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ਪਟਿਆਲਾ

JAGAT GURU NANAK DEV
PUNJAB STATE OPEN UNIVERSITY, PATIALA

(Established by Act No. 19 of 2019 of the Legislature of State of Punjab)

The Motto of the University

(SEWA)

SKILL ENHANCEMENT EMPLOYABILITY WISDOM ACCESSIBILITY



CERTIFICATE IN ENTREPRENEURSHIP, CREATIVITY AND INNOVATIONS IN BUSINESS

PROJECT PLANNING(GC-ECI3)

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JAGAT GURU NANAK DEV

PUNJAB STATE OPEN UNIVERSITY PATIALA

(Established by Act No.19 of 2019 of Legislature of the State of Punjab)

PREFACE

Jagat Guru Nanak Dev Punjab State Open University, Patiala was established in Decembas 2019 by Act 19 of the Legislature of State of Punjab. It is the first and only Open Universit of the State, entrusted with the responsibility of making higher education accessible to all especially to those sections of society who do not have the means, time or opportunity to pursue regular education.

In keeping with the nature of an Open University, this University provides a flexible education system to suit every need. The time given to complete a programme is double the duration of a regular mode programme. Well-designed study material has been prepared in consultation with experts in their respective fields.

The University offers programmes which have been designed to provide relevant, skill-based and employability-enhancing education. The study material provided in this booklet is self instructional, with self-assessment exercises, and recommendations for further readings. The syllabus has been divided in sections, and provided as units for simplification.

The Learner Support Centres/Study Centres are located in the Government and Government aided colleges of Punjab, to enable students to make use of reading facilities, and for curriculum-based counselling and practicals. We, at the University, welcome you to be a part of this institution of knowledge.

Dean Academic Affairs

PROJECT PLANNING

Learning Objectives: The course aims to achieve following objectives-

1. This course focuses on project planning techniques, principles and execution methods to create projects that can be run more effectively and efficiently.
2. Whether it's for projects at work or in daily life, you'll discover the language and frameworks for scoping projects, sequencing activities, utilising resources, and minimising risks.
3. Understanding project execution and role of evaluation and monitoring.

Course Content:

Unit I – Introduction: Definition of a Project, Why Project Management, The Project Life Cycle: Key stages in the project life-cycle and the features of each, Reasons why projects fail and how to measure success.
Unit 2- Strategic Management and Project Selection: Strategic Management and Project Selection, Functions, Roles and Responsibilities of a Project Manager, Delegation of Authority, Building Project Team.
Unit 3 Generation and Screening of Project ideas – Generation and Screening of Project ideas, Tools that can help us identify what should be included in a project.
Unit 4 : Sequencing project tasks: : Sequencing project tasks and the nature of dependencies among project activities. Determine a project's duration and critical path. Schedule a project and making changes to a plan
Unit 5 - Market and Demand Analysis: Situational Analysis, Conduct of Market Survey, Demand and Forecasting,
Unit 6 : Technical Analysis, Social Cost Benefit Analysis, Rationale for SBCA, UNIDO Approach, Saving Impact and its Values, Little Merles Approach**.**
Unit 7- Financial Estimates and Projections– Cost of a Project, Means of Finance, Estimates of Sales and Production, Working Capital Requirement, Cost of Capital, Projected Cash Flow Statement, Projected Balance Sheet, Financing of a Project, Equity, Debentures, Term Loans, etc.

References:

1. Chowdhary, S. (1988), Project Management, New Delhi: Tata McGraw Hill.
2. Gahlot, R. (1993), Project Implementation, Monitoring and Evaluation, Chandigarh; Commonwealth Youth Programme, Asia Centre.

UNIT-1 INTRODUCTION

Structure

1.0 Objectives

1.1 Introduction

1.2 Definition

1.3 Why Project Management

1.4 The Project Life Cycle

1.4.1 Key Stage in the Project Life-Cycle and Features of Each

1.5 Why Projects Fail And How To Measure Success?

1.6 Unit End Questions

1.7 References

1.0 OBJECTIVES

- To comprehend the concept of Project Planning, including its definition and significance in various industries.
- To analyze and outline the stages employed in recommending and selecting optimal projects that enhance competitive advantage.
- To assess both successful and unsuccessful projects, understanding the factors contributing to project failure or success.
- To describe the different phases of a project life cycle and comprehend the unique characteristics of each stage.
- To identify the essential resources required for each project stage, encompassing stakeholders, tools, and supplementary materials necessary for successful project execution.

1.1 INTRODUCTION

This course introduces project management theory, terminologies, and ideas. Students will learn about the project life cycle and how to design a successful project from conception to completion. It will cover issues of project and project life cycle with stages.

A 'project' is a group of agreed-upon actions with a clear beginning, middle, and end. These activities work together to create commercial products or services in accordance with an approved business case that is supported by top management inside the organization.

'Project management' gives structure and control over the project environment, ensuring that the agreed-upon actions result in the proper products or services that match the customer's expectations.

Projects are temporary structures that must be managed and regulated appropriately in order to achieve their stated goals. They are typically administered in a setting where both financing and resources are limited and competitive.

1.2 DEFINITION OF PROJECT PLANNING

Project planning is the act of coordinating tasks that must be completed within a specific time frame. The goal of project planning is to establish the cost, resources required, and the best approach to schedule all tasks to be completed. In other words, having a clear vision for your project and finishing it in the shortest amount of time.

Project planning also clarifies each person's position in the distribution of duties and labor to be done. Project planning promotes team collaboration and cohesion. Organizing the tasks to be completed enables individual team members to accomplish their part of the work efficiently. Each team member must remember that any delays in their task will cause delays for their teammates.

Once the tasks have been carefully ordered and assigned, this framework will allow you to more closely monitor your work and progress. Understanding the big picture, how the tasks are connected, and their timeframe within the project, is critical. This allows you to foresee probable issues and their consequences early on.

Definition

A project is a collection of tasks that must be completed in order to achieve a specific goal or end. These activities may be simple or complex depending on the size and scope of the project, but all projects can be broken down into objectives and what has to be done to fulfill them.

Projects with a wide range of aims are managed by organizations and individuals. These can range from building a structure to preparing an event to executing a certain duty. Retailers, for example, may explore projects that improve their order fulfillment tracking. Construction crews finish tasks whenever they plan and build something—and so on!

7 Important Project Terms to Understand

There are universal project phrases that are utilized independent of the project type, project size, or any other circumstance. Know these seven terms like the back of your hand, and you'll be one step ahead of the project before it even starts:

1. Project Lifecycle

The project life cycle refers to the five stages that all projects must go through from beginning to end. The five phases of a project lifecycle provide the most fundamental foundation for defining a project. Initiation, planning, execution, monitoring, and closing are the five phases.

2. Project Scope

The project scope is an important consideration during the project planning stage. It is, in many ways, the beginning point. Setting goals and objectives, detailing deliverables, creating tasks, establishing critical dates, and more are all part of determining project scope. The project scope describes the expected results as well as any specific aspects that will influence their achievement.

3. Stakeholder

A stakeholder is somebody who is involved in a project. A stakeholder can be involved at every step of the project or only in one. Stakeholder analysis categorizes how investors, team members, vendors, contractors, and others may impact your project.

4. Deliverable

A deliverable is the exact outcome(s) that a project produces. Deliverables might be "tangible" or "intangible," which means they can be physical or conceptual. Deliverables are typically the demand that prompted the project in the first place. When someone hires a builder to design and build an office space, the office becomes a tangible delivery.

5. Milestone

Milestones are preset successes that aid in project tracking. Consider milestones to be checkpoints. These checkpoints are established before the start of a project so that the project manager and team know when they are on track to meet deliverables. Without milestones, it is difficult to determine if the project is on track for success or has to be rerouted.

6. Resources

A resource is anything that is required to finish a project. Materials are an important resource in a construction project. However, other resources, such as time, labor, and equipment, are also crucial. A project manager must be able to identify all project resources in order to

develop a resource plan and manage them effectively. When resources go unaccounted for, they are easy to mismanage.

7. Dependencies

Project dependencies are the rules that govern how resources are shared and distributed inside a project. Many projects will use the same physical materials for various purposes and phases. Understanding this dependency is the only way to ensure that there are enough resources available. Likewise, all projects are divided into tasks. When one task cannot begin until the other is accomplished, these tasks are said to be dependent.

1.3 WHY PROJECT MANAGEMENT

'Why is project management important?' is a question that clients occasionally ask. "Can't we just brief the team executing the task and oversee them ourselves?" they'll ask. It'll be a lot less expensive."

They question if they really need project management because it appears to be an extra tax and overhead because project managers don't achieve anything and frequently stand in the way of what they want the team to do!

So, if all of that is true, why is project management important?

Running projects without proper project management is a waste of time. It is frequently regarded as a superfluous drain on the budget, and there is no doubt that it can be costly - up to 20% of the total project budget.

Can you, however, afford to be without project management?

What holds the team and the client connected without it? And without it, who is left to handle project ups and downs, disputes, and disasters?

Great project management entails much more than adhering to the iron triangle of project management, such as delivering on time, budget, and project scope; it unites clients and teams, creates a vision for a successful project, and gets everyone on the same page about what's required to stay on track for success. When projects are well managed, they have a positive impact that extends beyond the delivery of 'the stuff.'

Why Is Project Management Necessary?

1. Strategic Coordination

Project management is essential since it guarantees that what is produced is correct and will add actual value to the business opportunity.

Every client has strategic goals, and the initiatives we execute for them help them achieve those goals. Project management is vital since one of a PM's responsibilities is to ensure that projects are correctly architected so that they fit well within the broader context of our client's strategic frameworks.

Good project management ensures that project goals are well aligned with the business's strategic goals.

Project management is vital in creating a good business case and being thorough about calculating ROI since it can help to ensure the proper product is provided, which will deliver actual value.

Of course, as projects proceed, risks may emerge, which may evolve into challenges, or the business plan may alter. However, a project manager will guarantee that the project is included in that realignment. Project management is critical in this case because projects that veer off course or fail to adapt to company needs may end up being costly and/or unnecessary.

2. Management

Project management is essential because it provides project leadership and direction.

A team without project management is like a ship without a rudder; it moves but has no direction, control, or purpose. Leadership allows and enables team members to perform at their best. Project management provides leadership and vision, as well as inspiration, roadblock removal, coaching, and inspiring the team to accomplish their best work.

Project managers not only serve the team, but they also ensure that there are clear lines of accountability. There is no doubt who is in command and in control of a project when a project manager is in place (especially if a RACI chart or other comparable tools are used). Project managers enforce processes and keep everyone in the team on track because they are ultimately responsible for whether the project succeeds or fails.

3. Specific Goals & Focus

Project management is vital since it guarantees that there is a solid plan in place for achieving strategic goals.

When project management is left to the team to figure out on their own, teams work without sufficient briefings and without a clear project management process. Projects often lack

focus, have ambiguous or fuzzy objectives, and leave the team unsure of what they're supposed to be doing or why.

By breaking down a project into tasks for our teams, we as project managers position ourselves to avoid such a predicament and drive task completion on schedule.

Taking such an approach is frequently what distinguishes effective project management from bad. Breaking up work into smaller pieces allows teams to stay focused on defined objectives, direct their efforts toward attaining the ultimate project goal by completing smaller phases, and quickly detect dangers, which is vital in project management.

The aims of a project must frequently change in response to a materializing risk. Again, a project could quickly disintegrate without devoted oversight and management, but excellent project management (and a strong project manager) is what allows the team to focus, and when necessary, refocus, on their objectives.

4. Practical Project Planning

Project management is essential because it guarantees that accurate expectations are created regarding what can be done, when it can be provided, and for how much.

Budget estimates and project delivery timeframes that are overly ambitious or lack parallel estimating insight from similar projects might be created without competent project management and a good project strategy. Finally, without competent project management, projects are delivered late and beyond budget.

Effective project managers should be able to work with key stakeholders, teams, and management to set realistic and achievable timelines and milestones. Too often, the rush to complete the project jeopardizes the necessary processes and, ultimately, the project's quality.

We all know that most activities take longer than expected; a smart project manager can examine and balance available resources with the required timetable to produce a realistic schedule. When it comes to scheduling, project management is crucial since it adds objectivity to the process.

A smart project manager establishes a clear process with attainable deadlines, allowing everyone in the project team to work within reasonable limitations rather than outrageous expectations.

Related Reading: Resource Loading in Project Management: A Practical Guide

5. Quality Assurance

Project management is vital because it ensures that whatever is produced is constantly of high quality.

Projects are also frequently under enormous time constraints. Tasks are underestimated, timeframes are tightened, and processes are rushed in the absence of a professional project manager who has the backing and buy-in of executive management. As a result of the lack of quality management, the production is of poor quality.

Dedicated project management guarantees that a project not only has the time and resources to deliver, but that the output is also quality verified at each level.

Gated phases are required for good project management so that teams may examine the output for quality, applicability, and ROI. Project management is vital to quality because it allows for a staggered and segmented process, allowing teams to analyze and test their outputs at each stage of the process.

6. Risk Control

Project management is crucial because it ensures that risks are adequately managed and controlled so that they do not become problems.

Risk management is crucial to the success of any project. The temptation is to simply brush them under the rug, never discuss them with the client, and hope for the best. However, having a solid risk identification, management, and mitigation approach in place helps to keep risks from becoming issues. Dealing with risk is where the value of project management really shines, especially in complicated projects.

Project managers must thoroughly examine all potential risks to the project, quantify them, and establish a mitigation plan and a contingency plan if any of them materialize. To identify dangers early, it is necessary to know the correct questions to ask.

Naturally, risks should be prioritized based on their likelihood of occurrence, and appropriate solutions should be assigned to each risk (some PMs use a dedicated risk management software for this). In this aspect, good project management is important since projects never go as planned, and how we cope with change and adjust our project management strategy is critical to project success.

7. Proper Procedure

Project management is critical because it guarantees that the appropriate people do the right things at the right time - that the proper project management process is followed throughout the project life cycle.

Surprisingly, many large and well-known organizations have reactive planning methods that aren't based on any meaningful project management strategies.

However, reactivity, as opposed to proactivity, can frequently drive initiatives to enter survival mode. When teams fragment, tasks duplicate, and planning becomes reactive, the team suffers from inefficiency and frustration.

Proper planning and process may make a huge difference since everyone on the team knows who is doing what, when, and how. A good process clarifies roles, streamlines procedures and inputs, anticipates hazards, and establishes checks and balances to ensure the project is always in sync with the overall goal. Project management is important in this context because without an organized, easily understood procedure, businesses risk project failure, loss of trust in business relationships, and resource waste.

8. Ongoing Monitoring

Project management is essential since it guarantees that a project's progress is appropriately documented and reported.

Status reporting may appear tedious and superfluous, and if everything goes as planned, it may feel like paperwork for the sake of documentation. However, continual project monitoring, or verifying that a project is tracking correctly versus the original plan, is crucial to keeping a project on track.

When proper oversight and project reporting are in place, it is easy to recognise when a project is starting to go off course. The earlier you detect project deviance, the easier it is to remedy.

As part of their stakeholder management, good project managers will generate easily digestible progress or status reports on a regular basis. Clients or project stakeholders can then track the project on their own. Typically, these status updates will include insights into the work that was accomplished and planned, the hours used and how they compare to those scheduled, how the project is progressing in relation to milestones, risks, assumptions, difficulties, and dependencies, and any project outputs as they emerge.

This data is useful not just for tracking progress, but also for helping customers acquire the trust of other stakeholders in their company, allowing them to easily monitor the development of a project. It also provides your team with an easy, consistent technique to maintain regular contact with your clients in order to strengthen their connections.

9. Expertise in a Specific Field

Project management is necessary because someone must be able to determine whether or not everyone is completing their jobs properly.

With a few years of experience under their belt, project managers will be familiar with many facets of project delivery. They will gain technical abilities, project management skills, and subject matter expertise; they will understand everything about the work that their teams do, the platforms and systems they use, the possibilities and constraints, and the types of difficulties that commonly emerge.

They can have intelligent and informed dialogues with clients, teams, stakeholders, and suppliers if they have this level of subject matter expertise. They are well-equipped to serve as the project's communication hub, ensuring that nothing is missed or overlooked as the project moves between different teams and phases of work.

Without subject matter expertise provided by project management, a project might become unbalanced, as creatives neglect technological restrictions or developers lose sight of the project's creative goal. Project management keeps the team focused on the overall vision and brings everyone together to force the necessary concessions in order for the project to succeed.

10. Success and Failure Management and Learning

Project management is essential because it learns from prior successes and failures.

Project management may help you overcome negative habits, and it's critical to avoid repeating mistakes when completing projects. Retrospectives, lessons learned, or post-project reviews are used by project managers to assess what went well, what did not go so well, and what should be done differently for the next project.

This results in a valuable piece of documentation that will serve as a record of "dos and don'ts" in the future, allowing the organization to learn from both mistakes and successes. Without this learning, teams will frequently make the same mistakes over and over again.

These retrospectives are excellent papers to utilize at a project start meeting to remind the team about failures, such as underestimating projects, and triumphs, such as the benefits of a sound procedure or the significance of maintaining up-to-date timesheet reporting!

1.4 THE PROJECT LIFE CYCLE

The project management lifecycle is a step-by-step structure of best practices for shepherding a project from start to finish. It gives project managers an organized technique to plan, execute, and complete a project.

This project management procedure is divided into four stages: initiating, planning, executing, and closing. Between the executing and closing stages, some may include a fifth

"monitoring and controlling" phase. A project team boosts its chances of success by following each stage.

The project management life cycle provides structure and resources to guarantee that projects have the best chance of success. It's a procedure you'll want to be well-versed in as a project manager.

The Project Lifecycle is the succession of phases that a project goes through. The number of phases and the timing of the cycle may differ depending on the company and the type of project. However, as part of a project, they must have a clear beginning and end point and are time-bound. Regardless of the exact labor involved, the lifecycle offers the basic foundation for the actions that must be accomplished throughout the project.

The Project Lifecycle typically includes the following four stages:

Project Initiation –

This is the beginning of the project. A feasibility study, establishing the scope, identifying deliverables, identifying project stakeholders, developing a business case, creating a statement of work, and maybe initial costs, price, and timeframe for work to be done are all possible sub-activities.

Project Planning –

The project enters the planning phase once it has been approved from the beginning phase. This phase entails developing a project plan, which includes the project's tasks, timetable, resources, and restrictions. During this step, the project budget is also developed. Furthermore, risk should be expected and acknowledged at this time, as should mitigation strategies.

Project Execution –

This is the stage at which the task is completed. Task owners begin work, and the project manager ensures that tasks are completed on schedule and that workflow runs well. Monitoring and controlling (managing work and finances) are important aspects of this phase because problems will always develop and necessitate swift modifications as the project progresses.

Project Closure –

The project is concluded once the team has completed all tasks and the project owner has signed off that all deliverables are complete. Any documentation is given to the project owner and, if necessary, to a maintenance organization. The project is then evaluated for

performance to assess whether or not the project's objectives were met (tasks completed, on time and on budget).

1.4.1 KEY STAGE IN THE PROJECT LIFE-CYCLE AND FEATURE OF EACH

The Four Stages of Project Management

1. Initiating

You will specify the project during the beginning phase. You'll determine the project's goals, scope, and resources, as well as which positions are required on the team. Clarifying what stakeholders anticipate from the project and what the project's goals are (and why) will provide the project and team with clear guidance.

This is a critical stage in ensuring the project's success. Without clarity on what has to be accomplished and why, the project risks failing to satisfy its ultimate goals and stakeholders' expectations.

Among the steps taken during the initiation phase are:

- Communicating with stakeholders to understand the project's goal and expected outcomes
- Determining project scope
- Setting SMART objectives (specific, measurable, achievable, relevant, and time-bound)
- Defining resources such as budget and time restrictions
- Confirming team size and required roles
- Choosing how frequently and which stakeholders will be involved in the project.
- Creating a project proposal and charter.

The following tools and documents may be used during the initiation phase:

Proposal for a project:

The project proposal defines a project and details critical dates, requirements, and objectives.

Project description:

This is a final document that defines the project and the major details required to achieve its objectives. Potential risks, rewards, limits, and essential players can all be included.

RACI graph:

A RACI chart depicts the roles and duties of project team members.

Features

So you've come up with an appealing new project idea—what now? Here's how to handle the first step of project management and establish the groundwork for your new venture.

1.Create a project charter or business case

In this initial step, you show why your project is required and what advantage it will provide. This can be accomplished with either a project charter or a business case. Because they are both designed to explain critical project specifics and promote your proposal to stakeholders, these two documents follow the same basic principle. The key distinction is in scope: a project charter is appropriate for smaller initiatives, but a business case is appropriate for larger projects requiring significant resources. Create a project charter for a redesign of your company's homepage, and a business case for a company-wide rebranding, for example.

