, catastrophes, or similar events.
- The forecasting technique may be used incorrectly, or the results misinterpreted.
- Random variations. Randomness is the inherent variation that remains in the data after all causes of variation have been accounted for. There are always random variations.

A forecast is generally deemed to perform adequately when the errors exhibit only random variations. Hence, the key to judging when to re-examine the validity of a particular forecasting technique is whether forecast errors are random. If they are not random, it is necessary to investigate to determine which of the other sources is present and how to correct the problem.
Forecast errors are the difference between the forecast value and what actually occurred. All forecasts contain some degree of error, however it is important to distinguish between sources of error and measurement of error. Sources of error are random errors and bias. Various measurements exist to describe the degree of error in a forecast. Bias errors occur when a mistake is made, i.e., not including the correct variable or shifting the seasonal demand. Random errors cannot be detected, they occur normally.

3. OPERATIONAL PLANNING

3.1 What is Operational Planning?

Operational planning is the day-by-day and month by month planning for what your organisation is doing; strategic planning determines the entire direction of your organisation, including what it's not doing but should be doing. The two forms of planning must be integrated, but must not be confused.

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

The difference between and operational and strategic plans:
A general guide for the management of the organisation

A specific plan for the use of the organisation's resources in pursuit of the strategic plan.

Suggests strategies to be employed in pursuit of the organisation's goals

Details specific activities and events to be undertaken to implement strategies

Is a plan for the pursuit of the organisation's mission 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 operational plan is produced by the chief executive and staff of the organisation.

### 3.2 Why is it important to have an Operational Plan?

An operational plan is important because it helps your team to:

- Be clear about where you will get the necessary resources
- Use those resources efficiently
- Clearly define the most critical resource requirements.
  - Reduce risks where possible, and prepare contingency plans where necessary.
  - Think about the long-term future of the project, including its sustainability.

### 3.3 How to develop an operational plan?

An operational plan addresses four questions:

#### 3.3.1 Where are we now?

In order to plan for the future, there is a need to reach a common understanding of the present circumstances. To answer this question operations managers must focus discussions on two key areas:

- Analysing the external and internal environment; and
- Reviewing (or developing) the vision, mission and values of the organisation.
Analysing the External and Internal Environment

Operational planning is about having a clear direction to steer towards but also being able to respond to changes as necessary. To do this the department, needs to have information about the challenges, opportunities and future trends, inside and outside. So whether the department is just starting up or is already established, the first step in the planning process is to assess the external and internal position of an organisation. A SWOT analysis is commonly used to identify.

S - Strengths (internal) - What the organisation is good at and is doing well

W - Weaknesses (internal) - What the organisation is not good at and which are not going well

O - Opportunities (external) - The events and trends that are favourable to the organisation

T - Threats (external) - The trends or events that are unfavourable to the organisation

Strengths and weaknesses primarily focus within the department. Opportunities and threats are primarily outside the department. This analysis of the environment allows the organisation to take this into account when planning for its future.

Reviewing the organisation's vision, mission and values

Your SWOT analysis will provide key information on needs, priorities, problems and opportunities. On the basis of the needs identified, your organisation may need to redefine (or define) its vision, mission and values statement. These statements reflect what the organisation plans or aims to do over the next 3 to 5 years. It is really important that each element of the SWOT analysis is used to consider what the future priorities for the organisation should be.

3.3.2 Where does the organisation want to be?

To answer this question there is a need to clarify:

- your priorities for the next 3 to 5 years;
- your strategic aims (long-term goals); and
- how these will help achieve your mission.

Your priorities for the coming period
Identify and agree on the department’s main priorities (e.g. services and key areas of work) for the period of the strategic plan (usually 3 or 5 years). These priority areas should emerge from your SWOT analysis of your internal and external environment and their effect on your organisation's future.

**Strategic Aims**

Identify and write strategic aims (goals) for the organisation. Strategic aims are broad statements of what the organisation hopes to achieve.

They should:

- help achieve your mission;
- be limited in numbers (i.e. 4 to 10);
- show clear direction; and
- be measurable.

### 3.3.3 How do we get there?

Creating a roadmap for achieving the strategic objectives will involve the management committee in:

- Setting objectives;
- Resourcing the organisation;
- Agreeing or approving operational/work plans; and
- Ensuring appropriate systems and structures are in place.