Whether you utilize a project charter or a business case, here is your opportunity to show how your project will create business value and why you require certain resources such as a budget, equipment, or team members. Here's a basic outline of what these two documents usually contain:

The project charter

A project charter explains why your project is necessary, what it will require, and who will work on it, using the elements listed below:

Why: The project's goals and objectives

What: The project's scope, including a summary of your project's budget.

Who: Project stakeholders, sponsors, and team members

2. Identify key stakeholders and present your project to them.

Next, decide who needs to approve your project charter or business case. This includes significant stakeholders who have a voice in the project's result, such as executive leaders, project sponsors, or cross-functional teams from which you're requesting budget or resources. If you're not clear who your main stakeholders are, consider the following:

Who must provide their approval to my project?

Who will give funding for my project?

Who has a say in my project?

You can also do a project stakeholder analysis to verify that no key players are overlooked. This methodology divides stakeholders into four categories: those with high influence and high interest, those with high influence and low interest, those with low influence and high

interest, and those with low influence and low interest. Anyone in the first bucket (high influence and strong interest) is most likely a significant stakeholder who should give their approval to your project at the start phase.

3. Run a feasibility study

You've pitched your idea at this point, proving that it offers value and fits into your company's larger strategic goal. Now is the time to do a feasibility study to ensure that your project is feasible with the resources you have available.

Simply defined, a feasibility study determines whether your proposal has a chance of success. It provides solutions to the following questions:

Is my team equipped with the necessary resources to finish this project?

Will there be a sufficient return on investment (ROI) to make this project worthwhile?

If you can answer yes to both questions, you have a strong case for continuing with your project. If your feasibility study concludes that you lack sufficient budget or resources, you've built a solid case to go back to stakeholders and request more. If your project's ROI isn't up to par, you can utilize that information to revise your project strategy—or explore a different opportunity entirely.

2. Planning

The measures to actually achieve the project goals—the "how" of finishing a project—will be determined during the planning phase.

You'll create budgets, timeframes, and milestones, as well as gather resources and documentation. This step also entails estimating and forecasting risk, implementing change management methods, and developing communication protocols. If the initiation phase involves gathering troops, the planning step involves deciding what to do with them.

The following steps may be included in the planning phase:

- Choosing milestones that will lead to goal completion
- Creating a task and milestone schedule, including time estimates and potential time buffers
- Creating Change Processes
- Choosing how and how frequently to communicate with team members and stakeholders.
- Creating and signing legal documents such as non-disclosure agreements (NDAs) or requests for proposals (RFPs) (RFPs)

- Creating a risk register to assess and manage risk
- To begin the project, a kick-off meeting will be held.

This phase may need the usage of the following tools:

Gantt graph:

A horizontal bar chart that shows members which tasks must be accomplished in what sequence and how long each job is expected to take.

Register of risks:

A chart that lists the project's hazards, as well as their probability, possible impact, risk level, and mitigation plans.

Features

1. Outline the business justification and stakeholder requirements.

Before beginning your project, it is critical to connect the project's goals and needs with the goals of your team and company. How critical is this initiative to the organization's goals? How does it relate to the year's or quarter's goals? What do the stakeholders involved anticipate?

These are some questions you may ask to help outline and connect the new project with the needs of your company and stakeholders.

2. Project needs and objectives list

Despite the fact that a project plan is a living set of papers that will undoubtedly alter over the project, it is vital to chart a purposeful course to reach the project objectives.

As a project manager, you should examine the demands of all project participants and identify the requirements to meet them. What goals must the project meet in order to be successful? What skills and characteristics should the deliverables have?

As the project continues, you may need to revise some components of your project plan, which is fine.

3. Statement of the project's scope

One of the most important aspects of a project plan is the project scope declaration. It serves as the foundation for the remainder of the project plan.

The project manager finalizes and records all project specifics in the project scope statement to ensure that everyone engaged is on the same page. This statement explains the project,

including its processes and needs. It is typically used to obtain consent and buy-in from external stakeholders participating in the project.

4. Deliverables list with projected due dates

You should now have a better concept of the deliverables and outcomes that must be produced to complete this project based on the drafting of the project scope statement. Following that, you should outline what tasks and deliverables each team member is expected to do and when.

This stage is usually best accomplished through the use of a job breakdown structure. To map out all of the project work, allocate it to teammates, set due dates, and identify any dependencies, you can use a simple list, flow chart, spreadsheet, or Gantt chart.

It is also important to identify which deliverables or tasks will need to be approved by external stakeholders in this breakdown to avoid delays caused by task dependencies, reviews, and approvals.

5. Detailed project timeline

A widespread misperception concerning project plans is that they are synonymous with project schedules. A project schedule is just one of many parts of a project plan.

A project schedule estimates how long each work will take to complete while allowing for slack and dependencies. It is a detailed calendar of all required tasks and dates. It displays the duration of the project, who is doing what, and when each task begins and concludes.

6. Risk assessment and risk management strategy

When developing a project plan, it is critical to identify the risks involved. Is your organization stable right now? What is your risk appetite? What potential risks and opportunities might arise from carrying out this project, and what is your mitigation strategy?

Potential events mentioned in your project risk plan may not occur, but if they do, they could have a substantial impact on the project's outcome. Risk management entails not only analyzing the risk but also creating risk management plans that outline how the team should respond if these occurrences occur.

Because risks are unavoidable, the best project plans incorporate extensive risk management sections. You can control risks and boost your chances of success if you recognise them early in a project.

7. Roles and responsibilities must be clearly defined.

Clarify the roles and responsibilities of everyone on the project team, including external stakeholders. Various tasks may require assessments and approvals from certain stakeholders; however, many of the project's major stakeholders are not often involved in all areas of the project.

The project is funded by a project sponsor, who may need to evaluate and approve important components of the plan. Designated business experts define project and deliverable requirements; they may also be required to assess and approve project components. The project plan is created, executed, and controlled by project managers. The project team then completes the tasks and constructs the final product.

Other project contributors may include auditors, quality and risk analysts, procurement specialists, and so on. They may be required to approve portions of the project plan relating to their area of expertise, such as the quality or procurement strategy.

8. Allocation of resources

When it comes to project resource allocation, you divide and allocate your team's time, materials, and budget. You should identify all available resources as well as resources for each assignment if they exist. Calculate their expenses and contributions.

Consider resource restrictions, how much time each resource can realistically dedicate to this project, and the optimal combinations or variations of the available resources to meet the project's goals on time — and with the greatest potential results.

9. Quality assurance (QA) strategy

Implement mechanisms in your quality assurance plan to guarantee project needs and outputs match quality expectations. Maintaining project quality throughout the project's execution ensures that the final output fulfils client specifications and checks the boxes of the executive teams, project sponsors, and business specialists.

The emphasis here is on preventing problems rather than inspecting the project's final delivery. Setting the project standards, acceptance criteria, and metrics that will be used throughout the project is part of creating the QA plan. This serves as the foundation for all quality evaluations and inspections carried out during the project.

10. Communication strategy

A communication strategy specifies how frequently you will communicate with and update external stakeholders, project owners, and even team members. It also specifies the types of updates they anticipate, which actions require review and approval, and who is accountable for each action.

Your communication strategy must address who receives reports and who develops and distributes them. You can even mention the format in which the reports are prepared and distributed.

A communication plan also specifies which concerns should be escalated, where project information should be kept, and who should have access to it. Throughout the project, this plan documents every facet of the project team's communication strategies. This covers things like routine status reports, problem resolution, risk minimization, and so forth.

3. Execution

Executing a project entails carrying out your plan and keeping the team on track. In general, this entails tracking and measuring progress, controlling quality, limiting risk, budgeting, and using data to influence choices.

Steps that may be taken include:

- Tracking job progress with tools such as GANTT or burndown charts
- Responding to hazards as they arise
- Keeping track of expenses
- Keeping team members engaged and focused
- Keeping stakeholders up to date on progress
- Change requests are used to incorporate changes.

You could use the following tools:

Change requests: These are documents that are used to suggest changes to the scope or goals of a project.

Burndown chart : Divides jobs into granular levels and visualizes the amount of time remaining.

Features

1. The project's scope

A scope specification is an integral part of the project execution plan. Defining the scope entails identifying and stating in clear, explicit terms what the project seeks to perform or accomplish. The project scope definition can give stakeholders an overview of the project's purpose and objectives. A scope definition is created by taking a broad project aim and outlining all of the pieces involved. These are some examples:

A project statement of work can illustrate the duties and responsibilities of different team members and emphasize critical variables that may affect the project's end result.

Constraints and boundaries: The scope may include the limitations and boundaries of available resources or information, as well as an explanation of how this may affect the project's conclusion.

Timeline and milestones: To ensure that they fulfill the proper dates and tell stakeholders about the duration of particular tasks, a team may include the project timeline and milestones in the scope description.

Final deliverables: The final deliverables may be included in the scope specification by the team. These can include reports, products, services, or new software developments, and they specify what customers or stakeholders will receive once the assignment is finished.

Criteria for success: The scope may also include a statement of how the team intends to measure the project's and individual members' success. This ensures that everyone understands their responsibilities and is recognised for significant accomplishments.

2. Technical and quality standards

The project scope aids in the creation of distinct task outputs, and one critical component of carrying out these procedures is their technical and quality standards. Identifying these standards can aid in the project's effective completion. Some technical and quality requirements parameters may include:

Definitions that are clear and agreed upon: Defining the relevant terms and concepts can help all team members understand how to execute the necessary processes efficiently.

Standards and time-bound plans: It may be advantageous to include a specified timeline in the process so that everyone involved is aware of when to expect that particular adjustment or development.

Numbers and measurements in descriptions: To avoid confusion, try using descriptive language that contains quantitative quality criteria that can help make products and processes easier to recognise.

Feasible goals: If the team believes their goals and efficiency standards are attainable, it may help them stay motivated and committed. Consider soliciting feedback from team members on your expectations and incorporating them into the PEP.

3. Objective statements

Goal statements, which define what the team hopes to execute and complete as a result of the project, may also be included in a PEP. Expected deliverables, milestones, and the life cycle of significant work activities can all be included. The goal statement may clarify the project's aim, why the team intends to carry it out, and what benefits they anticipate from the project.

It might also highlight specific risks or obstacles and how the team intends to overcome or minimize them.

4. Allocation of resources

A list of resources and where they are allocated may also be included in the PEP document. While the scope definition, quality specifications, and project goals explain how the team intends to complete the project and what it may offer, the resources overview identifies what the team requires to put the implementation plan into action. Capital, personnel, and material items required for the fulfillment of a significant work endeavor are examples of project resources. Correct resource allocation may ensure that the team meets its quality standards and achieves its objectives.

5. Project planning

Scheduling is an essential component of the PEP that guides the team through all stages of the project. Some project managers may choose to break down the overall tasks into smaller chunks. They can also set milestones and deadlines to recognise the team's progress throughout the process.

It can be advantageous to prepare staff and stakeholders for adjustments and exceptions to the timetable due to probable changes in raw material availability, faculty planning, or time requirements. The project manager might make changes to the goals or standards to guarantee

that the project is completed on time. To achieve deadlines, productivity may need to be accelerated at times, which may necessitate team members working on projects concurrently.

6. Organizational elements

Organizational considerations can be critical to the success of your PEP because they help to establish accurate details. Consider the following organizational aspects:

Personnel specifics:

The project manager and other important team members may all have various roles. Consider emphasizing the specific duties of key team members so that everyone is aware of who is in charge of what process.

Roles in decision-making:

Identifying who has the ability to make specific decisions can assist the team operate cohesively and identify who to contact if they have a query or problem.

Methods:

A project's structure might include a variety of approaches, such as ways for coordinating and reporting results, as well as methods for project monitoring.

Approach to team participation:

Another organizational aspect is determining how to delegate the team's effort and energy. Consider whether the team is divided into groups that handle individual jobs or if the entire team works together to complete one task at a time.

4. Clouser

In the last stage of the project management lifecycle, you'll wrap up project activities, hand over the finished product or service to its new owners, and analyze what went well and what didn't. It will also be an opportunity to recognise your efforts.

The following steps may be taken during the closure phase:

- Conducting retrospectives and noting adjustments that can be implemented in the future
- Notifying stakeholders of the project's completion and delivering an impact report
- Communicating with a project's new owners
- Making a project closure report

- Celebrating the completion of the project and your achievements

The following tools are utilized in the closure phase:

Report on the Impact:

This report, which is provided to your stakeholders, compiles a series of metrics that demonstrate how your initiative made an impact.

Report on project completion:

A project closeout report summarizes your project's successes and highlights significant learnings for future project managers.

Features

1. Schedule a post-mortem examination.

Managing a project isn't only about tasks and resources, budgets and deadlines; it's also a learning experience. While you should have been learning throughout the project, now is a good moment to take a step back and reflect without the pressure and distractions that may have hampered your attention

Bring together the core staff to solicit input on what worked and what didn't. Encourage openness. You're creating a database of historical data by chronicling the project's faults and accomplishments. When planning new initiatives, you can go back and review the information for precedents.

Projects are never isolated entities, but rather parts of a continuum in which the particular may vary but the overall methods are usually consistent. After a project is completed, a lot of knowledge is created.

2. Finish all paperwork

As previously said, projects generate reams of documentation. These documents will need to be signed and approved by stakeholders. Everything requires attention and must be signed for, which serves as legal confirmation that these paperwork have been completed. This includes terminating any contracts you may have had with internal partners, contractors, or other resources.

This includes taking care of any outstanding payments. You want to make certain that all bills, commissions, fees, bonuses, and so on are paid. Complete all costs associated with the project. It is not completed unless it is paid for.

All of these documents can be organized using project management software. ProjectManager serves as a central location for all of your project files. You can keep track of them using our list view, which is more than just a to-do list tool. For one thing, the % completion for each item on the list is visible. You now know whether or not the contractor has been paid and whether or not you may sign off on the contract. You may also set up notifications to ensure that your payments arrive on time. With this free trial, you can see for yourself.

3. Distribute Resources

You put together a team for the project, and now it's time to let them go. It's a formal and necessary process that frees them up for the next endeavor. Each team is assembled for the unique set of talents and experience that they bring to a project. The team members you wish to work with are determined by the project, and each project is unique, which is reflected in the team engaged to execute it.

This is true for both internal and external resources. The external ones may be more visible because you contracted with them and that contract will have a term. When it's finished, make sure everyone has been paid in full so they may sign off and leave. However, internal resources remain, so keep in mind that their time on the project is also limited, and you may be impeding other teams' efforts if you don't release your resources once the project is over.

4.Documents to be archived

There are lessons to be learnt from previous projects, which is why you meet with your team on a frequent basis throughout the project and review the process afterwards. However, if you don't have an archive from which to retrieve previous documents, any knowledge you learn will be lost due to inadequate organization and maintenance. You worked hard to create excellent project documentation; don't throw it away.

Before you close a project, archive all documents, notes, and data that may be valuable. Even if you never access it, a paper trail of the work done on any project is required for other employees in the business. This might involve legal teams, human resources teams, or even your successor. You never know when someone will need to go back and answer a question or learn how an old issue was resolved. Consider it like storing food for the winter.

5. Commemorate Success

If it seems ridiculous to you, you're not doing your job. There's nothing wrong with recognising your employees for a job well done. It brings the project to a close, which is what this section is all about, but it also plants a seed that will bloom in future projects when you work with members of the previous team.

1.5 WHY PROJECTS FAIL AND HOW TO MEASURE SUCCESS?

Why Projects Fail?

Most project managers have felt the agony of a failed project. In fact, according to a 2021 Project Management Institute poll, 12% of projects in their firm failed in the previous year. While you are not alone in your desire to avoid project failure, simply reading this article indicates that you have already taken a crucial step. So here's to planning ahead of time and avoiding these frequent project hazards.

What exactly is a project failure?

For the following reasons, a project may be regarded a failure:

- The project did not match your expectations.
- You did not receive the desired deliverable.
- The work was not finished on time.

However, failure is subjective. Even if you miss a deadline or don't meet a target, "failed" projects might nonetheless produce major results. And, while failure is never pleasant, it frequently goes hand in hand with setting lofty goals.

For example, at Asana, we believe that if you succeed 100% of the time, you most likely did not plan ambitiously enough. However, it is critical to ensure that projects fail for the correct reasons, such as creating a stretch goal to stimulate forward momentum, rather than an avoidable trap.

1. Ambiguous goals

Problem: Your team isn't on the same page about project objectives, and there's no mechanism to track progress.

The project objectives are the goals you hope to attain by the end of the project. They should be defined, time-bound goals that you can use to determine when your project is complete. Without clear objectives, it's difficult to keep your team on track or even determine whether your project was a success or a disaster.

Assume your team is creating a new checkout page for your mobile app. It's difficult to tell which additional features will make the page successful without a clear target (such as "lower average checkout time for end consumers by 30% in Q2"). And, once the project is

completed, it will be difficult to gauge performance without a defined target to compare it against.

Uncertain aims are a prevalent issue. According to the 2021 Anatomy of Job Index, which polled over 10,000 knowledge workers, less than half of all employees recognised how their daily work contributed to larger goals.

Solution: As part of your planning process, establish defined objectives.

Effective project objectives bring your team together and serve as a yardstick for success. Set targets before you begin so that they may steer your project; even better, involve your team in the goal-setting process so that everyone is on the same page from the start.

Setting objectives as part of your broader project plan, which also includes project stakeholders, deliverables, a timetable, and other details, is a smart idea.

2. Expansion of the scope

Problem: As work advances, your project deliverables alter.

Scope creep is difficult to detect because it generally occurs gradually—you could even say it sneaks up on you. When project deliverables surpass the project scope, you wind up with more work than you bargained for.

Assume you planned to produce 10 blog posts this month as part of a new product launch. However, a stakeholder requested that you add two more postings to support a different product. With this new request, your resources are pushed thin, and you must postpone all publishing dates.

Scope creep is a key cause of missed deadlines and project failures. According to a 2021 Project Management Institute study, 34% of projects in their business suffered scope creep in the previous year.

It is easier to provide solutions on time and within budget when scope is defined in advance. You can plan ahead of time for staffing and ensure that last-minute requests do not overburden your team. A specified project scope is also useful for resisting extra requests from stakeholders. In the preceding example, this means sticking to your original ten blog postings and completing your assignment on schedule.

A scope statement can be used to document the scope of your project. This might be part of your project plan or a separate document. Make sure to share your scope statement with your stakeholders once you've completed it. They will be less inclined to add extra requests if they have a clear knowledge of what is and isn't included in your project. When you do receive an

additional request, you can utilize a change control procedure to assess whether it is essential enough to include in your project scope.

3. Irrational expectations

Problem: Success is out of reach.

Inspiring goals can help propel you forward, but they must also be reachable. If your project objectives are overly ambitious, stressed teammates and missed deadlines are all too likely.

Assume your sales team has a monthly stretch goal of 100 commissions. However, two team members are on PTO, therefore the rest of the team will have to work extra hours to meet the deadline. That suggests there aren't enough resources to complete the task, and success is unlikely.

Overly ambitious goals might be the devil's kryptonite for project timeframes. The most common cause of missing deadlines, according to the 2021 Anatomy of Work Index, is excessive expectations.

Set SMART project objectives as a solution.

With sufficient forethought, you can still set motivating goals that don't necessitate extra hours on the clock. Make sure your goals are SMART (specific, measurable, attainable, realistic, and time-bound) before setting them. The SMART objectives technique defines success while also offering a defined project roadmap and completion date for your project. You may reduce project risk and put your team up for success by ensuring that your objectives are attainable and within the scope of the project.

4. Scarcity of resources

Problem: You lack the necessary resources to complete the task.

A resource is anything you need to finish a job, such as a budget, people, time, space, or tools. A shortage of resources might cause a project to be delayed or even halted.

Assume you're working on an ad campaign for a new product. The deadline is nearing, but your freelance video editing budget has run out. With only one in-house editor to assist you, you must postpone the campaign's launch. In this instance, you've exhausted both the budget and the labor required to complete the work on time.

Solution: Create a resource management plan ahead of time.

Unexpected events, such as budget cuts, might be difficult to forecast. However, with a little forethought, you can frequently ensure that your team has all they need to complete project

objectives. A resource management plan specifies the quantity and type of resources required for your project, so you know exactly what you need before you begin. Then, apply best practises for resource allocation to determine when each resource should be allocated to each project. This can involve personnel bandwidth, budget, technology, or even a workplace.

5. Ineffective communication

Problem: Team members are unsure on how and when to send status updates.