**Setting objectives**

Your objectives outline how each aim will be achieved. They should be SMART:

- **S** - Specific
- **M** - Measurable
- **A** - Achievable
- **R** - Realistic
- **T** - Timebound

Your SMART objectives will guide the organisation on:

- What will change or be achieved?
- In what way? By how much?; and
- When? By what date?

Your objectives must relate to the strategic aims. It is important to check at this stage that all factors, internal and external, which have a bearing on the objectives set for the future work have been taken into account.

**Resourcing the Organisation**

The Management Committee and those involved in the planning process must take into account the resource implications of the plans. They must review what is possible within the organisation's available resources and where or how additional resources could be procured. This may also highlight gaps in resources such as people required, equipment, or facilities, as well as financial limitations.

**Agreeing Operational / Work Plans**

The operational plan outlines the day-to-day programme of work based on the aims and practices of the strategic plan. It may also be referred to as an "action plan", "work plan" or "implementation plan". This is normally done annually. The detail of the operational plan is linked to each objective of the organisation and will provide information on:

- what will be done;
- who is responsible;
- how it will be done;
- with what resources:
  - human - volunteers, staff, users, management
  - physical - premises, location, equipment
  - financial
- what success will look like or what targets should be reached.

**Ensuring Appropriate Systems and Structures**

The organisation needs to ensure that the necessary structures are in place to facilitate the implementation of its aims and objectives. The structures include the shape of the organisation, the roles within it, the rules, procedures and policies, and management structures.

They should define who is accountable, to whom and for what.

The organisation may need to plan for changes and developments in its existing structure as a result of its future priorities and aims.

This may involve reviewing, for example:

- how staff, volunteers and management are organised;
resources such as money, equipment, premises; and

Training requirements.

3.3.4 How do we measure our progress?

The Management Committee is responsible for monitoring all areas of the organisation's activity, and for evaluating it to determine the impact, quality and effectiveness of its work.

In particular, the Management Committee will want to determine if the organisation is:

- achieving its aims and objectives;
- showing progress towards its mission/purpose;
- meeting the needs of its beneficiaries;
- using its resources efficiently and to the greatest effect;
- complying with the law; and
- working within its policy framework.

3.4 Building in monitoring and evaluation

Monitoring mostly involves keeping track of what is going on. By undertaking this regularly, the Management Committee have the opportunity to adjust the project to ensure that the above concerns are addressed. This is usually carried out through consideration of regular operational and financial reports on the organisation's activities. For purposes of accountability, the Management Committee should ensure that this reporting is regular and that discussions on these are properly minuted.

Organisations evaluate in order to:

- encourage ongoing improvement;
- provide evidence of the impact of their activities; and
- provide an informed basis for decision making and planning.

Evaluation and review should be an ongoing process of learning, embedding a process of continual improvement and development. The key to evaluating is knowing what you are measuring. A Management Committee cannot monitor and evaluate the organisation and its activities effectively without clear advance planning of what they want to do and to achieve. Effective strategic and operational planning, incorporating clear measurable objectives, is therefore an important element of accountable management.

Operational plans should contain:
• Clear objectives
• Activities to be delivered
• Quality standards
• Desired outcomes
• Staffing and resource requirements
• Implementation timetables
• A process for monitoring progress.

3.5 Components of an operation plan

The key components of a complete operational plan include:

• Human capital. The staff and skills required to implement your project, as well as current and potential sources of these resources.
• Financial requirements. The funding required to implement your project, your current and potential sources of these funds.
• Risk assessment. What risks exist and how they can be addressed.
• Estimate of project lifespan, sustainability and exit strategy. How long your project will last, when and how you will exit your project, and how you will ensure sustainability of your project’s achievements.

An Operational Plan is the next step after a Strategic Plan has been created. The task is to take every single strategy contained within the Strategic Plan and allocate resources, set a timeline and stipulate performance indicators.

3.5.1 Allocating Human Resources

Every strategy must have an "owner" i.e. somebody has to be responsible for that strategies implementation. If someone is not made responsible for the strategy, it is highly likely that it will not be implemented. The strategy may be allocated to just one person, or to a group of people e.g. a team of people, a sub-committee or a department.
In the operational plan, the person responsible for the strategy is generally referred to by their JOB ROLE.

For example:

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Person Responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conduct series of three Clinics for Coaches</td>
<td>Coaching Director</td>
</tr>
</tbody>
</table>

### 3.5.2 Allocating Financial Resources

Not every strategy requires money, but most will. If people have to be paid to do work, then there will be financial resources needed for remuneration. If volunteers are involved, money may be need to be set aside for food and/or other perks for them. Many strategies will involve administration costs in the form of telephone calls, printing and photocopying and postage. Some strategies will need purchases of equipment, or materials, or promotional costs such as advertising.

The point is that thought has to be given to all possible costs that might be incurred if a strategy is implemented. If there is an inadequate allocation of money for the implementation of a strategy, chances are it will fail.

### 3.5.3 Setting Timelines

The implementation of any strategy needs a timeline that is a time period during which work is performed to achieve the desired outcome. The time period can be as short as a day, or it can be several months. The time period could be in the near future, or it might be scheduled for a future year.

The purpose of inserting a timeline for each strategy in the Operational Plan is to give order to the great many tasks that need to be done. There is always limited resources and therefore, at any given time, decisions need to be made as to priorities and where work effort should be focused. There is no use focusing work effort on strategies that don’t need to be completed as yet while no work is performed on strategies that are urgent.

For example:

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Timelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submit application for donor funding of developing a multimedia educational package on operations management.</td>
<td>Costing completed by 30 March 2015</td>
</tr>
<tr>
<td></td>
<td>Submit application by 30 June 2015.</td>
</tr>
</tbody>
</table>
3.5.4 Set Performance Indicators

The term "Performance Indicator" (or "Key Performance Indicator") may be defined as a standard or target that should be achieved. Performance Indicators are established and used as an integral aspect of the business planning and monitoring processes. There is an old saying that "you can only manage what you can measure" and this regard the use of Performance Indicators enable management to measure the success of business strategies.

Key Performance Indicators therefore are a standard or reference point that allows management to:

- Measure the actual result of strategies
- Make comparisons between desired results and actual results.

There are a number of reasons why it is a general practice of business planning to set performance indicators. The term 'performance indicator' may be defined as a standard or target that should be achieved. If the standard is reached or the target is achieved, then the strategy might be considered as "performed", in other words a success.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Performance Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conduct a series of workshops on operations management</td>
<td>Attendance registers of all attendees and minutes of the workshop</td>
</tr>
<tr>
<td>Develop a toolkit on Operations Planning and Control</td>
<td>Toolkit developed, consulted and approved.</td>
</tr>
</tbody>
</table>

3.6 Implementing the Operational Plan

The Operational Plan is a basic tool that directs the day-to-day activities of organisational staff. All staff should be aware of the existence of the operational plan, what its purpose is and why it is important to them. The Operational Plan is only as good as the diligence of staff in putting it into action.

To ensure that there is sufficient understanding of the operational plan, the highest echelons of management within the organisation must thoroughly communicate the operational plan to staff.

Communication strategies can include:

- A series of staff / team meetings in which senior management are engaged in explaining key aspects of the operational plan and dealing with questions that staff raise about the plan.
- A breakdown of the overall operational plan into subsets and communication of each subset to the work team or section that takes responsibility. This enables the work team to more clearly understand, and be focused on, their part in implementing the whole plan.
The development of systems that enable progress of strategies / tasks to be measured and reported within a work team, and to management.

The provision of training so that staff may better understand their tasks and responsibilities, and especially how they can contribute to the overall achievement of the operational plan.

Aspects of the Operational Plan can be described in position descriptions of employees.

The implementation of the Operational Plan requires management to regularly monitor achievement and exert control to reduce any variance from the plan.