Communication is more complicated than ever before. According to the 2021 Anatomy of Work Index, people switch between 10 applications 25 times each day on average to conduct their work, and 27% of workers say that when switching apps, activities and messages are missed.

With today's app overload, it's difficult to identify when and when to disclose critical project updates. That implies work could be jeopardized if project team members aren't on the same page about which communication channels to use, when to use them, and who should communicate what.

Consider leading a remote workforce distributed across North America and Europe. To get things done, you use a variety of communication methods, including email, messaging, video conferencing, and shared documents. However, because your team lacks instructions on when to use each channel, team members frequently publish crucial changes in channels that only a few people see. As a result, crucial details are typically overlooked, and work is frequently duplicated.

Solution: Make and distribute a communication plan.

A clear communication plan outlines how you will disseminate vital project information. It clarifies which technologies to utilise for what, specifies how frequently updates will be provided (and who should share them), and specifies when key stakeholders should be notified. With a robust communication strategy in place, you can spend less time chasing down information and more time solving project objectives.

A communication plan will normally include the frequency, channel, audience, and owner for each sort of communication. For weekly project status updates, for example, you may include the following information:

Type of communication: project status updates

The frequency is weekly.

Email is the channel.

Project team's target audience
Project manager is the owner.

6. Delays in scheduling

Problem: Missed deadlines result in rushed work and major project delays.

A missed deadline here, a rescheduled meeting there—these seemingly insignificant details can quickly snowball into rushed work, agitated teammates, and severe project delays.

Consider the following scenario: you're arranging a museum exhibit, and your logistics meeting with the exhibit location has been pushed back several times. There are now two weeks until the grand opening, and your team will need to move quickly through the planning process in order to be ready on time—or the event may have to be postponed. According to the 2021 Anatomy of Work Index, such scheduling delays are becoming more widespread, with 26% of deadlines being missed each week.

Solution: Incorporate a project timetable into your project plan.

Remember that handy project plan we discussed earlier? A detailed project schedule is usually included. A project schedule outlines each step that must be completed, as well as who is accountable for that job and when each task is due.

An efficient project schedule clarifies how the components fit together for your team. You'll be able to readily determine which major milestones are dependent on others, allowing you to work backward from due dates to ensure you have enough time to finish each step. You can also involve your team in the scheduling process to ensure that everyone's timelines and obligations are met.

7. Absence of transparency

Problem: Team members are unable to locate critical project material.

So you've created a fantastic project plan that includes a project schedule, communication strategy, resource management strategy, and SMART objectives. What happens next?

It can be difficult to communicate updates without time-consuming status meetings if those documents are static and not immediately accessible to your team. Even so, information may be lost in the shuffle.

Solution: Use a work management application to centralize project information.

Work management assists you in organizing workflows and establishing processes so that your team can collaborate on a long-term basis. The correct work management application

can serve as a centralized repository of project information, documentation, and status. We love Asana because it provides teams with a living system where everyone can monitor and manage work and team priorities in the way that works best for them. However, regardless of the platform you select, project management software helps your team to get the information they require and stay current on project developments. That means you can abandon Excel trackers, which quickly become obsolete, and ensure your project team has real-time information whenever it is required.

Others :

1. Inadequate resource planning

We make timetables. We organize gatherings. We design the structure, themes, and interfaces. But, in the midst of all that project preparation, we sometimes forget to plan for our resources. It is a major reason why undertakings fail. Project management entails resource management, which frequently includes taking into account other initiatives. Most of us understand the importance of financial planning.

When planning for external resources in your next project, consider the following questions:

What kind of human resources are needed? For how long and with whom? Is anyone working on another project right now, or could they be called away before my job is finished?

What resources are required? Do we have enough office space, desks, computers, conference rooms, and production areas to complete this job successfully?

On which third-party vendors will we rely? What are their lead times and constraints?

What knowledge resources are we missing? Can I bring in an expert or undertake training to help my team develop the necessary project management skills?

2. Ambiguous Goals and Objectives

Starting work without clear project objectives and goals is a sure way to nearly guarantee project failure. After all, there's no way to determine if you've succeeded if you're not sure what you're attempting to do.

Consider a basic personal example. Assume you've decided to "get in shape." What does this imply?

Do you wish to drop some weight?

Muscle building?

Increase your endurance?

If you simply begin exercising and/or eating better—which, to be honest, we should all be doing—your physical condition will improve, but you won't fully know if you've succeeded. You must have well-defined objectives. In your working life, having imprecise goals is just as likely to lead to failure.

How to avoid it:

There are several common goal-setting frameworks, such as SMART goals and CLEAR objectives, but the point is that your goals must be measurable and reasonable. Say you want to drop fifteen pounds in the next four months, not just "lose weight." That is both measurable and achievable. The projects you oversee are more complex, which makes it the more important to explicitly state your objectives.

3. Inadequate project visibility

Regardless of how well-planned a project is, a lack of visibility can swiftly lead to failure. It is critical to develop a project management system that provides visibility to all team members, not just the project manager. Visibility includes project transparency, clear communication, and effective record management.

How to avoid it:

When everyone is aware of the status of each project job, they can assist or change as needed. It promotes initiative and problem-solving. Document management does not have to be difficult. In fact, having a centralized, digital storage location for all project papers simplifies your job as a project manager while also increasing visibility.

4. Communication breakdowns

It should go without saying that communication is essential in project management. The communication tools your team will use should be explained and applied from the start of your project.

How to avoid it:

Make sure everyone on the team understands what's expected and can utilize the technology you've chosen, whether it's email, text messaging, a chat service, or a combination of these. To bridge these gaps, you can utilize project management software that includes chat, group meetings, and other features.

Aside from the mode of communication, make sure to establish clear expectations and criteria for the types of information that must be delivered.

5. Expansion of the scope

It appears to be so innocent at first. A simple consumer request to add an item here, a smart idea to expand a service there, and your project scope has overflowed and your team is over-extended before you realize it. Scope creep occurs when either

The project parameters were not well-defined from the start, or there is pressure from inside the team or from customers or superiors to take on activities that were not part of the initial project plan.

How to avoid it:

Scope creep is a concern since it frequently contributes to project failure. You haven't planned the time or resources needed to finish the extra duties, so what could have been a huge success becomes a painful failure.

6. Irrational expectations

Unrealistic expectations, often masked as unwavering optimism, have wrecked many undertakings. As a project manager, you must have a clear vision of what your team can do and in what time period. Once your expectations are in line with reality, you must express them to the client and, in many cases, your supervisors.

How to avoid it:

Your team will have a far better chance of completing the project successfully if realistic expectations are set and accepted by all project stakeholders.

How to Measure Success of Projects.

On a project, project managers frequently wonder if they are measuring the appropriate things. It's difficult to know how much effort to devote to assessing past performance and how much time to devote to keeping the task moving forward.

Of course, there are numerous signs of project success, but what should you be monitoring while the project is in progress?

You should review five factors throughout the project: time, quality, cost, stakeholder satisfaction, and performance against the business case. You should be doing this on your own anyway. A formal project evaluation is useful at the end of a phase or stage because it can provide a clear indicator of how the project is performing in comparison to the initial

estimates. This information can then be used to provide (or deny) permission to proceed with the following section of work.

Let's take a look at the five items you should be assessing.

1. Establish a baseline schedule

The success of project management is frequently evaluated by whether or not you adhered to the original project timeline. Experienced project managers understand how difficult that is, but it is made a little simpler if you constantly analyze your progress as you go. You will update your project schedule on a regular basis, preferably weekly. You can do a more formal schedule evaluation towards the end of the stage or phase, or as part of a monthly report to your senior stakeholder group or Project Board. It's simple to change your project schedule if you create it using an online Gantt chart, which turns tasks and deadlines into visual timelines.

Examine your important milestones to see if they still fall on the dates you agreed on. Determine the extent of any slippage and how it may affect the entire project timeline.

2. Quality Control

A quality review is appropriate at the end of a project phase. You can assess both the quality of your project management techniques (do you always follow the change management procedure, for example) and the deliverables.

A quality review can determine whether your work fulfills the requirements outlined in your quality plans. It's best to find out now, before the project gets too far along, because it may be too late to do something about it later.

When analyzing quality, it's helpful to have project management software to ensure you're ticking off all you need to. Other list views pale in comparison to Project Managers. Our programme can assign tasks, attach files, and even display you the % complete for each item on your quality assessment. Our cloud-based technology instantly links everyone on your team, making the quality review process easier. Use a quality tool to assess the overall quality of your project.

3. Budget for the Project

Many executives would rank cost control as one of their top project priorities, thus assessing how the project is functioning financially is critical. At this time, compare your current actual spending to your project budget. Look for ways to explain any differences. A project dashboard can be used to track your actual spending in real time.

You should also look ahead and re-project the budget to the end of the project. Compare that to your original estimate and ensure that it is near enough for your management team to be confident that the job is on schedule. If your estimates increase significantly, it is an indication that your expenditure will be out of control by the end of the project, which is something you should be aware of now.

4. Satisfaction of Stakeholders

Your larger team - your stakeholders - are critical to completing most of the task, so check in with them. Find out how people feel about the project right now and what you could do better.

This is a challenging statistic to quantify, but there's nothing stopping you from asking for a rating out of ten. It is still a good practice even if you are judging their satisfaction subjectively. If you find that stakeholders are not totally supportive, you might make strategies to thoroughly engage them in order to influence their behavior.

5. Business Case to Performance

Finally, go back to the business case and review what you previously agreed on. How is your project coming along? Check that the benefits are still attainable and that the business challenge that this initiative was intended to solve is still there. It happens: project teams work on initiatives that sound wonderful at the time, but by the time they are completed, the business environment has changed and the project is obsolete. No one checked the business case during the project's life cycle, therefore no one realized the work was no longer required. Don't waste your time on something that no one wants! Regularly review and analyze the business case in light of the current business objectives.

You are free to add to this list. In reality, it should reflect what is essential to you and your team - you should be analyzing things that matter, so feel free to add more elements or remove others that are less relevant to you.

If you need assistance determining what is important, project management software can assist with tracking. ProjectManager has a live dashboard for tracking progress and performance. Don't utilize subpar tools to configure your dashboard. Ours is ready to use as soon as you log in. It also collects real-time data for more informed decision-making. We compute expenses, time, and other factors to provide an instant status report.

6 Ways to Assess Project Success

Measuring the success of a project after it has been completed is a useful practise. It gives a learning opportunity for future endeavors as well as the ability to measure the project's genuine effectiveness. Objective and subjective criteria must be considered in order to have a holistic view.

1. Scope

This is the desired outcome of a project and what is required to complete it. To truly assess the success of your project, you must first decide whether or not it met its objectives within the constraints set forth.

2. Timetable

This is simple to quantify and comprehend. Were you able to meet your deadlines? Was your project completed on time? And, if not, how much was it behind schedule?

3. The budget

Did you complete your project on time and on budget? Was it higher or lower? And, if so, how much so? It should come as no surprise that your ability to complete your project within budget is widely regarded as one of the most important indications of success.

4. Team fulfillment

This is more subjective and is frequently disregarded when assessing project performance. However, I believe that team satisfaction should be near the top of your success criterion. They were the ones who were in the trenches, and they'll be at your side on the next project adventure as well. They also have deeper insights that even the most senior stakeholders may lack.

5. Client satisfaction

You and your staff want to obtain feedback from your clientele as well. Are they pleased with the results? Were their requirements met? Find a means to track client satisfaction throughout the project life cycle, from start to finish.

6. Quality is number six.

The goal is not just to complete the task at hand, but also to exceed expectations. It is critical to monitor quality and make improvements as needed. Even after the project is completed, quality assurance is frequently a continuous aspect of the jigsaw.

Finally, you'll want to assess if the project met its objectives and how well it was executed. Were the outcomes fast and simply implemented? Are your stakeholders, including your team members, pleased with the outcomes? Project success isn't all black and white; there are

grey areas that are more difficult to quantify but are definitely worth investigating. The more you can iron out the wrinkles in each endeavor, the more successful the next one will be.

7. Achievements vs. specs

It's important to grasp what you did goalwise vs the specifications of the project you set out to do as soon as you finish it. This is possibly the most obvious way to assess project success. Have the project's key aims and goals been met? Did you notice that certain requirements became obsolete along the way? Understanding where your goals are at the end of a project vs at the start is critical.

You can always retrace your steps through your emails and compile a list of all project components to understand what you've accomplished throughout a project. If you're using a project management platform, you may examine all completed tasks by going to the project's homepage. Each assignment should ideally be divided into separate projects so that you can see where you performed the most work and where you may have fallen short.

8. Client or customer satisfaction

If you're working on a project for a specific customer, another approach to gauge project success is to decode the reaction you receive from your client when it's completed. What kind of feedback did they provide? Client satisfaction is typically acquired casually via phone, email, or survey form. If you want to reliably assess satisfaction gains from the beginning to the completion of a project, make sure to conduct a pre-project survey with the client.

If the project is about the customer experience, customer happiness is an useful way to gauge project success. For example, if we're constructing a new product at Hive, how many messages we get about the new function, or if our NPS (net promoter score) grows on average after its introduction, is a wonderful indicator for success. Customers are usually quite honest about their experiences since they see feedback as a method to continuously improve the product. Take their advice!

9. Overall project time spent

Your coworkers' time is one of the most significant resources you have over the course of a project. Making sure you can precisely assess how much time you spent on the project and compare it to time spent on prior similar projects is a wonderful approach to gauge project performance. Time is currency.

There are other methods for monitoring time; for example, if you use project management software like Hive, the product has a time tracking and timesheets component. This is ideal

for larger teams who need to track the amount of time spent on projects or tasks. For simpler time tracking, another option is to use a lightweight programme like Toggl.

Regardless of which tool you choose, it is recommended that you divide your time spent into smaller pieces so you can better understand where your time is going. For example, how much time did you devote to project planning versus project execution? How does this project compare to prior ones?

10. Internal development and project satisfaction

If the project you've been working on is more of an internal effort or push, thinking about internal staff growth and happiness could be a wonderful approach to gauge project success. If you're a manager, you should assign your team members projects that will both challenge and interest them.

When a project is completed, you can poll internal team members about their satisfaction - did they enjoy working on the project? Did they feel they made progress on broader projects that were important to them? Did they learn anything new? Keeping employees interested and engaged is beneficial to an organization's general health, thus this is an excellent project success measurement statistic to consider.

Overall, measuring project performance is not an easy task. When determining project success, various aspects must be considered, most notably the amount of time involved and whether or not the main goals set out to be completed. But keep in mind that project success isn't always based on metrics; it can be more ambiguous when it comes to overall internal or external satisfaction.

1.6 UNIT END QUESTIONS

A. Descriptive Questions

Short Questions

1. What is a project?
2. Why do I need project management?
3. How important are the stakeholders?
4. What is a successful project?
5. What is a project life cycle?

Long Questions

1. What type of questions should you consider when planning your project?

2. What are the stages of Project Life Cycle? Discuss in detail.
3. How would you describe a project plan?
4. What are some questions you ask when starting a new project?
5. Describe the success measure of Project.

B. Multiple Choice Questions

1. A ____ is a set of activities which are networked in an order and aimed towards achieving the goals of a project.

a. Project
b. Process
c. Project management
d. Project cycle

2. Resources refers to

a. Manpower
b. Machinery
c. Materials
d. All of the above

3. Developing a technology is an example of

a. Process
b. Project
c. Scope
d. All of the above

4. In the initial stage of the project the probability of completing the the project is ___ .

a. Zero
b. High
c. Low
d. All of the above

5. Each component of the software product is separately estimated and the results aggregated to produce an estimate for the overall job.

a. Algorithmic model

b. Expert judgment

c. Bottom-up

d. Top down

Answers:

1- a, 2-d, 3- b, 4-c, 5-c

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UNIT- 2 STRATEGIC MANAGEMENT AND PROJECT SELECTION

STRUCTURE

2.0 Objectives
2.1 Introduction
2.2 Strategic Management and Project Selection
2.3 Functions
2.4 Roles and Responsibilities of Project Manager
2.5 Delegation of Authority
2.6 Building Project Team
2.7 Unit end Questions
2.8 References

2.0 OBJECTIVES

- To demonstrate exposure to various perspectives and theories in the field of Strategic Management.
- To grasp the foundational principles of strategizing, implementing, and controlling strategies in business settings.
- To develop the proficiency to apply these strategic management concepts, understanding their roles and responsibilities within real-world scenarios.
- To exhibit the ability to master analytical tools used in strategic management to critically assess business situations and make informed decisions.
- To identify and articulate the distinct roles and responsibilities of a Project Manager in a strategic context.
- To demonstrate competence in building effective Project Teams within an organization, evaluating the composition and dynamics required for successful project execution.

2.1 INTRODUCTION

Many businesses around the world find it necessary to engage in significant financial undertakings. Companies, on the other hand, must choose between competing projects that

they desire to pursue. That is why companies must use the notion of project selection to determine which project will be the most profitable in the long run.

A corporation should calculate the discounted cash flows that it expects from the project in the long run. These cash flows should be weighed against the expense. The lifespan of a project is finite. As a result, the long run can be either long or short.

Project selection is a thorough procedure that attempts to identify and define the ideal project for a corporation to pursue. A project's characters should include a budget, timeframe, and the goals it seeks to achieve.

Many managers face difficulties when defining initiatives, and experts have identified three defining elements.

This is an important aspect of project evaluation. It assesses a project's viability in the context of the company's competitive environment. A good project should have a competitive advantage in both the short and long term.

If a company's business focus and project evaluation want to introduce new items into the market, the project that it wants to undertake must enable it to do so before the rest. For example, in East Africa, internet cables are being laid.

To position themselves in the market and achieve a competitive advantage, the corporations went to collaborate with companies that they believed should supply the cable earlier than the rest. It is also the responsibility of project managers to determine whether or not a project exists.

Project management considers all facets of a project and serves as the focal point for many decisions. Initially, the corporation conducts an extensive project study through its research and development department.

This research is intended to provide insight into numerous aspects of the project. It also identifies the resources required, the project's timeframe, and the value added to the firm.

Every project is divided into stages such as planning, execution, monitoring, and control, and finally closure. By spelling out the procedure, this is aimed to ensure that there is no hustle when it comes to execution (Wiley Media, 2010).

The control mechanisms that will regulate the entire project are also considered by project management. These establish the parameters that the organization must avoid during the procedure. It should provide the groundwork for the rules and regulations. This will require overseeing the entire project.

The identified leaders will be accountable to the firm management and will prepare reports for them. The members and the technical bench will be in charge of the groundwork. Their acts, however, must not go beyond the scope of the mission.

2.2 STRATEGIC MANAGEMENT AND PROJECT SELECTION

Projects are being used to accomplish essential tasks and goals in organizations more and more these days. The concepts we hear and read about on a regular basis at work and in talks with colleagues, such as "project management maturity," represent this growing trend in our society. It's incredible to see how quickly such a strong instrument as project management is being adopted to assist organizations reach their goals and objectives. However, in addition to project management's immense usefulness when applied correctly, its utility has also led to several misapplications. According to one group of scholars (Cleland et al., 1983, p. 155), the rapid adoption of project management means that: many projects fall outside the organization's stated mission; many projects are being conducted that are completely unrelated to the organization's strategy and goals; and many projects have funding levels that are excessive relative to their expected benefits.

What was true 30 years ago remains so today.

Aside from the increase in the number of firms adopting project management, there is also an increase in the number of multiple, concurrent, and sometimes interrelated projects in enterprises. As a result, the question of how to handle all of these initiatives automatically arises. Are they all true projects? (It has been stated that up to 80% of all "projects" are not genuinely projects since they lack the three project requirements of objectives, money, and due date.) Should we take on all of them? What should the priority of those we should implement be?

It is not uncommon for corporations to be juggling hundreds of new projects these days. With so many projects in the works, it might be difficult for smaller projects to receive appropriate backing, or even the attention of senior management. Three issues that arise frequently in businesses attempting to manage many projects are:

Delays in one project induce delays in others due to shared resource requirements or technology interdependence.

The inefficient use of company resources results in resource utilization peaks and dips.

Bottlenecks in resource availability or a lack of necessary technological inputs cause project delays that are dependent on those restricted resources or technologies.

As could be predicted, the organizational success report card with project management is not exceptional. According to one study (Thomas et al., 2001), 30 percent of all projects are canceled midway, and more than half of finished projects are up to 190 percent over budget and 220 percent late. This same survey discovered that significant difficult or failed projects, new impending mega-projects, or meeting competition or maintaining market share were the primary motivators for firms to enhance and grow their project management systems. Those companies that "purchased" project management expertise from consultants viewed it as a "commodity." These companies also frequently outsourced tough tasks or completed projects. Those that developed the abilities domestically, on the other hand, saw project management as providing a unique competitive edge. The later firms also began to recognise project management as a credible career path that could lead to senior management roles.