This control by managers will involve:

- Investigating on a regular basis of what has been achieved, and what has not
- Implementing corrective action where tasks are not achieved, or achieve on time
- Checking that resources will be available when needed
- Supervising, supporting and motivating the people of the organisation to ensure tasks are undertaken
- Adjusting the operational plan if there is a need
- Reporting problems to superiors e.g. directors, committee personnel, the Board Members of the organisation

In planning and controlling the volume and timing of activity in operations, four distinct activities are necessary:

- loading, which dictates the amount of work that is allocated to each part of the operation;
- sequencing, which decides the order in which work is tackled within the operation;
- scheduling, which determines the detailed timetable of activities and when activities are started and finished;
- monitoring and control, which involve detecting what is happening in the operation, replanning if necessary, and intervening in order to impose new plans.
4. **OPERATIONS CONTROL**

4.1 **What is Operations Control**

Operational control regulates the day-to-day output relative to schedules, specifications, and costs. Are product and service output high-quality and delivered on time? Are inventories of raw materials, goods-in-process, and finished products being purchased and produced in the desired quantities? Are the costs associated with the transformation process in line with cost estimates? Is the information needed in the transformation process available in the right form and at the right time? Is the energy resource being used efficiently?

Operational control can be a very big job, requiring substantial overhead for management, data collection, and operational improvement. The idea behind operational control is streamlining the process to minimize costs and work as quickly and efficiently as possible.

Operations Control is a management function aimed at achieving defined goals within an established timetable, and usually understood to have three components:

- setting standards,
- measuring actual performance, and
- Taking corrective action.
A typical process for operations control includes the following steps:

1. actual performance is compared with planned performance,
2. the difference between the two is measured,
3. causes contributing to the difference are identified, and
4. corrective action is taken to eliminate or minimize the difference.

4.2 Why Need We Need To Control Operations

The management process should involve continual checking of the implementation of the Operational Plan and exercising control of the organisation's resources to ensure success.

What needs to be checked by the operations manager if management team includes:

- Timelines - have strategies been commenced and will all tasks be completed by the scheduled timelines?
- Performance Measures - has progress been made according to performance measures? Is it likely that targets will be met?
- Responsibilities - is there anyone having difficulty with the tasks allocated to them? Does there need to be any reassignment of responsibilities?
- Physical Resources - the assignment of assets e.g. equipment, vehicles, space in a building or outdoors
• Budget - the allocation of money e.g. pay salaries, purchase equipment, hire venues, undertake advertising and promotion.

Managers will therefore need to control the above factors on a week-to-week basis. This control by managers will involve:

• Investigating on a regular basis of what has been achieved, and what has not
• Implementing corrective action where tasks are not achieved, or achieve on time
• Checking that resources will be available when needed
• Supervising, supporting and motivating the people of the organisation to ensure tasks are undertaken
• Adjusting the operational plan if there is a need
• Reporting problems to superiors e.g. directors, committee personnel, the Board Members of the organisation

4.3 How Do We Control Operations

Having created a plan for the operation through loading, sequencing and scheduling, each part of the operation has to be monitored to ensure that planned activities are indeed happening. Any deviation from the plans can then be rectified through some kind of intervention in the operation, which itself will probably involve some replanning. The output from a work centre is monitored and compared with the plan which indicates what the work centre is supposed to be doing. Deviations from this plan are taken into account through a replanning activity and the necessary interventions made to the work centre which will ensure that the new plan is carried out. Eventually, some further deviation from planned activity will be detected and the cycle is repeated.

Types of control used in an organisation:

• Feed-forward controls, also called preliminary controls, are accomplished before a work activity begins; they ensure that directions are clear and that the right resources are available to accomplish them.
• Concurrent controls, sometimes called steering controls, monitor ongoing operations and activities to make sure that things are being done correctly; they allow corrective actions to be taken while the work is being done.
Feedback controls, also called post action controls, take place after an action is completed and focus on end results; they address the question: "Now that we are finished, how well did we do?"

External control is accomplished through personal supervision and the use of formal administrative systems.

Internal control occurs through individuals taking responsibility for their work; it allows motivated individuals and groups to exercise self-discipline in fulfilling job expectations and is consistent with many progressive developments in the new workplace.

Monitoring and control, which involve detecting what is happening in the operation, replanning if necessary, and intervening in order to impose new plans. Two important types are ‘pull’ and ‘push’ control. Pull control is a system whereby demand is triggered by requests from a work centre's (internal) customer. Push control is a centralized system whereby decisions are issued to work centres which are then required to perform the task and supply the next workstation.