The establishment of a Project Management Office (PMO), which is covered in depth in Chapter 5, is a significant development among those preferring to develop project management skills in-house, particularly those interested in using projects to achieve organizational goals and strategies. This office attempts to develop multi-project management skills throughout the company, to examine project interdependencies (for example, resource and talent requirements), and to ensure that projects are clearly tied to the organization's goals. The PMO is supposed to encourage initiatives that build on the organization's strengths, provide a competitive advantage, and mutually support one another, while avoiding those with resource or technological needs in areas where the firm has no desire to advance.

The challenges thus confronting the modern organization are how to ensure that projects are tightly linked to the organization's goals and strategy, how to manage the growing number of ongoing projects, and how to make these projects more successful, all of which are covered in greater detail in Section 2.7. The last two objectives are concerned with "project management maturity," or the development of project and multi project management expertise. Following a discussion of project management maturity, we move on to a key part of multi project management: project selection for execution, followed by a brief discussion of the uncertainty, or risk, involved.

Given that the organization has a suitable mission statement and strategy, projects must be chosen that are consistent with the organization's strategic goals. Project selection is the process of reviewing individual projects or groups of projects and then deciding which ones to implement in order to meet the parent organization's objectives. We will incorporate risk analysis into the selection process because there may be considerable ambiguity surrounding

one's original conceptions of how most projects will be carried out, what resources will be necessary, and how long it will take to complete the project. Following that, we demonstrate the Project Portfolio Process, which is the process of selecting for implementation the collection of projects that best fulfills the organization's strategic goals. Finally, the chapter concludes with a brief overview of project suggestions.

A final comment is necessary before proceeding. It is uncommon for elementary project management texts to go into great length about project selection, project portfolio construction, and similar topics. The project manager normally has little or no voice in project finance decisions, and he or she is rarely requested for advice on organizational strategy formulation. So, why bring these issues up? The response is straightforward, but persuasive. A project manager who does not grasp what a specific project is anticipated to contribute to the parent organization is missing crucial information needed to manage the project and optimize its contribution.

Criteria for Project Selection and Models

Project selection is the process of reviewing proposed projects or groups of projects but then deciding which ones to implement in order to accomplish the parent organization's objectives. This same systematic process can be applied to every aspect of the organization's operations where decisions must be made amongst conflicting options. A manufacturing firm, for example, can use evaluation/selection techniques to determine which machine to use in a part-fabrication process; a TV station can choose which of several syndicated comedy shows to rerun in its 7:30 P.M. weekday time slot; a construction firm can choose the best subset of a large group of potential projects on which to bid; or a hospital can determine the best mix of psychiatric, orthopedic, obstetric, and other beds for Each project will have its own set of expenses, advantages, and hazards. These are rarely known with certainty. In the face of such variances, choosing one project from a group is a difficult assignment. Choosing a portfolio of various projects is much more difficult.

Except for the hypothetical construction firm, all of the firms in the preceding paragraph are evaluating projects that are "within" the organization; that is, they are for "clients" within the organization who are supporting the initiatives. The construction firm is evaluating a number of prospective projects for clients other than the construction firm. The projects, whether for internal or external clients, will consume the organization's own resources, and both sorts of projects are typically treated as "competing" for the same pool of resources.

A project manager is rarely involved in the process of selecting projects for inclusion in the collection of projects that the parent organization accepts for financing. However, it is crucial for the PM's success that he or she thoroughly knows the parent organization's objectives in initiating a project that the PM is supposed to lead. As we will see, the majority of the decisions that the PM is required to make will affect the extent to which the project contributes to the objectives that the parent organization intended from the project. This is not the last time we shall emphasize the importance of the project manager understanding why his or her project was chosen for investment.

In the following sections, we will go over numerous strategies that can be utilized to assist senior managers in project selection. Project selection is merely one of several considerations involved in project management. Models are used to solve all of these challenges. Such models are required because they abstract the pertinent issues about a problem from the mass of detail in which the problem is embedded—reality is far too complex to deal with in its entirety. We can use the model to remove practically all of the reality from a problem, leaving only the relevant components of the "actual" circumstance to deal with. Modeling the problem refers to the process of removing unwanted reality from the bones of a problem.

The appropriate selection of investment projects is critical to a company's long-term sustainability. Every day, we see the repercussions of both good and bad investing decisions. In our daily publications, we learn about Cisco System's decision to buy companies that have created valuable communication network software rather than developing its own. We read about Procter & Gamble's decision to invest heavily in marketing its products on the Internet and through social media, or about the challenges that school districts face when updating student computer labs—should they invest in Microsoft®-based systems or stick with their traditional choice, Apple®? But can such significant decisions be made rationally? Do they ever change after they've been created, and if so, how? These inquiries highlight the importance of effective selection models.

Within their limitations, such models can be used to raise earnings, pick ventures competing for limited financial resources, or improve an organization's market position. They can be utilised for both continuous evaluation and initial selection, and hence play an important role in the allocation and reallocation of the organization's limited resources.

According to Souder (1973), the following criteria are most significant when a corporation picks a project selection model.

Realism

The model should reflect the reality of the firm's decision situation, particularly the many aims of both the firm and its management, keeping in mind that direct comparison of different projects is impossible without a consistent measuring method. The model should also account for the firm's limitations in terms of facilities, resources, and employees, as well as aspects that indicate project technical and market risks, such as performance, cost, time, client rejection, and implementation.

Capability

The model should be comprehensive enough to handle the important aspects, such as different time periods, internal and external to the project situations (e.g., strikes, interest rate changes), and so on.

Flexibility

The model should produce valid findings under the scenarios that the firm may face. It should be simple to adapt to changes in the firm's environment, such as tax law changes, new technical breakthroughs that affect risk levels, and, most importantly, organizational goal changes.

Simpleness of use

The model should be reasonably convenient, take little time to implement, and be simple to use and comprehend. It should not necessitate specialized interpretation, difficult-to-obtain data, excessive personnel, or inaccessible equipment.

Cost

The costs of data collection and modeling should be modest in comparison to the project's overall cost and less than the project's potential benefits. All costs, including those for data maintenance and running the model, should be evaluated.

We would add the sixth requirement listed below.

Simple computerization

It should be simple and straightforward to collect and store information in a computer database, as well as alter data in the model using a widely available, standard computer application such as Excel.

Since the mid-1950s, when computers were invented and operations research was established as an academic discipline, the use of formal, numerical models to aid decision making has grown. Many of these models quantify the "correctness" of a managerial choice using financial criteria such as earnings and/or cash flow. Project selection decisions are no

exception, with the primary consideration being how well the organization's financial goals are satisfied. As we will see later, putting too much emphasis on financial goals at the exclusion of other factors causes major problems for the firm, whether for profit or not.

Project selection models are classified into two types: numeric and nonnumeric. Both are commonly used. Many businesses employ both at the same time, or they adopt hybrid models that combine the two. As the name implies, nonnumeric models do not accept numbers as inputs. Although numerical models do, the criterion being measured can be objective or subjective. It is critical to note that project attributes can be represented numerically, and that subjective measures are not always less valuable or dependable than quantitative measures.

Before delving into specific types of models within the two fundamental types, evaluate what we want the model to achieve for us, keeping two key, but frequently missed, realities in mind.

People make decisions, not models. The choice is made by the manager, not by the model. The manager can "assign" the decision-making role to a model, but responsibility cannot be abdicated.

All models, no matter how complex they are, are only partial representations of the reality they are supposed to mirror. Reality is just too complicated for any model to represent more than a small portion of it. As a result, no model can produce an ideal conclusion outside of its own, potentially inadequate, context.

We are looking for a model to help us make project selection decisions. This model should have the features stated above, and it should, above all, evaluate possible projects based on how well they would achieve the firm's objectives. To build a selection/evaluation model, you must first create a list of the firm's objectives. This list of objectives should be developed by top management and may include, to name a few, maintaining particular market shares, developing a better image with specific clients or competitors, or expanding into a new area of business.

Once the list of objectives has been produced, it is advised that it be refined further. The list's elements should be weighted. Each item is added to the list because it contributes to the organization's success, but each item does not contribute equally. The weights indicate the varied degrees to which each element contributes to the achievement of a set of goals.

One more task remains after the list of weighted goals has been created. Each project's likely contribution to each aim should be estimated. A project is chosen or rejected because specific

consequences, if executed, are expected to contribute to goal achievement. The project is chosen if the expected level of objective achievement is high enough.

Stebro (2004) reports on a review of over 500 R&D projects in his article. He discovered four project features that were excellent indicators of commercial success:

(1) anticipated profitability, (2) technical opportunity, (3) development risk, and (4) appropriateness

the extent to which a project is suitable for the company carrying it out This finding is especially significant because the experimental design was free of the hindsight bias that is so typical in project success and failure studies. The model properly predicted over 80% of project failures and nearly 75% of project successes.

According to a large consulting firm (Booz, Allen, and Hamilton, 1966), the biggest reason for R & D project failure is insufficient attention in reviewing the proposal prior to the expenditure of funds. What appears to be true for R&D projects appears to be true for various types of projects, and it is obvious that product development projects are more effective if user demands and satisfaction are incorporated into the design process (Matzler et al., 1998). A thorough examination of a possible project is required for profitability in the construction industry. There are numerous horror stories (Meredith, 1981) about businesses that embarked on projects to install computer information systems without thoroughly analyzing the time, cost, and disruption required.

We must highlight once more that many organizations' reliance on profitability models to the exclusion of non-financial costs and benefits is a significant mistake. It is not uncommon for "small side effects" of a new product or method to have significant consequences for the parent firm. Projects aimed at changing the organization's infrastructure, such as expanding engineering software to accommodate new analytic methods or establishing a day-care facility for employees' preschool children, can often have a major beneficial impact on worker morale and productivity. On the other side, while replacing workers with new technology may make financial sense, it may negatively impact morale and productivity to the point that the move significantly reduces profitability.

What do Project Selection Methods entail?

Consider the following scenario: your company has been awarded a number of project contracts. Because the organization cannot handle all of the projects at once due to resource limits, they must pick which project(s) will optimize profitability.

Project selection approaches come into play here. Project selection strategies are classified into two types:

1. Benefit Measurement Methods
2. Constrained Optimization Methods

Although time-consuming, these strategies are necessary for a successful company plan. There are several established techniques for picking a project, but the general rule is that the Benefit Measurement Model is useful for small, simple projects, but the Constrained Optimization Method is better suited for large, complex projects. Let's take a closer look at both of these strategies.

Methods of Project Selection

1. Methods for Measuring Benefits

Benefit measurement is a project selection technique that is based on the present value of expected financial outflows and inflows. To make a decision, cost benefits are assessed and compared to comparable initiatives. The following strategies are used in benefit measurement:

2. Cost/Benefit Ratio

As the name implies, the Cost/Benefit Ratio is the ratio of the Present Value of Inflow, or the cost invested in a project, to the Present Value of Outflow, or the value of return from the project. Projects with a greater Benefit-Cost Ratio or a lower Cost-Benefit Ratio are usually preferred over others.

3. Financial Model

EVA, or Economic Value Added, is a performance indicator that calculates an organization's worth while quantifying its return on capital. It is also known as net profit after deducting taxes and capital expenditures.

If a project manager is assigned to multiple projects, the one with the highest Economic Value Added is chosen. The EVA is usually expressed numerically rather than as a percentage.

4. Project Management Scoring Model

In project management, the scoring model is an objective technique: the project selection committee selects relevant criteria, weights them based on their relevance and priority, and then adds the weighted values. When all of these projects have been scored, the one with the highest score is chosen.

5. Repayment Period

Payback Period is the ratio of total cash to average cash each period. It is the amount of time required to recoup the project's investment. The Payback Period is a fundamental method for project selection. The payback period, as the name implies, considers the payback duration of an investment. It is the amount of time required for the return on an investment to cover the initial investment cost. The payback calculation is straightforward:

When the Payback time is utilized as the Project Selection Method, the project with the shortest Payback period is selected since the organization can recoup its initial expenditure more quickly. This approach, however, has a few limitations:

It does not take into account the time worth of money.

Benefits accrued beyond the payback period are not recognised; it concentrates on liquidity while ignoring profitability.

Individual project risks are underappreciated.

6. Net Present Value

Net Present Value is defined as the difference between the project's current cash inflow and current cash outflow. The net present value (NPV) must always be positive. When selecting a project, the one with the highest NPV is favored. The benefit of examining the NPV over the Payback Period is that it accounts for the future value of money. However, the NPV has limits as well:

There is no widely acknowledged method for calculating the discount value employed in the present value calculation.

The NPV does not show the organization's potential profit or loss from undertaking a certain project.

An informative article on calculating the opportunity costs for projects can be found here for further information on the NPV and how to use it as a tool to filter out ventures.

7. Cash Flow Discounted

It is commonly understood that the value of money in the future will not be the same as it is today. For example, $20,000 will not be worth the same in ten years. As a result, when calculating cost investment and ROI, keep the notion of discounted cash flow in mind.

8. Internal Rate Of Return

The Internal Rate of Return (IRR) is the interest rate at which the Net Present Value (NPV) is zero, which occurs when the present value of outflow equals the present value of inflow. Internal Rate of Return (IRR) is defined as the "annualized effective compounded return rate"

or "discount rate that equalizes the net present value of all cash flows (both positive and negative) from a specific investment." The IRR is used to choose the most profitable project; while choosing a project, the one with the highest IRR is chosen.

When utilizing the IRR as a project selection criterion, organizations should keep in mind that a project with a lower IRR may have a higher NPV, and assuming there is no capital limitation, the project with the higher NPV should be picked because it enhances the shareholders' profits.

9. Opportunity Price

The opportunity cost is the cost of passing up another endeavor. The project with the lowest opportunity cost is picked during project selection.

10. Optimization Methods with Constraints

Constrained Optimization Methods, also known as the Mathematical Model of Project Selection, are employed for larger projects that necessitate complicated and extensive mathematical calculations.

11. Non-Financial Considerations

Non-financial gains must be considered by a company; these elements are tied to the overall corporate goals. The organizational strategy is a crucial aspect in project selection methodologies that will influence the organization's project selection. Customer service interactions are at the forefront of these company objectives. Building productive, courteous client interactions is a critical requirement in today's corporate world.

2.3 FUNCTION

Attempts to attain corporate objectives necessitate a great deal of patience and meticulous planning. Companies must utilize strategic management to attain defined goals in this regard. Strategic management ensures that every important decision is guided by the company's vision and mission.

Strategic management expertise is essential due to its importance in the business sector. Large corporations frequently have very specific procedures for dealing with this. Simultaneously, small and medium-sized firms (SMEs) can benefit from strategic management as an efficient company development endeavor.

What exactly is strategic management?

Strategic management is inextricably linked to accomplishing organisational objectives. Its existence can aid in forecasting when there are disruptions, both internal and external, that

may influence the company's business operations. Next, strategic management can be used to steer every employee's actions or decisions.

Strategic management is used for a variety of purposes, including rival strategy analysis, internal structure assessment, strategy evaluation, and determining whether or not the company's plan implementation is successful. The process is ongoing in order to deliver more effective business operations, a large market share, and to support the company's profit level.

Functions

Creation of a Company Strategy and Vision

It entails identifying the organization's vision and mission, which is essentially the reason for its existence. It also entails developing the company's strategy in order to plan out its future growth pattern based on certain actions. Strategic management determines which activities will be taken and then distributes them to the teams in charge of carrying them out.

Product and market identification

For an organization to grow, it must constantly innovate in order to preserve its competitive advantage and market share. One of strategic management's tasks is to identify new goods and regions for the firm to explore. It also refers to assessing the feasibility of existing products, services, and markets and deciding whether or not to continue.

Concentrate on the Company's Brand Positioning

People recognise the company through its brand value and position. Maintaining, preserving, and enforcing this brand positioning is what strategic management entails. This is accomplished by ensuring that the strategy, as well as all internal and external actions, are aligned with the brand.

Alignment Across Organizations or Departments

Strategic management guarantees that no business sector or department works in isolation inside the corporation. When planning takes place, the perspectives of all departments and businesses are taken into account. The final decisions are shared and reviewed to ensure that the corporate mission and goals are aligned. Strategic management plays this role.

Course Correction and Planning

Strategic management is all about business planning. This planning is comparable to a SWOT analysis in that it finds fresh possibilities as well as risks to existing business. It also implies that one of the functions is to fix the business performance if it is not growing at the appropriate rate.

These are some of the primary responsibilities of any organization's strategic management role. Others include financial planning, budgeting, talent pipeline analysis, leadership team performance, and so on. Learn about all of this and more by enrolling in an online Strategic Management course and advancing your career.

The entire strategic management process begins with an assessment of all the resources available to the organization. The market state and competitors are then determined by an industry analysis. Following that, an internal examination is performed to determine the company's strengths and weaknesses. After considering all of this, a proper plan is developed to assist the organization in meeting its objectives.

Furthermore, strategic management entails planning and outlining a company's primary objectives and goals. These goals are set by a company's management on behalf of its stakeholders. As a result, proper strategic management contributes to the company's success. There is a danger that the business will fail if adequate strategic management is not implemented.

Developing the company's vision and mission

Every organization has a vision and mission statement, which is the foundation of its existence. With strategic management, the vision and mission are more than just a show. Companies, on the other hand, can create actions that must be carried out and completed in order to reach their goals.

Identification of products and markets

In the commercial world, competition is strong. As a result, businesses must have products that can compete in the market. The application of strategic management can assist businesses in identifying new market opportunities. Companies might also use it to assess existing products or markets.

Focus on the company's brand positioning.

In the viewpoint of consumers, each company has its own brand positioning. Strategic management can assist in maintaining and strengthening the company's brand positioning. They can do so since each method used should be consistent with the brand's image.

Purchase order

Strategic management may also assess whether each division in the organization can effectively run synergies. Each decision is made by establishing the points of view of each division. Following that, the company's divisions can effectively collaborate to achieve organizational goals.

Planning and enhancement

Strategic management is the guide that ensures a company's business activities are on the right road. Without strategic management, the organization will struggle to plan its progress. Similarly, when an error has a disastrous consequence.

Project Planning

Project planning is an output-oriented activity. It is concerned with determining in advance what, when, how, and who will take the necessary steps to achieve predetermined goals. In this context, planning is an ubiquitous management function performed by all levels of the project hierarchy(l), with the distinction being scope, detail, and degree of work. The basis for future activities is laid by planning, which uses the past as a guide. The goal of this paper is to investigate the project environment for planning, explore the aim of planning, concentrate on the stages of project planning, evaluate the aspects of project planning, and explain the role of decision-making in project planning. The first point of concern is the planning process and the surrounding environment.

Function of Project Planning

Scope

The project scope is a component of project planning that entails creating and documenting a list of particular project objectives, deliverables, features, functions, tasks, deadlines, and expenses. It serves as a summary of the project's final goal, as well as a clear statement of what is expected and how the job will be completed.

This is a critical project management role since the scope is agreed upon by all stakeholders participating in various sorts of projects. Sinnaps contains tools like document templates and the Gantt-flow to help you and your team properly create the project scope statement.

Cost

Every project will have some expenses. These charges are agreed upon during project scope management and should be tracked and adhered to throughout the project. KPIs, which are incorporated in Sinnaps, assist you in maintaining control over project expenses, what you are spending and on what, and whether you are staying within the defined budget.

Time

When planning a project, the projected duration is given, and each of the project's tasks and activities are scheduled to fit inside the time frame. Sinnaps is an efficient time management application that clearly shows when an activity should begin and when it should be

concluded. Weekly progress reports keep team members informed of whether or not they are meeting their deadlines.

An overdue activity is automatically flagged so that those responsible are informed. KPIs can also show whether timing is on track or needs to be adjusted. Sinnaps knows the importance of time.

Building a Team

A project cannot be completed without the assistance of a team. People are a crucial component of every endeavor and should be treated as such. Team members are added to the project on Sinnaps and have continuous access to it regardless of where they are or what time it is. This is due to the fact that all you need to access Sinnaps is a web browser.

Tasks and tasks can be assigned to multiple people, allowing for collaboration and innovative problem solving.

Communication

Communication that is clear and honest is critical to efficient project management and is one of the most important project management functions. Sinnaps comes with a number of communication tools that emphasize its significance.

A project wall displays in real time any project changes that have been made or completed tasks, allowing any dependent activities to be begun.

A live in-chat tool enables team members to talk about specific tasks, address any issues or uncertainties, or simply chat with other individuals. Consistency in communication is essential, thus Sinnaps sends any updates to team members' emails so that they are kept up to date on how the project is progressing even if they are not actively using the app.

Quality

Projects are frequently conducted in-house for an organization or for an external client. The reality is that if you want a repeat customer (and who doesn't?), your project results must meet, if not exceed, certain quality requirements.

Risk

In the world of project management, change and risk are constants. Fortunately, project management tasks such as risk management enable project teams to regain control of the risks and tackle them in a calm and organized manner. As the phrase goes, "fail to plan, prepare to fail," and risk management is no exception.

2.4 ROLES AND RESPONSIBILITIES OF PROJECT MANAGER

Strategic project managers are concerned with attaining corporate objectives. Operationally managed projects are primarily concerned with completing the work. Strategic project managers assure long-term success and profitability by focusing on improving customer satisfaction, outperforming the competition, and analyzing market data. Strategic project managers look at the long term rather than the short term, such as fulfilling deadlines and staying within budget. They guarantee that the aims of their project are consistent with the company's strategic mission and objectives.

Portfolio Management for Projects

A strategic project manager is in charge of projects that help the firm succeed. These projects represent possibilities for the business to create new goods, fix issues, or initiate efforts aimed at lowering operating expenses, faults, or waste.

As a strategic programme manager, you work on projects alongside other managers, such as financial specialists. You also examine the project portfolio to ensure that the work is in line with strategic decisions. According to Digital Project Management, an online resource for the project management community, the process bridges the gap between implementation and strategy, ensuring that the project is always aligned with the organization's broader objective.

The strategic project manager helps the business prioritize its work by assessing project flow, releasing reports, and holding review meetings to keep projects on schedule. As a result, the entire company gains tangible business value.

Portfolio Management of Resources

A strategic project manager ensures that the company has the right individuals to perform job duties by efficiently managing an organization's resources. You guarantee that resources are used efficiently across numerous projects and analyze trends to ensure that they are used in accordance with strategic goals. Effective strategic managers save money by avoiding delays caused by a shortage of resources.

For example, if an organization's goal is to minimize the number of printed marketing materials, but the resources connected with these items increase, the allocation of printing resources must be adjusted.

Mentoring in Project Management

Experienced strategic project managers are often in charge of mentoring less experienced project managers. They assist others in learning how to do this function by sharing ideas, techniques, and templates. You collaborate closely with team members to give training on strategic goals such as quality improvement. Typically, you will also coordinate meetings with sponsors and stakeholders to determine project requirements and verify they are in line with your company's strategic goals.

Evaluation of Project Management Tools

Effective strategic project managers assess their organization's project management tools and procedures. By ensuring that the apps deliver the benefits and functionality that the organization requires, you help to ensure data integrity, scheduling accuracy, and consistency across the enterprise.

Manager Strategy Skills

Project managers who are usually weighed down by operational aspects of their roles should look for opportunities to act more strategically whenever possible. According to ProjectManagement.com, the easiest approach to accomplish this is to always begin with the "why?" By focusing on why we do things rather than how we do them, you may begin to take control of initiatives and connect them with larger company goals.

The goal is to stop thinking about your project or the activities within a project as separate entities and instead consider the value the project will provide to the wider corporate plan. The function of a strategic manager necessitates an outcomes-oriented approach, with the emphasis on the end result rather than the process.

Planning

A project manager is in charge of developing a strategy to accomplish the project's objectives while keeping to the allocated budget and timetable. This plan will guide the project from conception to completion. The scope of the project, the resources required, the projected time and budgetary requirements, the communication strategy, a plan for execution and documentation, and a proposal for follow-up and maintenance will all be included. If the project has not yet been approved, this strategy will be an essential component of the pitch to key decision-makers.

Leading

The ability to build and lead a project team is a crucial aspect of every project manager's responsibilities. This necessitates outstanding communication, interpersonal, and leadership abilities, as well as an acute awareness of others' strengths and flaws. Once the team is formed, the project manager assigns duties, establishes deadlines, provides required resources, and interacts with the members on a regular basis. It is vital to be able to communicate openly and frequently with all stakeholders.

Execution

The project manager oversees and participates in the successful completion of each step of the project. Again, frequent, open communication with project team members and stakeholders is required.

Time administration: Staying on schedule is critical to finishing any project, and time management is one of a project manager's primary responsibilities. To bring the project back on track, project managers must resolve derailments and communicate effectively with team members and other stakeholders. Project managers must be specialists in risk management and contingency planning in order to keep moving forward even when obstacles arise.

Budget

Project managers create and adhere to a budget for a project as precisely as feasible. If specific aspects of the project end up costing more (or, in an ideal world, less) than expected, project managers regulate the spend and re-allocate funds as needed.

Documentation

A project manager must devise effective methods for measuring and analyzing project progress. Data collection and verbal and written progress reports are common methods for documenting a project. A project manager must also ensure that all required actions are approved and that all relevant documentation is archived for future reference.

Maintenance

The work does not end when a project is accomplished. A strategy for continual maintenance and troubleshooting is required. Even if they are not personally managing the day-to-day

operations of the final delivery, the project manager devises techniques for appropriately sustaining it in the future.

Cost estimation and quality assurance

Any product or service innovation can only be pursued successfully if an accurate cost estimation is performed utilizing either a bottom-up or a top-down strategy. A project manager can utilize the bottom-up strategy to divide a project into parts and compute the cost of each unit based on cycle time, resources used, cost per person, and other variables. This is then applied to each unit in order to calculate the project budget. Top-down estimating is a more generic strategy that considers key spending heads, recurring and non-recurring expenditure, and other characteristics. Cost estimating is incomplete unless there are forecasts that are optimistic, pessimistic, and realistic.

One of the key roles of the project manager is to assess cost-benefit trade-offs in order to achieve quality requirements and assure client satisfaction. As a result, the cost of quality management—which means improved productivity at lower costs to meet stakeholder expectations—should not be overlooked.

It is true that the function of a project manager is that of a juggler in order to attain this balance.

Risk Management and Containment

Any competent project manager will recognise a risk as anything that occurs during the course of a project that is "not as planned." This unexpected development could be beneficial or detrimental to the project's success. Managing risk entails being prepared to deal with it.

Unless project management responsibilities emphasize the importance of listing risks as potentials that could become realities, they will become serious difficulties. If hazards are not discovered, classified, prioritized, and planned for, the project will face challenges that cannot be adequately addressed. Obviously, the project manager's function as a Problem Solver is highlighted here.

Planning of Activities and Resources

A project manager not only specifies the organization of work, but also provides a breakdown of tasks that contribute to project activity. The project manager is responsible for mapping the various activities of a project to the resources available.

When planning is meticulous and the progress of groups of activities is continuously monitored, a wise project manager can discover resource waste and redeploy it for better objectives or use. This holds true for human, physical, technological, and environmental resources. So, at some point throughout the project, the project manager's duty shifts to that of a Tracker.

Scalability, interoperability, and portability are all important considerations.

To begin, a project manager should be fast to determine whether a system or method being used to execute a project can be "sufficiently" scaled to fulfill client demands.

Second, the project manager's tasks include determining whether the software and hardware components of an organization can be configured differently to enable new capabilities. It is also critical to determine whether a programme or process can be ported to another operating system without major rework.

In other words, the project manager's job as a capability augmenter is critical.

Documentation and reporting

With so many people striving to make a concept a reality, the only way to maintain order and a sense of single-minded purpose is to have a mechanism in place to report every minute detail. Documentation includes time records, timetables, communications, and images, all of which, when recorded, give evidence, summarize efforts, and highlight the project.

One of the project manager's roles is to ensure that all tasks and contributions are documented for future reference both during and after the project's gestation.

As a result, the project manager's function as a Chronicler of a project lifetime is evident.

Communication

It is not enough for a project manager to capture and document project specifics; it must be done such that stakeholders and anybody else involved in the project comprehend every nuance.

Another responsibility of the project manager is to set up a correct method (telephone, fax, encrypted, messenger), numerous channels (emails, memoranda, reports, press releases), and message structure - five W's, i.e., Why, What, Where, When, Who, and one How.

As a result, directing all parts of a project shapes the project manager's function as a communicator.

Strategic Power

The various project manager roles broaden a project manager's sphere of influence to include stakeholders, suppliers, clients, end-users, sponsors, governing bodies, steering committees, project team members, resource managers, and industry peers.

2.5 DELEGATION OF AUTHORITY

What exactly is the definition of delegation?

The division of work and decision-making power to a person who reports to a leader or manager is referred to as delegation of authority.

It is the organizational method through which a manager divides his or her own labor among all of their employees. It entails entrusting people with the duty of doing the duties entrusted to them in the manner that they consider fit.

They share authority and accountability in addition to responsibility. This guarantees that activities are accomplished efficiently and that the individual feels accountable for them.

On one level, delegation is just breaking down work into tasks that others can complete.

Delegation at its best enables people to undertake the work for which they are best qualified. It enables students to put more effort into their job and develop their own talents and abilities. It also frees up the manager's time to focus on more strategic or higher-level tasks.

In other words, delegated authority entails more than merely assigning tasks. It genuinely is a shared sense of duty, ownership, and decision-making. Shared authority is delegated authority.

Delegating authority can also boost efficiency by holding individuals more accountable for their own work and actions. Employees who are capable and competent require less time and energy to monitor and micromanage. As a result, your team becomes more capable and capable of achieving higher performance.

Delegation is the act of entrusting another person with parts of your task and expecting them to complete them satisfactorily.

The fundamentals of delegation of authority

The delegation of authority has three major components:

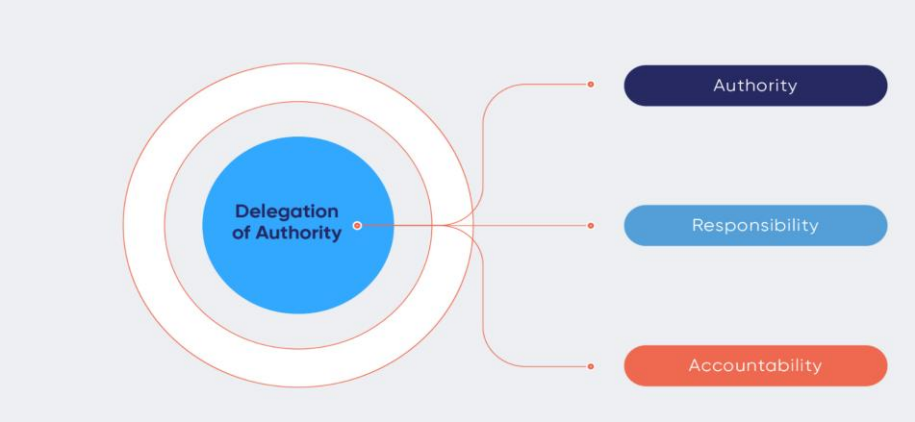


Fig: 2.1 Delegation of Authority

1. Authority

In the context of a business, authority refers to an individual's ability and right to use and allocate resources efficiently.

This comprises the ability to make choices and issue orders in order to fulfill the objectives and goals of the company.

This component should be well-defined at all times. Everyone in positions of leadership should understand the scope of their authority.

Essentially, it is the right to issue a command, which means that top-level management always has the most power.

Authority and responsibility have a symbiotic relationship. So, if a task is to be accomplished successfully, authority, particularly authority in management, must always be accompanied by an equal measure of accountability.

Similarly, power and influence have long had a link. Learn more about this relationship in our article, Power versus Influence: How to Leave a Legacy of Leadership.

2. Responsibility

This relates to the specifics and scope of the individual's ability to perform the work at hand.

Responsibility without sufficient authority can result in:

Discontent

Dissatisfaction

Conflicts

Individual dissatisfaction

While authority comes from above, responsibility comes from below. Middle and lower-level management bear more responsibilities.

3. Accountability

Accountability, unlike authority and obligation, cannot be delegated. It is, rather, implicit in the bestowal of responsibility.

Anyone who sets out to complete a task and accepts a job in a corporation accepts responsibility for the outcome of their efforts.

Accountability, in a nutshell, means being responsible for the end outcome. Responsibility leads to accountability.

Accountability moves upward, while authority flows downward. Each position in the management hierarchy must have the same downward flow of authority and upward flow of accountability.

The significance of delegation

Delegating has been found to boost work efficiency and benefit the company in unexpected ways.

According to a Harvard Business Review research, delegation can really boost an organization's income and overall efficiency.

Delegation not only empowers people in the organization, but it also aids in group performance optimization.

Delegating gives your team more control, fosters trust, and motivates them.

Delegation that is thoughtful and supported is also a means to stretch and develop people at work. This is frequently more effective than regular professional growth.

It also teaches executives how to identify who is best prepared to accomplish jobs or projects.

According to a Harvard Business Review article, one team leader used a delegation approach to go from being busy to being productive.

Delegating jobs can, of course, help to reduce your workload. However, according to Dr. Scott Williams, delegation accomplishes far more than simply taking things off your plate.

For starters, those who work for you will be able to learn new skills and gain knowledge. This prepares children for future responsibilities.

Williams says:

"Delegation can also be a strong indication that you value your subordinates' abilities and trust their discretion... Employees who believe they are trusted and valued are more committed to their work, their organization, and, especially, their bosses."

Delegation strengthens teams by allowing them to demonstrate their abilities to take on new tasks.

How to delegate responsibility

Depending on the needs of your company, there are numerous ways to delegate responsibility to employees.

To give duties to other team members in the workplace, you can use the following types of delegation of authority:



Fig: 2.2 Ways to delegate authority

Departments

You can transfer management of a specific department to another person. As a CEO, you may, for example, assign power over the entire marketing department to the marketing director.

Projects

You can delegate the completion of a certain project to an individual or group of employees.

A marketing director, for example, could delegate an advertising campaign to a project manager or project lead. The project manager then brings together a team of copywriters and designers to work on the project. Each of these contributors is assigned distinct tasks.

The project lead has been given authority by the marketing director. The project manager may delegate more to the team if they are all skilled and knowledgeable with the project's goal and expected outcomes. If the collaborators are largely freelancers or junior workers, the

project manager may distribute tasks but retain power and be more involved in task monitoring.

Making a decision

You can delegate decision-making authority to one of your staff so that you can focus on other tasks. As a marketing director, you may, for example, transfer authority to the deputy marketing director to hire staff for the department as needed.

Analysis

When you require additional information, you might request that workers conduct extensive study on the subject. If you are a marketing project manager, you can ask someone on the demand generation team to research demographic facts for the intended audience of their advertising campaign.

Procedures for administration

Administrative activities, such as data input, can also be delegated to other staff.

As the marketing manager, you might delegate social media monitoring to a marketing assistant.

6 stages to effective management delegation

Let's look at six measures you may take to effectively delegate.

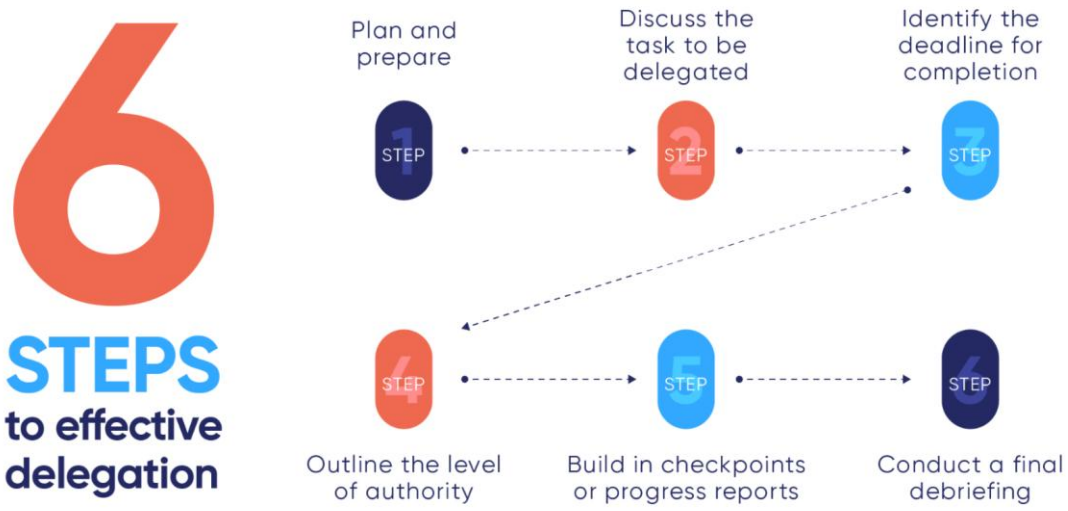


Fig: 2.3 6 Steps to effective delegation

1. Plan and organize

Take the time to go through the assignment and decide who you'll delegate to and the outcome you desire before beginning a formal delegation procedure.

Identify a goal and purpose for the delegated functions as well. The approach you take will be determined by your goal.

2. Go over the assignment that will be assigned to you.

Engage the employee in a detailed discussion about the task you wish to delegate. Then, make sure you're both on the same page about the task and the desired goal.

This step is useful for setting expectations and specifying the quality of work that must be done.

It is also helpful to explain why you are assigning the assignment to that individual.

The Muse's founder, Alex Cavoulacos, says:

"When you choose someone to delegate to, explain why you chose them and how you hope to see this assist them grow."

3. Determine the finishing date.

Make certain that your deadline is both realistic and doable.

This is especially critical when delegating a difficult task or something the person has never done before.

If you believe the employee will require revision time, schedule it ahead of time. This assures that you do not miss the deadline with an outcome that is not what you desired.

Consider how the delegated assignment fits in with the person's existing job obligations when determining the deadline.

4. Specify the level of authority.

Outline the level of authority you want the individual to have. The following are examples of different levels of authority.

Recommend. If the task's danger is significant or the person has limited experience, you may ask for a recommendation on a plan of action. However, you have the last say.

Initiate and inform. If the task's danger is moderate and the person has some experience, the individual will notify you before proceeding.

Act. If the task's risk is low or the person has a lot of expertise, the person has full authority to act on his or her own.

5. Incorporate checkpoints or progress reports.

Set up regular checkpoints from the start to provide support and follow-through. Checkpoints can be used to examine work and provide feedback, as well as to provide encouragement and coaching.

6. Hold a final debriefing.

The final debriefing is a two-way conversation on how the assigned assignment went.

Debriefing entails a mutual investigation:

Inquire about the employee's performance on the work or project. It's a good idea to ask them what they thought went well, what they thought could have been better about the project, and what they would do differently if they could do it all over again.

Provide feedback on how you believe they performed. Request comments on your performance as a delegator from the person. Specific queries, once again, can be beneficial: Could I have been more specific? What other forms of assistance would you have appreciated?

2.6 BUILDING PROJECT TEAM

Any project manager must be able to manage a team. By demonstrating successful leadership, you may empower and inspire your team. You must ensure that the team's potential is fully utilized without overwhelming the team. It's a fine line to walk, but with practice, you'll figure it out.

The widespread use of project teams to a variety of complicated tasks was one of the most significant innovations in management throughout the 1970s. Project managers soon realise the crucial importance of a well-functioning project team and the role of team-building activities in improving project management performance. In fact, the effectiveness of the project team is frequently linked to the difference between successful and failed performance. We anticipate that the 1980s will see a greater emphasis on team development.

Three primary forces contribute to the necessity of building productive teams. First, businesses have more specialists/experts whose talents must be directed and incorporated into a bigger mission. Second, more organizational members desire to be more involved in their overall working environment. Third, the benefits of collaboration can result in significant synergy and creativity. Increasing task complexity and complex environmental interfaces promote the formation of effective teams. High levels of job satisfaction are also associated with effective team formation.

Defined Team Building

Team building is the process of changing a group of people with varying requirements, histories, and experience into an integrated, successful work unit through various ways. Individual contributors' ambitions and energy merge and complement the team's objectives during this transformation process.

As bureaucratic hierarchies fall and horizontally-oriented teams and work units become more significant, the concept of team building becomes vital. In most cases, team development entails partnerships between peers with a wide range of experience.

A project team's roles and responsibilities

Before we get into the specifics of these techniques, you should understand how an efficient project team works in project management, what project teams do, and who is involved. A project team is made up of individuals with differing levels of authority. Their mode of operation is determined by organizational culture and technique.