**Push and Pull Control**

One element of control is periodic intervention into the activities of the operation. An important decision is how this intervention takes place. The key distinction is between intervention signals which push work through the processes within the operation and those which pull work only when it is required. In a push system of control, activities are scheduled by means of a central system and completed in line with central instructions, such as an ERP system. Each work centre pushes out work without considering whether the succeeding work centre can make use of it. Work centres are coordinated by means of the central operations planning and control system. In practice, however, there are many reasons why actual conditions differ from those planned. As a consequence, idle time, queues and inventory often characterize push systems.

By contrast, in a pull system of control, the pace and specification of what is done are set by the ‘customer’ workstation, which ‘pulls’ work from the preceding (supplier) workstation. The service beneficiary acts as the only ‘trigger’ for movement. If a request is not passed back from the service beneficiary to the supplier, the supplier cannot do anything. A request from a service beneficiary not only triggers activity at the supplying stage, but also prompts the supplying stage to request a further delivery from its own suppliers. In this way, demand is transmitted back through the stages from the original point of demand by the original customer. Understanding the differing principles of push and pull is important because they have different effects in terms of their propensities to accumulate inventory in the operation. Pull systems are far less likely to result in inventory build-up and are therefore favoured by lean operations.

Effective control requires the following steps: define, measure, compare, evaluate, correct, and monitor. You must define in detail what it is that is to be controlled and decide what can and cannot be measured. There
must be a level of comparison to use for the different measurements. This should relate to the level of quality being sought. The department also must establish a definition of what is “out of control”. The main task of quality control is to distinguish random from non-random variability, in which non-random variability means that a process is out of control. When a process is determined to be out of control, corrective action must take place; which includes uncovering the cause of non-random variability. Once corrected, one must monitor the results to confirm that the process has been fixed. A sufficient amount of time must be put into this in order to have solid confirmation. Basically, control is achieved by checking a portion of the goods or services, comparing the results to a predetermined standard, evaluating departures from the standard, taking corrective actions when necessary, and following up to ensure that problems have been corrected.

4.4  Adjustment of Operation Plans

4.4.1  How do you adjust operational plans?

Adjusting is the process of altering business strategies on the basis of sensed outcomes. In this phase, which is done in tandem with sensing, business unit or department heads assess the data to determine possible resource and capability trade-offs. They explore the impact on people, processes, and technology, and then develop a consensus on the plan that is most appropriate for building or maintaining competitive position. In the case of an unexplained drop in unit prices, the adjustment may be an emphasis on marketing, innovation, or layoffs. And if a company has learned that it could outpace its rivals by implementing a GPS system, a slate of new training programs that teach employees how to use the technology may be just as important as purchasing the equipment itself.

As adjustments are made, the sensing capability picks up and continues the cycle, both scanning the horizon for market shifts and monitoring the execution of these strategic responses. Sensing does little good in the absence of adjusting, and vice versa.
The management committee should use reports against its annual operational plans to review progress towards meeting the strategic aims and objectives. Therefore, they must ensure that whoever is doing the work is keeping appropriate records so that progress can be assessed. This will involve, at the implementation stage of the plan, being clear what systems and structures are required. The things that need to be measured will give an indication of how well the department is doing, hence, the name indication or performance measures.

Before completing the plan, agreement is required on how and when it will be monitored and reviewed and what information the Management Committee needs to receive in order to review progress.

When reviewing progress towards achieving the strategic aims and objectives, the Management Committee should:

- ensure that activities are kept within the parameters of the agreed strategic aims and objectives;
- ensure that activities are consistent with organisation’s vision, mission and values; and
- keep under review internal and external changes which may require changes to the organisation’s strategy or affect their ability to achieve their objectives.

Annexure 1
FORECASTING TOOLS FOR OPERATIONS PLANNING

**Step 1**

Select a method of forecasting for operations and production planning. Available methods include the moving average, exponential smoothing and regression analysis. The moving average takes into account production averages over a period of time and looks specifically at the average of each production period against how that average has changed. Exponential smoothing weighs the average of the most recent forecast against the current demand for the product. Regression analysis uses a chart to view the moving average as a single line of change over time.

**Step 2**

Determine a time period to study. Forecasting is most effective over the short term, rather than the long term. This is because long-term forecasting can quickly become inaccurate when service beneficiary demand changes or environmental trends adjust unexpectedly. The best time period will reflect previous departmental activity and
what changes the department has seen over time—quarterly, bi-annually. Bear in mind that the best forecasts for production planning tend to reflect shorter amounts of time.

**Step 3**

Choose reports on previous departmental activity to help with projecting future production. Projecting for the future requires looking into the past, and departments can utilise previous production results to make forecasts for the future. Departments can look at specifics for service beneficiary demand over certain periods of time—for instance, if demand drops during some months and rises during others—and apply this information to the forecasting method that has been selected.

**Step 4**

Pick environmental trends to apply to the forecast. Market trends must work alongside expectations of service beneficiary. The environment will play a role in dictating the extent to which service beneficiary demand will increase or decrease. If trends indicate that the need for a certain product is about to expand, the department might use this to increase production, but if trends indicate a decrease in market interest, the department might reconsider production needs.

### Annexure 2

**DEVELOPING A PRODUCTION PLAN**

**List the Activities**

Compile a list of all the activities or steps in the operations/production process, showing the length of time each activity takes and the earliest possible start date. State whether each task runs parallel to other tasks or is sequential to the successful completion of a former activity. Parallel activities are those which workers can perform at the same time; however, the assembly of the final product depends on the completed production of all the components. This makes the final assembly a sequential task that occurs after the production of the individual items.

**Chart Setup**

Use a large sheet of blank paper or a whiteboard, on which to plot the rough draft of the chart. Create columns to represent time intervals, such as hours, days or weeks, depending on the time it takes to make your products. Draw a bar or use sticky notes to represent each task, which begins at the starting time and ends after the length
of time it takes. Schedule activities that depend on the completion of others in sequential order. Tasks that occur at the same time as others are scheduled in parallel, one below the other.

**Analyze the Schedule**

Use different colors to highlight tasks allocated to specific teams or individuals. Draw dotted lines in red to denote the critical path of the production process, which highlights the main activities the production team must complete to produce the goods. For example, if two different products must be manufactured to produce the finished item, the critical path runs from the start date of the first item, through the production process, and ends with production of the last item or final product assembly. This shows the planner the minimum time in which production can take place, and enables him to identify the effect delays have on the critical path.

**Monitor the Process**

Monitor the time each task in the production schedule takes against the Gantt chart. Amend the chart when necessary, by changing the timeline according to actual performance. If you are using a manual chart, move the sticky notes on to a later interval in the case of a delay, or move them back for early completion. Change sequential tasks accordingly, to ensure the completion date remains accurate. If changes affecting the final date are unacceptable, identify tasks to fast track to make up for delays to conform to the completion date. If you are using planning software, close each task as it is completed and record the date and time. The program will identify risks of delayed completion and enable you to revise the plan if necessary.
Step One: Understand your own organisation

Step Two: Identify your service beneficiaries and suppliers

A service beneficiary is any person, team, department or company to whom your team provides products, services or information. A supplier is any person, team, department or company that provides your team with products, services or information. They can be INTERNAL or EXTERNAL to the department.

Step 3: Choose a name for your team

Step 4

- Who forms part of your team?
- What are their roles?
- Is there anyone else who works closely with your team?

A visual management area (VMA) is a physical area, where a team can meet regularly, display information to manage the team's performance.
SERVICE DELIVERY IMPROVEMENT

What is happening?
What are the gaps to target?
Are any trends causing concern?

Why?
What has happened to cause the performance gap?
Do we understand the true root causes?
Do we need to investigate further to really understand the problem?

What needs to be done?
Do we need to take any short-term containment action?
What needs to be done to correct the problem and prevent this happening again?
Will these actions completely resolve the problem or do we need to do any additional things to close the gap?

Who is going to do it?
Who will take responsibility for completing the action?
Does the owner need support from any of the other team members?

When is it going to be done?
Is it a priority action?
What is the deadline for completion?
When are the intermediate milestones?

How is progress to be tracked?
Will it be solved immediately or is it necessary to use a T-card?

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<thead>
<tr>
<th>Target Operating Model Performance Categories</th>
<th>Measure</th>
<th>WES Source</th>
<th>Target</th>
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</thead>
<tbody>
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