A few key roles in a successful project team include:

- Project manager
- Team leader
- Team members
- Project committee
- Project sponsor
- Project stakeholder

Project teams' daily responsibilities include the following:

- Collaboration with the project management throughout the life cycle of the project
- Completing all project deliverables and meeting all deadlines Process documentation
- Contributing to the overall performance of the team
- presenting potential solutions to managers in the event of a bottleneck
- Keeping the project manager up to date on the status of the project

How to Effectively Manage Project Teams

You must inspire your team to strive for constant development. Managers that lead by example and groom future leaders have a track record of producing exceptional results in the sector. We'll go over the ten most effective tactics for managing your team and becoming a project management guru. The strategies are as follows:

1. Maintain a sense of equilibrium among the team

Have you ever wondered why companies spend so much effort refining their hiring processes? Choosing the ideal personnel for the task accounts for nearly half of the effort you'll need to undertake. When assembling a team for a certain project, you must ensure that their technical abilities and personalities are suitable with the project's requirements.

Members that are overly skilled yet unable to function as team members will most certainly slow you down. Similarly, someone with only interpersonal abilities cannot contribute to the team. Looking for the correct project management abilities is essential when developing a team, and striking the perfect balance is the key.

2. Ensure transparency and visibility

Project managers are frequently unaware of the organization's data-sharing policy. However, you must maintain project transparency and effective visibility of the relevant data to all team members inside the team.

The inclination of unsuccessful leaders to keep information on a need-to-know basis is a dead giveaway. It's such a destructive leadership trait that it's given its own name: mushroom management. Transparency in your projects allows you to get the most out of each team member's skill set, promote internal accountability, track progress, and much more.

Transparency can also help you increase your team's communication and collaboration. These will be covered in further detail in the sections that follow.

3. Maintain efficient team communication.

No team completes its projects alone. They rely on a variety of internal and external elements that can have an impact on their success. As a project manager, you must interact with them on a frequent basis and keep them involved throughout the project's duration. It can only be done through excellent project management communication.

Communication is essential for good management in any professional setting. To persuade project teams to invest, you must clearly define the project objectives and align everyone's interests.

Another advantage of open communication is that it allows you to identify dangers before they become a threat to your project. When your team members communicate their project management issues and challenges, you may utilize that information to respond to project risks proactively.

4. Promote a collaborative culture

The majority of the tactics we're addressing here are intertwined. For example, without transparency, there can be no model of efficient communication, and without communication, there can be no encouragement of collaboration. The entire procedure is a linked cycle.

A collaborative environment is essential for the development and operation of your team. No one should be afraid to mention the problems they encounter while accomplishing their given job. In this pandemic year, project collaboration tools can let you hold virtual chats and include everyone in the discussion, which can go a long way toward fostering a vibrant workplace.

5. Consider everyone's suggestions and meet with your team to review progress.

No one person can have all of the ideas, so practise discussing your strategy with your team to gain their trust. Discussion fosters creativity and innovation. Both of these are critical for optimizing your procedures and improving your team's overall effectiveness.

Anyone, regardless of position, may generate ideas. That is why Agile focuses on cultivating a culture of respect in which everyone has an opportunity to participate. It is your responsibility as a leader to assuage your members' concerns and consider their suggestions if they have merit.

Even if you do not accept a proposal for a genuine cause, you should explain why politely and encourage your team members to continue actively engaging throughout the project plan.

6. Establish success measures and recognise top performers.

A lack of healthy rivalry and a weak reward system might stifle future growth and undermine team interest. Create a reward system to recognise members who are making good progress.

7. Assign responsibilities to prospective leaders to help them develop.

Your project team members will become leaders one day, so make sure they have some leadership experience. To do so, you must trust their judgment and offer them some leeway to experiment.

Delegating work also helps you become a better manager. If you are constantly micromanaging the slightest details, you will certainly be unable to focus on the broad picture and devise an efficient method of completing the duties at hand.

8. Resolve internal conflicts

Conflict is unavoidable when various personalities collaborate, especially in newly formed teams. You have two options: deal with it effectively or stoke the flames even more. The first guideline is to never take sides and jeopardize your objectivity. Second, tailor your response to the nature of the event.

If the disagreement is over the strategy you should take or any other professional concern, remind everyone of the underlying goal and keep the situation under control. However, if the conflict is of a personal character, attempt to give team members some space. You must encourage them to resolve their differences as amicably as possible.

Whatever type of dispute you experience, your leadership abilities will undoubtedly be put to the test.

9. Be open to comments.

Just as you should solicit input from your clients, you should also solicit feedback from your project team in order to enhance your leadership style. While leadership is a natural skill, it is critical that you hone it and tailor it to the personality features of your team.

Some members of your project team may succeed when they are allowed to express themselves, but others may function best with minimal supervision. After spending time with your staff, you will learn more about their preferences. Some leaders keep a suggestion box or use periodic questionnaires to learn more about their employees and, if necessary, adjust their style.

10. Participate in team-building activities and celebrations on a regular basis.

It is critical to recognise and celebrate significant milestones and achievements with your project team. You must participate actively in the festivities. Celebrating significant accomplishments inspires team members to do better in the future. You'll also develop a personal bond with your team members and make them feel valued, which will improve their performance.

Significant Roadblocks to Project Team Development

We attempted to uncover some of the biggest challenges project leaders face in developing effective teams in a recent exploratory field probe with over 90 project leaders. The project managers represented various firms and technologies. However, the majority of those who responded to our survey were involved in research and development, construction, and engineering projects, as well as computer information system implementation. A further in-depth study is being planned to collect precise data on team-building hurdles. Our goal here is to show some of the most prevalent primary roadblocks to team-building efforts and to provide alternative solutions to these challenges.

Team members' differing perspectives, priorities, interests, and judgments

One significant impediment is that team members frequently have disparate professional goals and interests. However, project completion frequently necessitates team members putting "what's good for the project" ahead of their own interests. When team members are

hesitant to do so, serious issues arise in the formation of an effective team. This issue is exacerbated when the team relies on support organizations with disparate interests and agendas.

Conflicts in Roles

Team development efforts might also be impeded when team members have competing roles. When there is ambiguity regarding who does what within the project team and between the team and external team support organizations, role conflicts are more likely to arise. Role overlap and ambiguity are also significant drivers to role conflicts.

Uncertain project objectives/outcomes

Uncertain project objectives are one of the most commonly stated team-building challenges. As one project manager put it:

How can you run a team building programme if you don't know what the project's goals are? Let's face it: many teams are only operating at 50% of their capabilities since no one is sure where the project should go.

Objectives in R&D and computer systems projects may be developed by management or clients outside of the team. Furthermore, if objectives are not specified, defining roles and duties becomes difficult, if not impossible.

Project Environments that Change

Many projects are characterized by the fact that the surroundings in which they function are constantly changing. Senior management, for example, may frequently change the project scope, objectives, and resource base. In other cases, regulatory changes or customer demands for new and different standards might have a significant impact on a project team's internal processes. Project teams usually operate in disruptive situations. Finally, the speed with which a team "builds up" to its full manpower base may provide team-building challenges.

Team Leadership Competition

We were astonished at first by the number of project leaders who acknowledged rivalry for a leadership position. They noted that this barrier was most likely to emerge during the early stages of a project or if the project encountered serious challenges and the team's leadership quality was called into doubt. Obviously, both instances of leadership challenge can result in (though temporary) hurdles to team creation. These hurdles were frequently disguised tests of the project leader's skills.

Inadequate Team Definition and Structure

One of the most commonly reported roadblocks was the lack of a clearly defined project team. This barrier was found to be most common among computer system managers and R&D project directors. A common trend was for a work unit (rather than a project team) to be assigned a task, but no one leader or team member was clearly handed responsibility. As a result, certain work-unit members may be working on the project but are unclear about the scope of their tasks.

In other circumstances, a poorly defined team occurs when a project is backed by multiple departments but no one person in each department is appointed as a team member and departmental coordinator. As a result of this strategy, the project leader is unsure who to rely on for assistance. This is common, for example, when a computer systems project manager is forced to rely on a "programming pool."

Personnel Selection for the Team

Another impediment was the method by which team members were chosen. In certain circumstances, project staff are assigned to teams by functional managers, with little or no influence from the project manager. Of course, this can stymie team development efforts, particularly when the project leader is given available individuals rather than hand-picked team members. The assignment of "available employees" can lead to a variety of issues, including low motivation, dissatisfaction, and uncommitted team members. We've discovered that the more authority the project leader has over team member selection, the more likely team-building initiatives will be fruitful.

The Project Manager's Credibility

Team-building activities were harmed when the project leader's credibility within the team or from important managers outside the team was questioned. In such instances, team members are frequently hesitant to commit to the project or the leader. Bad managerial skills, poor technical judgments, or a lack of relevant project experience can all lead to credibility issues.

Insufficient Team Member Commitment

One of the most common impediments was a lack of commitment to the endeavor. Lack of commitment can result from a variety of factors, including team members' professional interests being elsewhere, a sense of insecurity associated with projects, the ambiguity of the rewards that may be forthcoming upon successful project completion, and intense interpersonal conflicts within the team. One of the project managers said to us:

Let's face it: some people aren't cut out for project work. Some people can't bear the uncertain, fluid character of projects, while others prefer to work alone or with a small number of colleagues with whom they've formed tight working connections over time.

As previously said, the nature of many initiatives necessitates the disruption of valued, existing normal work relationships among team members. As a result, they may feel uncommitted to the project.

Suspicious attitudes between the project leader and a functional support manager, or between two team members from opposing functional departments, might also result in uncommitted team members. Finally, we discovered that when a "star" in a team "demanded" too much deference from other team members or too much pampering from the team leader, low commitment levels were more likely to occur. As one team leader put it:

Many teams have prima donnas, with whom you must learn to live and function. They can be important to the overall success of a project. However, some superstars can be so demanding of everyone that they sap the team's motivation.

Communication Issues

Not unexpectedly, we discovered that poor communication was a significant impediment to effective team growth activities. There was a lack of communication on three major levels. Several people mentioned communication issues among team members as well as between the project leader and the team members. Frequently, the issue was caused by team members failing to keep others up to date on critical project advances. However, determining the "whys" of bad communication patterns was significantly more challenging. It can be caused by a lack of motivation, a low morale, or carelessness. We also discovered that bad communication patterns between the team and support groups, as well as poor communication with the client, could lead to serious team-building issues. Poor communication techniques frequently resulted in ambiguous objectives as well as poor project control, coordination, and workflow.

Inadequate Senior Management Support

Many of the project leaders stated that senior management support and commitment were frequently ambiguous and fluctuated over the project life cycle. This behavior can cause anxiety among team members and result in low levels of excitement and project commitment. Another commonly mentioned issue was that senior management would not help build the

correct environment for the project team from the start, nor would they provide the team with timely feedback on their performance and activities during the project's duration.

Effective team development can be a key factor in project success. While the process of team building can be frustrating and exhausting for everyone involved, the benefits can be enormous.

There are various indicators of effective and ineffective teams, according to social scientists. The project manager should be aware of key effectiveness/ineffectiveness indicators at all times during the life of a team.

We foresee significant breakthroughs in team building as the 1980s progress. These advancements should result in improved performance as well as better morale. On numerous times, we have observed that a well-developed, highly devoted team can weather practically any type of adversity. When storms arise, it is the underdeveloped team that is most prone to capsize.

2.7 UNIT END QUESTIONS

A. Descriptive Questions

Short Questions

1. How would you define Delegation of Authority?
2. Can you explain the concept of a business strategy?
3. What does strategic management entail?
4. Provide a definition of a joint venture.
5. How would you describe a strategic group?

Long Questions

1. Define strategy. How do you consider strategic management as a process?
2. What is environmental scanning? Write about its underlying factors.
3. What is strategy? Discuss the nature and significance of strategic management. What factors are responsible for an effective strategy?
4. What do you mean by core competence? Discuss the process of preparing a strategy for competitive advantage using core competence.
5. Explain the strategic management process.

B. Multiple Choice Questions

1. Who is called the father of Strategic Management?

a. Chandler
b. Igor Ansoff
c. Michael Porter
d. John Nash

2. What is the starting point of Strategic Intent?

a. Goal
b. Objective
c. Vision
d. Mission

3. Which of the following is not a major element of the strategic management process?

a. Formulation strategy
b. Implementing strategy
c. Evaluating strategy
d. Assigning administrative tasks

4. Competitive advantage can be best described as

a. Increased efficiency
b. What sets an organization apart
c. A strength and the organizations
d. Intangible resources

5. An organization strategy ___

a. Remains set in place longer than the mission and objectives
b. Generally forms over a period of time as events unfold
c. Trends to be formed at the same time the mission is developed
d. None of the above

Answers:

1- b, 2- c, 3- d, 4- a, 5-b

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UNIT -3 GENERATION AND SCREENING OF PROJECT IDEAS

STRUCTURE

3.0 Objectives
3.1 Introduction
3.2 Generation and Screening of Project Ideas
3.3 Tools that can help us identify what should be included in a project
3.4 Unit end Questions
3.5 References

3.0 OBJECTIVES

- To understand that the most critical step in the project planning process involves identifying suitable project ideas.
- To recognize that the initial stage of establishing a profitable venture is searching for promising project ideas.
- To apply the principle that success in business is contingent on entering the right business at the appropriate moment.
- To analyze various tools available to identify essential components for inclusion in a project.

3.1 INTRODUCTION

In project planning, the generation and screening of project ideas are important steps in ensuring that the final project is feasible, effective, and aligned with the organization's goals and objectives.

Ideas for projects come from a variety of places, including clients, rival businesses, and staff. They can occasionally only be found accidently. To produce a big number of ideas, the project manager should work to foster employee creativity, survey the overall business landscape, and evaluate the company's strengths and shortcomings. At both the individual and group level, methods like attribute listing, brainstorming, and delphi methodology are helpful for enhancing creativity.

3.2 GENERATION AND SCREENING OF PROJECT IDEA

Generation of Ideas: The most critical step in the project planning process is identifying viable project ideas. The first step toward establishing a profitable venture is to look for promising project ideas. The secret to success is to enter the right business at the appropriate moment. The goal is to find investment possibilities that are both feasible and promising.

Developing an idea for a new product or business requires creativity, sensitivity to external changes, and a realistic appraisal of what the organization can do. A project is not a purchasable product or commodity. It holds both potential and peril.

An idea for a necessary intervention in a specific area to address a problem is conceived and developed. This idea is frequently generated via discussions between specialists and local leaders about a community need based on issues and then developed into a proposal.

In general, project ideas are produced based on:

- Consumer requirements
- The market's demand
- Availability of resources
- Natural disasters and technology
- The SWOT analysis
- Political concerns, for example,

The project idea selection is the choosing of a project concept from accessible alternatives that is most matched to the capacity, competency, and willingness of the entrepreneurs. The project selection consists of

- Profitability
- Feasibility
- Resource-ability
- Acceptability

The existence of a positive cost-benefit connection could be the primary consideration for project selection.

People want to choose a project that takes the least amount of investment, requires the least amount of expertise, can be done in the shortest amount of time, and has the biggest return potential.

A project idea should be SMART:

S – Specific objective

M – Measurable

A – Achievable

R – Realistic

T – Time bounded

Project identification:

A search for promising project ideas could help to achieve specific development goals. Project identification should be an intrinsic element of the state's Macro-planning exercise, with sectored information and plans serving as the primary source of ideas.

In general, ideas are produced from a variety of sources depending only on the individuals involved vested interests. Regardless of their origin, project concepts should attempt to overcome obstacles in the national development effort.

Good project concepts are essential for success. As a result, a wide range of sources should be used to assess them. To provide a diverse range of alternatives, project concepts can be divided into two types:

- Micro level sources
- Macro level sources

A] At the micro level;

At the micro level, project ideas can come from a variety of sources. Some of these are mentioned farther down.

1. Analysis of existing industry performance:

1. Analysis of existing industry performance;

An assessment of capacity utilization in various industries reveals the possibility for future investments. Such research is more valuable if done by region. Particularly for products with significant consumer demand and a large range of production options.

2. Input-output analysis of diverse industries:

Opportunities exist when: materials, purchased parts, or supplies are currently procured from distant sources with significant time lag and transportation cost; and several firms manufacture internally some component parts that can be supplied at a lower cost by a single producer who can benefit from economies of scale. Similarly, an examination of the output of existing industries may show chances for value addition through further processing of the major outputs, by products, and waste products.

3. Import and export reviews:

For numerous reasons, indigenous production of commodities that are currently imported is favorable. It boosts the current account balance. It creates jobs and serves as a market for

supporting businesses and services. Similarly, examining export statistics can help you understand the export potential of particular products.

4. Local materials and resources inquiry:

Various methods of adding value to locally available materials can be investigated. Similarly, the abilities of local craftspeople may point to products that could be created and marketed profitably. Such an evaluation may take into account concerns such as people and material resources, infrastructure facilities, and the market for diverse products.

5. Economic and social change analysis:

Economic conditions and consumer preferences change, creating new business opportunities. For example, the general public is becoming more cognizant of the value of time. As a result, the demand for time-saving products such as prepared foods, ovens, and motorised vehicles has increased. Another change observed during the investigation is an increased desire for leisure and recreational activities. As a result, the market for recreational items and services has expanded.

6. Research into new technological developments:

New items, as well as new processes and technologies for current products generated by research laboratories, may be investigated for lucrative communication.

7. Exploring the possibility of reviving sick units:

Industrial disease is prevalent in many nations. There are numerous business units that have been labeled as sick. These units have either closed or are on the verge of closing. A considerable fraction of ill units, on the other hand, can be nursed back to health by good management, the fusing of more capital, and the introduction of complementary inputs. As a result, there is a reasonable scope for investment in this field.

8. Identification of unfulfilled psychological needs:

For well-established multi-brand product groups such as bathing soaps, detergents, cosmetics, and toothpaste, the question is not whether there is an opportunity to manufacture them to meet an actual physical need, but whether there are certain psychological needs of consumers that are currently unsatisfied.

9. Attending trade shows:

National and international trade shows are fantastic places to learn about new products and advances.

10. Boosting innovation for next-generation product lines:

Modifications, rearrangements, reversals, magnifications, reductions, substitutions, adoptions, and combinations can all be used to produce new product concepts.

B. At Macro level:

At the macro level, project ideas can be obtained from the following sources:

1. Project ideas and plans based on government policies:

Governments produce guidelines on a regular basis, such as national development plans and session papers, which outline the steps the government should take to attain certain goals in various areas of the economy, as well as recommendations for various organizations and individuals. The information contained in these documents can be used to generate ideas for new projects. For example, if the government wishes to open a number of new schools in a certain location, a number of projects relating to the establishment of such schools will be examined.

2. Project concepts derived from technical specifications:

For many industrial projects, ideas will typically emerge from technical requirements, which, due to their experience and research discoveries, will provide us with complete information that may lead to the creation of new items or the improvement of existing ones.

3. Local leaders' project ideas:

Local leaders frequently have vital ideas for community and social projects that they and their local people have regarded as important in enhancing people's wellbeing. In the case of social projects, there may be a number of different projects that are linked to the specified projects, depending on which one is identified.

For example, a project to build a dam to generate hydroelectric power will make recommendations for the initiation of irrigation projects, fishing projects, and other related projects.

4. Entrepreneurial project ideas:

Entrepreneurship is a valuable source of ideas for commercial and industrial projects. Entrepreneurship includes the traits of managerial competence preparation and motivation to attain achievements. Although entrepreneurship skills have been passed down through families and social-economic circles, it has been recognised that programmes for entrepreneurship development will assist individuals in coming up with beneficial ideas that can be transformed into profitable companies.

Environmental monitoring

Essentially, a promising investment idea allows a company to capitalise on possibilities in the market by leveraging its competitive advantages. As a result, the firm must continuously analyse the environment and assess its competitive capabilities. The corporate environment can be separated into six broad sectors for the purposes of monitoring. These are their names:

Sector of the Economy

- Economic situation
- Growth rate overall
- Primary, secondary, and territorial growth rates
- Fluctuations in the cycle
- Connection to the global economy
- Balance of payment position (trade surplus/deficit)
- Sector of the Government

Industrial strategy

- Government initiatives and projects
- The tax framework
- Subsidies, rewards, and concessions
- Policies governing import and export
- Norms for financing
- Financial institutions' and commercial banks' lending criteria
- Sector of Technology

New technologies are being developed.

- Access to foreign and domestic technical know-how
- Industry is open to new ideas.
- Sector Socio-demographic

Population changes

- Population age shifts
- Distribution of income
- educational background Women's employment
- Consumption and investment attitudes
- Sector of Competition

The number of companies in the industry

- Entry barriers are determined by the degree of product homogeneity and differentiation.
- Quality, pricing, appeal, and functional performance are compared to replacements.
- Policies and practises in marketing
- Supplier Industry

Raw material availability and cost

- Energy availability and cost

Evaluating potentially promising project concepts

Following the submission of a list of project ideas, the first stage is to select one or more of them as possibly promising. This necessitates rapid preliminary review by knowledgeable specialists, who may also revise some of the plans. The screening criteria are broad and rough at this stage, but they become explicit and polished as project planning progresses. During the preliminary screening to eliminate concepts that are not promising, one is required to look at the following elements.

1. Adherence to the promoter:

The idea must be suitable with the entrepreneur's interests, personality, and resources. It should fit the entrepreneur's personality; it should be accessible to him; and it should provide him the promise of growth and a good return on invested cash.

2. Alignment with government priorities:

Given the national goals and the government's regulatory framework, the project proposal must be realistic. In this context, the following questions should be raised:

Is the project in line with national objectives and priorities?

3. Input availability:

The project's resources and inputs must be fairly assured. The following questions must be answered in order to assess this.

- Are the project's capital requirements within reasonable limits?
- Can the necessary technological know-how for the project be obtained?
- Are the new materials required for the project reasonably priced in the United States? Will there be issues if the materials must be imported?
- Is the project's power supply reasonably accessible from external and captive sources?

4. Market sufficiency:

The current market's size must provide the promise of adequate sales volume. Furthermore, there should be room for expansion and a good return on investment. To assess the market's sufficiency, the following factors must be considered:

- The total current domestic market
- Market shares and competitors
- Markets for exports
- System of sales and distribution
- Consumption is expected to rise.
- Impediments to new unit entry

- Trends in the economy, society, and demographics support higher consumption.
- Patent defense

5. Cost-effectiveness:

The planned project's cost structure must allow for an acceptable profit with a pricing. In this context, the following should be investigated:

Material input costs

- Labor expenses
- Overheads in the factory
- Expenses for general administration
- The expense of selling and distributing
- Cost of service
- Scale economies

6. Acceptable risk level:

The desirability of a project is vitally dependent on risk, and the following elements should be addressed in risk assessment:

- Cycles of business
- Technological advancements
- Substitute competition
- Imports pose a threat.
- Price and distribution are under government control.

As a result, the analyst should exclude project proposals during the preliminary selection process.

- Technically unsound and dangerous
- There is no market for the output.
- Inadequate input supply Is relatively expensive in relation to advantages and
- Assume overly optimistic sales and profit targets.

3.3 TOOLS THAT HELP US IDENTIFY WHAT SHOULD BE INCLUDED IN A PROJECT

Project Management Tools

Project Management Tools are the tools that project managers need to help a team or an individual arrange their work. It is utilized to manage their initiatives and tasks in order for them to be successful.

A Minor Overview of Project Management Tools

Despite their name, these tools are valuable for any stakeholder in the project's development, not simply project managers. They are dynamic tools that can be totally customized to meet the demands of teams of various sizes and ambitions.

The fundamental features of a Project Tool.

Scheduling or planning:

The most beneficial feature of Project Management software is the ability to plan or schedule activities and tasks. It is essential to the success of your project. With folders, calendars, workflows, templates, tasks, and subtasks, you can plan and delegate work to all team members in a single location.

Collaboration:

When it comes to transmitting information among team members, emails are no longer the only route of communication. Project management software can be used to add comments to projects, arrange dashboards, allocate work, and for approvals and proofreading.

Documentation:

When a team or project manager is working on many projects, there is going to be occasional errors where some files are lost and cannot be recovered. To avoid these errors, project management systems include features such as file storage, versioning, and editing, which will save you from making mistakes.

Evaluation:

These solutions also provide reporting and resource management features that allow project managers to monitor and track growth and productivity.

What project management tools are used for good project planning?

As we all know, project management is not an easy science. It is a complex jumble of concepts ranging from strategy to people management, IT communications to data crunching.

In this article, we will learn about the most crucial tools available to managers. They are utilized when they need to plan or schedule their projects' tasks, identify critical routes, monitor progress, and perform all of the other important duties required for a smooth project cycle. Let's get started.

1. Diagrams of Networks

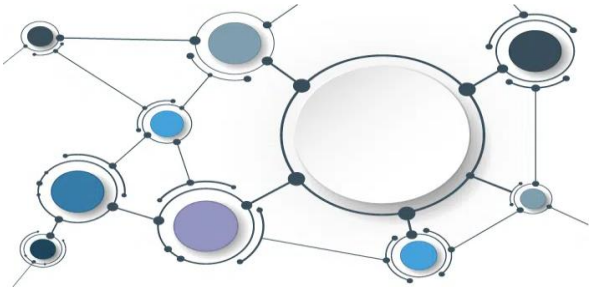


Fig 3.1 Diagrams of Networks

These diagrams are one of the most essential project management tools that can be used during the project planning phase.

Also known as a "Arrow" diagram since it is made up of many arrows that can be used to connect different tasks as well as to show precedence. You may also use these arrows to highlight the interdependence of different project operations.

There are usually some assumptions to be made when creating the Network Diagram. The first assumption is that all pending or current actions have been finished prior to beginning new ones.

The second assumption is that all of the arrows in the Network diagram imply logical priority. That is, the direction of the arrow represents the distinct sequence that must be followed for the proper execution of activities.

The final but not least assumption is that Network Diagrams must begin with a single event and terminate with a single event because dual start and endpoints are not permitted.

To compute the total time of a single project, the project manager must define four dates for each specific activity.

The first two are the beginning dates. The first of these two dates is Early Start, which is the earliest date on which the task can begin.

The second date in those, or Late Start, is the date by which the task must begin if it hasn't already.

This rationale also applies to the last two of the four dates indicated above. Those are the deadlines.

The Slack time is another critical component in the Network Diagram. This is the maximum amount of time allowed for the task to be delayed. Why? Because it will eventually cause a delay in the overall time frame.

2. Critical Path Method

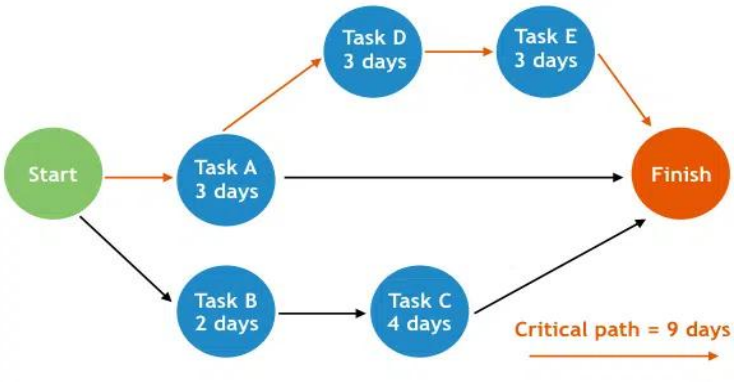


Fig :3.2 Critical path method

CPM is a key tool that project managers rely on heavily. This is due to the fact that this tool can track and evaluate project progress in real time. Its purpose is to ensure that all of the team's active projects are completed on schedule.

The project's Critical Path is the longest series of activities depicted on the network diagram. It is also defined as having 0% slack time for all actions engaged in a specific sequence.

As a result, any delay in any activity will create a delay in the total project deployment.

In some ways, having no slack time is a bad thing. Good because project managers will be more alert when they realize that even the smallest inaccuracy might stymie project progress.

Project managers can also redirect resources from one project to another if necessary. This ensures that the necessary resources are deployed where they are needed and that the project is not delayed.

However, the project manager must verify that the activity in question does not become a critical path activity as a result of the reduced number of resources.

3. Gantt Diagrams



Fig :3.3 Gantt Diagrams

A Gantt chart is a visual depiction of all the tasks associated with your project that are scheduled to be completed over time. They are employed in the planning of projects of all sizes and types.

Why? Because they are an excellent tool for displaying the work that is scheduled to be completed on a project on a certain day. They also show the entire duration of a specific project in a single glance.

Here are some of the aspects of a project that may be tracked using a Gantt Chart.

- A project's start and finish dates
- What are the project's objectives?
- Who are the team members for each project?
- Who is responsible for each task?
- How long does each individual task last?

Still don't comprehend the significance of these charts? Consider how all of the tasks are linked or dependent on one another. People used to plan on paper or show all of the projections with coloured blocks not long ago because there was no digital alternative accessible. Gantt charts revolutionized everything.

You can also go to exhibitions that honor the evolution of this incredible technology over time.

4. Project Evaluation and Review Technique

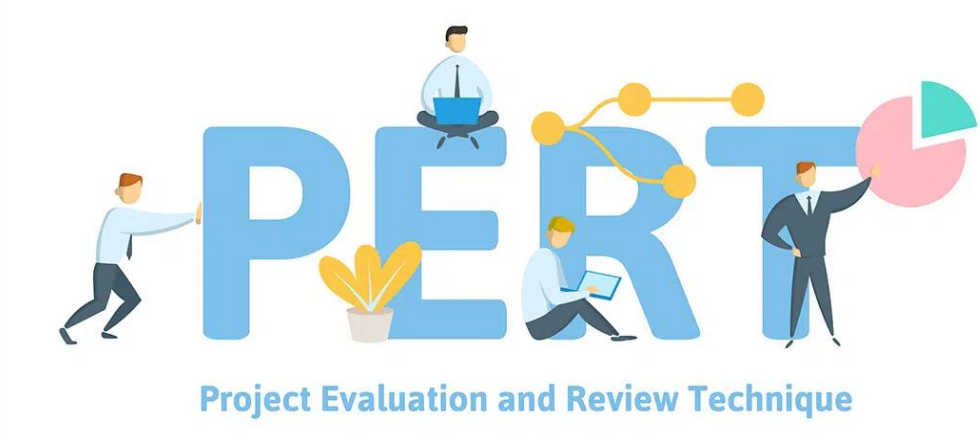


Fig :3.4 Project Evaluation and Review technique

PERT, or Project Evaluation and Review Technique, is a type of Network Diagram PM tool that is also used to determine the critical route of the project. This method simplifies the scheduling of large projects while producing realistic estimations of the length of each individual task.

It is a type of Network Diagram, but it differs in that it uses three types of estimations rather than just one. The first estimate, commonly known as T-O, assumes that the activity will never falter and that all of the elements associated to the activity will be in its favor.

The second estimate, usually known as the 'most likely' estimate, predicts that the activity will ultimately run into problems during the execution phase. It will also provide some buffers in case of problems.

The final estimate is known as the pessimistic estimate since it assumes that whatever factor might possibly go wrong and damage the activity will happen anyway.

5. Work Breakdown Structure

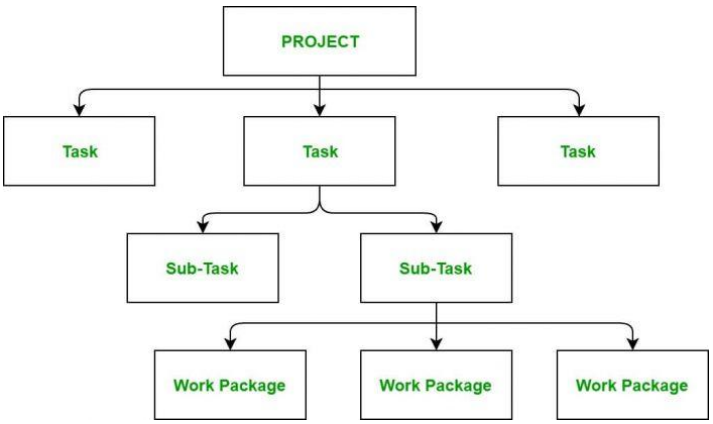


Fig :3.5 Work Breakdown structure

The work breakdown structure (WBS) is a fantastic tool in the project management paradigm. It depicts a hierarchical breakdown of work activities used to determine the project's scope. It is also used to identify all of the required deliverables for the project's development.

Having all of these data out in the open allows not just the project managers, but also all of the other stakeholders, to comprehend the scope of the project. It also assists teams in determining exactly what has to be created.

The benefit of a work breakdown structure is that it splits project deliverables and required effort into small, manageable components. Work Packages are the lowest level objects that can be monitored, assessed, managed, and cost projected.

6. Project Documentation

Finally, project documentation consolidates all of the effort outlined above into a single document. These documents contain all of the information on the project and everything contained inside it. They are established to eliminate any confusion about the project and to prevent any conflict between stakeholders about the project's status.

What are the main characteristics of project management tools?

Apart from basic task management, the following are the primary features of web-based project management tools:

1. Estimation of the project

To ensure the success of your project, you must not only track real-time progress but also estimate project constraints based on your existing performance. Budget estimates, EVM, or baselines could all be used.

2. Financial Planning

Managing your expenses to keep within your budget. Track expenses, invoice clients and pay staff, compare planned and actual costs, estimate budget, and analyze budget health.

3. Allocation of resources

Making certain that the appropriate individuals are assigned to the appropriate tasks. Using the resource usage chart, you may avoid overworking or underworking your personnel. The best project management software also aid in task assignment based on employee workload and availability.

4. Cooperation

Maintaining communication among all project parties. An online project management platform must allow for seamless collaboration. Chat, web meetings, and forums are all excellent virtual collaboration tools.

5. Quality control

Put forth your best work by regularly controlling the quality of your project. This is considerably aided by issue tracking and resolution capabilities. Automation for bug escalation and resolution is an added feature.

6. Project management

It is critical to introduce a tool to your workers, clients, and organizational structure. There are numerous ways project management software can assist you with project administration, ranging from industry-specific templates to various third-party connectors.

7. Risk administration

People also use online project management software to deal with uncertainty in work length estimates, to organize tasks to meet varied deadlines, and to juggle many projects concurrently as part of a larger goal.

3.4 UNIT END QUESTIONS

A. Descriptive Questions

Short Questions

1. What is the definition of Critical Path?
2. Define the term “Project”
3. What is a Gantt chart in Project Management?
4. What are the main characteristics of project management tools??
5. Write note on Diagrams of Networks.

Long Questions

1. Describe the tools of Project Management.
2. What do you mean by generation of ideas? Explain.
3. In how many stages project can be divided? Elaborate on it.
4. Discuss the features of a Project Tool.
5. Discuss Project Evaluation and Review Technique.
6. Importance of Project Management.

B. Multiple Choice Questions

1.In SMART S stands for,

a. Specific objective
b. Specific obligation
c. Social objective
d. Specific objection

2. Regardless of the process model that is chosen, the work that a software team performs is achieved through a ____.

a. Set of system
b. Set of development
c. Set of tasks
d. All of the mentioned above

3. ____ determines the overall scope of the project.

a. Concept scoping
b. Technology risk assessment
c. Proof of concept
d. None of the mentioned above

4. ____ implements the concept representation in a manner that can be reviewed by a customer.

a. Concept scoping
b. Technology risk assessment
c. Proof of concept
d. Concept implementation

5.Which tool is also known as a "Arrow" diagram?

a. CPM
b. Diagrams of Networks
c. Gantt Diagrams
d. PERT

Answers:

1 -a, 2- c, 3- a, 4 - d, 5- b

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UNIT - 4 SEQUENCING PROJECT TASKS

STRUCTURE

4.0 Objectives
4.1 Introduction
4.2 Sequencing project tasks and the nature of dependencies among project activities
4.3 Determine a project's duration and critical path
4.4 Schedule a project and making changes to a plan
4.5 Unit End Questions
4.6 References

4.0 OBJECTIVES

- To identify project tasks' sequencing and understand the nature of dependencies among project activities.
- To determine a project's duration and recognize its critical path.
- To apply project scheduling techniques to create a project plan and make necessary adjustments to the schedule.

4.1 INTRODUCTION

Any initiative must be identified before it can be carried out by an entrepreneur. Although there are several initiatives and ideas available in the market, finding them involves time and effort. Similarly, scanning every project on the market is a complete waste of time.

Above all, looking for projects that are relevant to our business niche is the greatest way to find projects. Attractive projects also attract numerous investors, and investment is critical for project execution.

To develop fresh ideas, however, a creative mentality is essential. It also helps to think more creatively about existing tasks.

Certain tasks are involved in the generation and screening of project ideas in general, and we will learn about these tasks in this unit.

4.2 SEQUENCING PROJECT TASKS AND THE NATURE OF DEPENDENCIES AMONG PROJECT ACTIVITIES

A project manager is responsible for the entire project's development. The process runs smoothly because it incorporates preparation and aligns the project's objectives. As a result, project failure occurs when project managers can establish the work analysis framework but cannot execute it. As project managers, you must consider a project plan that covers all Project Management abilities, knowledge, tools, and approaches. This article examines the sequence activities in a project and its process, the significance of sequence activities, and the impact of activity sequencing on projects.

Creating a Sequence of Activities

The approach of differentiating and authenticating affiliates in the midst of project activities, and sequencing activities, exemplifies consistent work planning to maximize the effectiveness of project restrictions. The method of the execution plan is for better performance throughout the project.

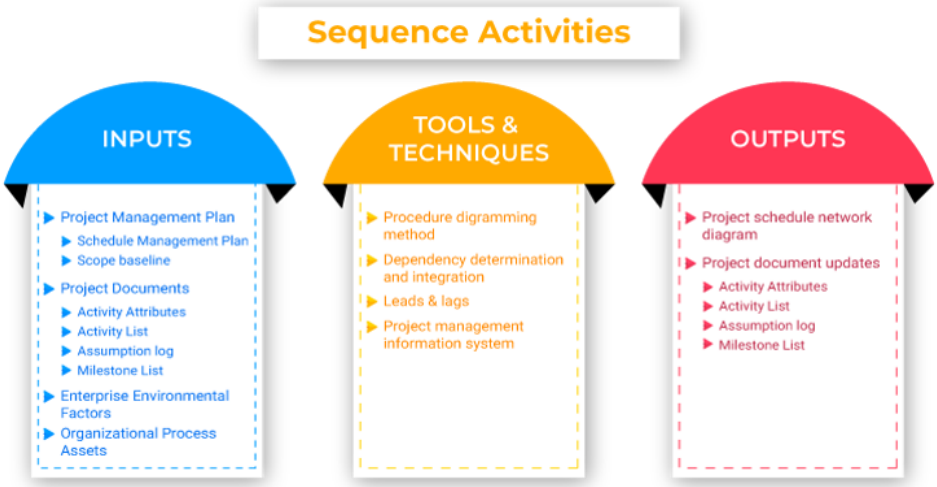


Fig :4.1 Sequence Activities

The activities in the sequence are intended to fall under Project Management process groups and knowledge domains. The project schedule development defines sequence activities, estimates activity resources, and estimates activity durations using the outcomes of the procedures in conjunction with the scheduling tool to build the schedule model. The schedule management plan specifies the scheduling technique and device to be used for the work, as well as how the activities to be sequenced will be managed.

How Should Project Activities Be Sequenced?

Sequencing can be accomplished by the use of Project Management software, as well as through manual or automated techniques. The sequence activities method focuses on turning project activities from a list to a graphic as the first step toward releasing the schedule baseline.

The data flow diagram of sequence activities depicted below depicts how every activity, except the first and last, should connect to at least one predecessor and at least one successor activity with an appropriate logical affiliation.

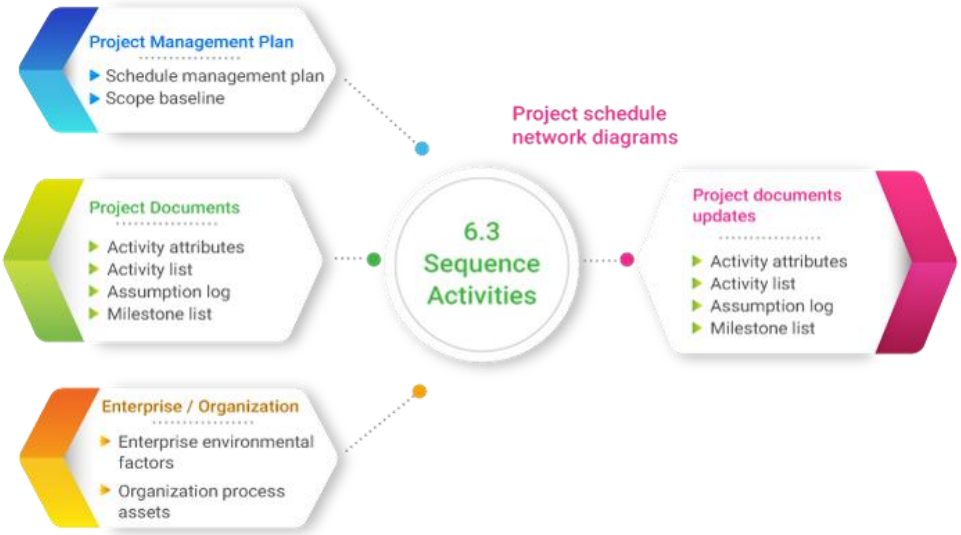


Fig :4.2 Should Project Activities Be Sequenced

Project Management Sequence Activity Process

The practice of finding and recording linkages between project tasks is known as sequence activities. The primary reason for the sequence activities process is to finalize the interrelationship of activities in order to complete the project scope and meet the task objectives.

A Network Diagram is a significant outcome of the sequence activities process. A project's network diagram illustrates activities in boxes with activity IDs and shows the interdependence of activities with bolts.

Each activity, with the exception of the first and last, should have at least one predecessor and at least one successor activity with a proper logical relationship. A realistic project timeline should be appropriate by establishing logical relationships. It may be necessary to use lead or lag time between exercises to support a reasonable and achievable project plan. Sequencing can be accomplished through the use of Project Management software, manual or digital

techniques. The sequence activities procedure focuses on converting project activities from a list to a graphic as the first step in distributing the schedule baseline.

Example of a Network Diagram for a Sequence Activities Process

- Identifying and documenting links between project activities
- The Network Diagram is a key outcome of this approach.
- When activity durations are included, the network diagram illustrates the crucial path.

This diagram depicts a sample network diagram produced by the sequence activities process.



Fig :4.3 Network diagram

As you see, after the start of the project,

- Activity #1 must start first.
- After Activity #1 finishes, Activity #2 and Activity #3 will begin.
- Activity #4 can start only after Activity #2 finishes.
- Activity #5 depends on Activity #2 and Activity #3. Therefore, it will start only after these two activities are completed.
- And the last Activity, activity #6 can start only if Activity #4 and Activity #5 is completed.
- After activity #6 completion, the project will end.

Please keep in mind that this is only a simple and sample network diagram to demonstrate how a network diagram works. Because there will be many project activities in real-life projects, the network diagram and sequence activities procedure will be considerably more sophisticated than this.

Project Management Sequence Process Tools

The project manager identifies and records linkages among the various project activities in the process of sequencing activities in Project Management so that he or she can establish the optimum logical sequence that produces the highest efficiency. Finally, the project manager will be able to create a Project Management Sequence Process.

The Project Management Sequence approach employs three tools and techniques:

Precedence Diagramming Method (PDM)

Dependency Determination

Leads and Lags

Why is it critical to plan project activity sequences?

It is critical to prioritize project planning and activity sequencing. Otherwise, you may find yourself exhausting your resources on the beginning activities only to discover that bigger and more important activities have rendered them obsolete in the absence of a specific plan.

You cannot determine a project's hard way unless you sequence tasks. To project network diagrams, several distinct diagrams are the same. For example, in transportation modelling, you aim to identify the shortest path between two points. You just need to take one way, as shown in the illustrations. In a project network diagram, all activities must be done in order for the project to be completed.

Method of Precedence Diagramming

The Precedence Diagramming Method is a strategy for creating a schedule model in which activities are represented by nodes that are linked to one or more affiliates to its successors by a projectile.

The Precedence Diagramming Method includes four different types of dependencies or logical predecessor-successor relationships:

Finish-to-Start:

The successor activity cannot begin until the predecessor action is completed.

Finish-to-Finish:

The successor activity cannot be completed until the predecessor action is finished.

Start-to-Start:

A successor activity cannot begin until the predecessor activity has not begun.

Start-to-Finish:

A successor activity cannot be completed until the predecessor activity has commenced. When the connections between the activities of the projects are derived, you will receive a

sequence that sets up activities that are interlinked with each other based on their affiliation. This configuration is known as the project's network diagram.

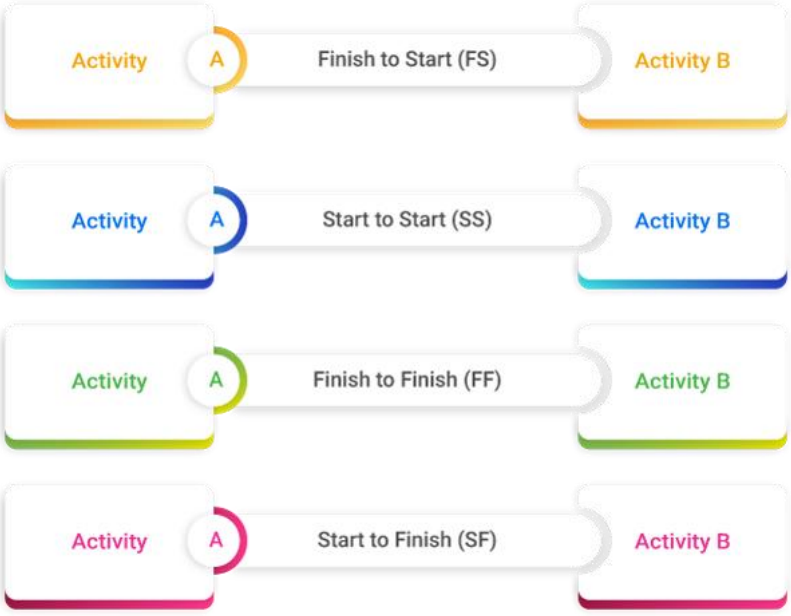


Fig :4.4 project's network diagram.

The Importance of Activity Sequencing in Projects

You can't decide on the most difficult approach to complete a project unless you sequence actions. Numerous examples are similar to project network diagrams, so you try to find the shortest path between two places. You must only take one point from each illustration. In a project network diagram, you must finish all of the project's activities.

Sequence Activities' Leads and Lags

Leads and Lags are critical tools for project activity sequencing.

Successor activity is permitted to begin early, and it is relevant to Finish-to-Start type assistance, which is the most fundamental link between activities. A Lead permits successor action to begin as soon as possible.

Lag, which is relevant to Start-to-Start, a type of dependence relationship between exercises, causes successor activity to postpone its start. For example, suppose you decide to postpone the purchase of building supplies by three days after the design of the plan begins. It appears to begin with three days of leisure time.

4.3 DETERMINE A PROJECT'S DURATION AND CRITICAL PATH

What Exactly Is a Critical Path?

The critical path is the longest series of activities in a project plan that must be performed on time in order for the project to finish on time.

Most projects are divided into tasks or activities (whatever you want to call the smaller bits that need to be completed in order to get the project done). The critical route is a set of tasks that, when completed in sequential order and taking into account all of the above criteria, will take the longest to accomplish the project.

Simply put, the critical path determines the SHORTEST possible project length by arranging the LONGEST series of dependent actions required to finish the project.

What exactly is the critical path method?

The critical path method (CPM) is a strategy for identifying tasks required for project completion and determining schedule flexibility. In project management, a critical route is the longest series of operations that must be completed on time in order for the project to be completed. Any delays in important tasks will cause the rest of the project to be delayed.

CPM is concerned with identifying the most critical activities in the project timeline, determining task dependencies, and estimating task durations.

CPM was created in the late 1950s to address the issue of higher expenses caused by inefficient scheduling. CPM has since gained popularity for project planning and work prioritization. It enables you to divide large projects into smaller tasks and acquire a better grasp of the project's flexibility.

The Critical Path Method's Importance

The use of advanced project management techniques like the critical path method may be traced back to massive projects like the Great Pyramid of Giza, the Great Wall of China, the Panama Canal, and the Trans-Siberian Railroad, to mention a few.

Consider what these historic construction projects might have looked like without project management tools such as the critical path method. Isn't it chaos?

The same may be said of ongoing projects in today's organizations. Many projects would never get off the ground if the capacity to evaluate probable barriers within a project's timeframe, examine the project components required for completion, and find solutions to those obstacles was not available.

Why should you use the critical path method?

CPM can help you plan projects, allocate resources, and schedule tasks more effectively.

Here are some of the benefits of using this method:

Enhances future planning:

CPM can be used to compare projected progress versus actual progress. Current project data can be used to inform future project plans.

Allows for more effective resource management:

CPM assists project managers in prioritizing tasks and determining how and where to deploy resources.

Assists in avoiding bottlenecks:

Bottlenecks in projects can lead to lost time. Using a network diagram to plot out project dependencies can give you a better picture of which activities can and cannot run in parallel, allowing you to schedule properly.

How to Identify the Critical Path

The time of important and non-critical tasks is used to determine the critical route. The steps are broken down below with examples.

1. List activities

List all of the project activities or tasks required to produce the deliverables using a work breakdown structure. The work breakdown structure's list of activities serves as the foundation for the rest of the CPM.

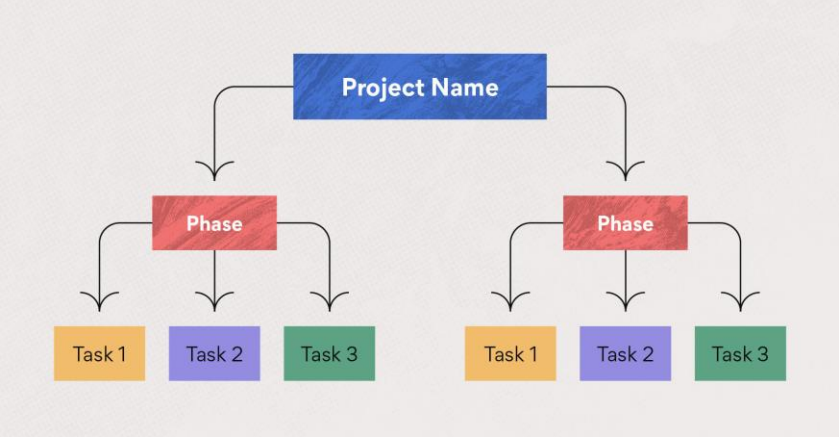


Fig 4.5 Project activities

Assume the marketing team is working on a new interactive blog article. Here are some examples of duties that could be included in the work breakdown structure:

Task ID	Task	Duration (days)
A	Create outline	1
B	Write draft	5
C	Edit and create final draft	2
D	Design post visuals	4
E	Add animations to visuals	2
F	Upload post	1

Fig :4.6 Project activity details

Once you have a general notion of what needs to be done, you may begin identifying task dependencies.

2. Determine dependencies

Determine the jobs that are interdependent based on your work breakdown structure. This will also assist you in identifying any job that can be done concurrently with other duties.

Here are the task dependencies based on the example above:

Task B is dependent on A

Task C is dependent on B

Tasks C and D can run in parallel

Task E is dependent on D

Task F is dependent on C, D, and E

An activity sequence is a set of dependent tasks that will be utilised to establish the critical path.

3. Make a network diagram.

The work breakdown structure is then converted into a network diagram, which is a flowchart that shows the sequence of tasks. Make a box for each task and use arrows to show how they are related.

You'll keep adding time-bound components to the network diagram until you've figured out the overall project timetable.

4. Determine the task's duration.

To determine the critical path, or the longest series of critical tasks, you must first assess the time of each activity.

To get an idea of how long it will take, try:

- Using experience and expertise to make educated assumptions
- Estimating based on past project data
- Estimation based on industry norms

Alternatively, you might try the forward and backward pass techniques:

Pass forward:

Using a previously given start date, this is used to compute early start (ES) and early end (EF) dates. The highest EF value from immediate predecessors is ES, while EF is ES + duration. The calculation begins with 0 at the first activity's ES and works its way through the schedule. Determining ES and EF dates enables for early resource allocation to the project.

Reverse pass:

This is used to compute late start and late finish dates. LS equals LF - duration, whereas LF equals the lowest LS value among immediate successors. The calculation begins with the most recently planned activity and works its way back through the entire schedule.

The early and late start and end dates can then be used to compute the task's float, or scheduling flexibility.

5. Determine the crucial path

The critical path can be calculated manually, however a critical path algorithm can save you time.

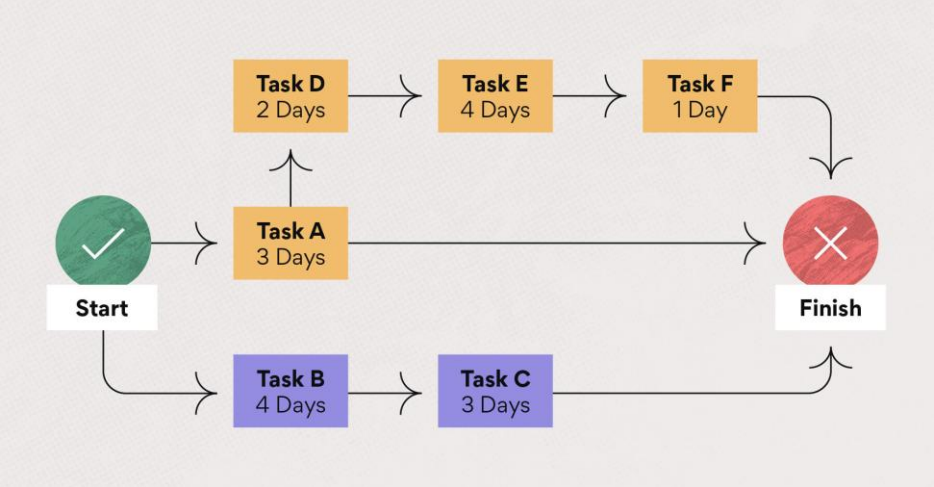


Fig :4.7 Determine the crucial path

Here are the steps to manually compute the critical path:

Step 1:

Next to each action, write down the start and end times.

The first activity has a start time of 0 and an end time equal to the activity's duration.

The start time of the next activity is the preceding activity's end time, and the end time is the start time plus the length.

Do this for each activity.

Step 2:

To determine the duration of the complete sequence, look at the finish time of the last activity in the sequence.

Step 3:

The critical path is the sequence of activities that lasts the longest.

Using the same example as before, here is an example of a critical route diagram:

6. Determine the float

The amount of flexibility provided by a given assignment is referred to as float or slack. It specifies how far the task can be postponed without affecting future tasks or the project's completion deadline.

Finding the float is useful for determining how flexible the project is. Float is a resource that should be used to cover project risks or unanticipated challenges.

Critical jobs have zero float, indicating that their deadlines are fixed. Positive float-number tasks are on the non-critical path, which means they can be delayed without compromising the project's completion schedule. Non-critical tasks may be skipped if time or resources are limited.

The float can be calculated either automatically or manually. Calculate the total float and free float using the formulas in the section below.

Here's an explanation of the two sorts of float:

Total float: The amount of time an activity can be postponed from the early start date without delaying the project's completion date or violating a schedule restriction. Float total = LS - ES or LF - EF

Free float: The amount of time an activity can be delayed without affecting the next activity. Only when two or more activities share a common successor can there be free float. This is where activities converge on a network diagram. ES (next task) - EF = free float (current task)

There are several compelling reasons why project managers should understand float:

It keeps projects on track: Tracking a project's overall float allows you to establish whether or not a project is on pace. The larger the float, the more probable it is that you will finish early or on schedule.

It gives you the ability to prioritize: You'll have a better notion of which chores should be prioritized and which ones can be postponed if you identify activities with free float.

It's an excellent resource: Float is additional time that can be used to cover project risks or unexpected challenges. Knowing how much float you have allows you to decide how to use it most effectively.

What is the Critical Path Method?

CPM provides visibility into the status of your project, allowing you to track jobs and their completion times. Some further CPM applications are listed below.

Schedules should be compressed.

Though it is not ideal, there are situations when project deadlines must be extended. There are two schedule compression approaches available in these situations: rapid tracking and crashing.

Fast tracking: Examine the critical path to identify activities that can be completed concurrently. Running parallel processes will shorten the overall time.

Crashing: This is the process of providing extra resources to accelerate processes. Before acquiring more resources, ensure that it is still within the scope of the project and notify the stakeholders of any modifications.

Knowing the key path might help you determine the best plan to meet new deadlines.

Resolve resource constraints

Keep in mind that CPM does not consider resource availability. When there is a resource scarcity, such as an overbooked team member or a lack of equipment, resource levelling approaches can be used to alleviate the problem.

These strategies are intended to address resource overallocation issues and ensure that a project can be finished using the resources that are currently available.

Because resource leveling adjusts project start and end dates, you may need to readjust the critical route or apply this strategy to activities with float.

Gather information for future use.

Because you're working with informed estimations for activity durations, the schedule generated by CPM is susceptible to change. As the project progresses, you can compare the original critical path to the actual critical path.

This information can be utilized to generate more accurate job duration predictions for future projects.

4.4 SCHEDULE A PROJECT AND MAKING CHANGES TO A PLAN

Projects are an important way to add value in every organization. Running an organization with a lack of ideas and no suitable project timelines would result in failure. Whatever the size or breadth of your project, the project schedule articulates when each action should be completed, what has already been completed, and the order in which things must be completed. In today's corporate world, every organization must be able to manage and schedule with tight budgets, limited resources, and the most latest technological trends. This article goes into Project Schedule Management in depth, explaining how to plan, establish, maintain, and control any project's schedule.

What exactly is schedule management?

Schedule management is a method that necessitates the development of policies and documentation for maintaining, establishing, managing, and regulating time and resource schedules for project completion. The schedule management procedure has the strategic advantage of monitoring and managing the timetable throughout the project.

The scheduling approach begins with the projects that are expected to deliver in accordance with the stakeholder's needs. Schedule Management includes the technical work that drives productivity and introduces change, as well as issues like risk management and stakeholder management.

What is a project schedule in project management? Explained!

A project schedule is a technique that communicates what work should be performed, who resources inside the company will conduct the task, and when that work should be completed. The project schedule should include the majority of the work required to complete the task on time. Without a complete timeline, the project manager will be unable to communicate about the expenses and resources required to execute the project.

Real-time tracking of project timelines, resources, budgets, and project-related assets is possible with some applications. The project schedule can be modified and viewed by colleagues involved in the job, keeping everyone up to current on the overall project status.

Planning Project Schedules in Project Management

Building policies, methods, and project documentation provide direction and guidance on how the task timeline will be monitored throughout the project. The goal of a project schedule is to coordinate and focus on the progress of the Schedule Management Plan.

The following factors should be considered in project plans:



Fig :4.8 Project schedule planning

Along with the project schedule management plan, establishing the project schedule is a vital task that includes identifying project activities, sequencing them, and defining objectives for those activities. As important as project management scheduling is by all accounts, expertise should come with extensive experience.

Develop Project Schedule in Project Management!

Creating a Project Schedule is the process of organizing the timing and sequence of project activities.

A project schedule specifies assignments and deadlines for completing activities and deliverables. The project timetable depicts:

- Estimated time (duration) for all project tasks
- Task start and completion dates
- Staff members' names who have been assigned to execute the tasks
- Task progression

A work breakdown structure is an important component of a project timetable (WBS). The work breakdown structure is reflected in the project schedule.

Project scheduling is critical to ensuring that the original project plan is followed and that the end project output is close enough to declare the project a success. Creating project schedules assists the project team in staying on track with the necessary activities. The Schedule Management knowledge area of the PMBOK describes the important procedures involved in generating a project schedule.

5 Steps to Help Develop a Project Schedule

Project management has always been fascinated by how things function and how to improve them. As a result, a project timeline emerges during the planning phase of each project. The following methods are anticipated to be used to schedule a project:

1. Identify Activities

Define activities enables project managers to use the Work Breakdown Structure (WBS) and a deliverables diagram to identify and begin the tasks required to complete the project on schedule. As a result, they will be aware of what actions must be included in the plan.

2. Arrange Activities

The sequence of activities aids in determining the relationship between project activities. The next stage is to organize the jobs and identify dependencies (Finish to Start, Finish to Finish, Start to Start, Start to Finish).

3. Make Estimates

The project team has specified the activities and tasks in a breakdown structure; the next stage is to select the time usage to complete the project. To calculate a schedule, have an estimate of what to do, how to accomplish it, and the most important component of the equation is how long should a project take to complete.

4. Establish Dependencies

Projects aren't always easy. On a regular basis, a project cannot begin until the one in progress is completed. These are referred to as task dependencies. As a result, your timetable will need to account for these related initiatives. As project managers, you can also pursue a technique by monitoring your calendar to accommodate these connected initiatives.

5. Delegate Resources

The final step is to Assign Resources in order to complete your planned timetable. It determines which resources you will need to perform the assigned tasks on time. As a project management team, you must have the appropriate resources, and their time should be taken into account while planning assignments.

When you intend to create a project timeline, solicit feedback from your management and implement the necessary revisions. Before you begin executing the project plan, you must estimate it. It will let you compare anticipated versus actual dates once the project is underway. Consider the task's goals to help you create a schedule once the procedure is completed.

Maintain the Project Schedule in Project Management

Among the basic project management competencies, booking can have an impact on the most areas of a project, either positively or negatively. Inadequate project schedules can stymie your project schedule management, causing interruptions for individuals and manufacturing equipment, ultimately leading to project failure.

Here are a few strategies to assist you keep your overall project schedule on track:

The Project's Planning

Planning is the key to a successful project. Once the project is completed, a well-planned project plan will save time, money, and a significant amount of mental anguish. To begin, developing a project strategy should prioritize the following components:



Fig :4.9 Maintain the Project Schedule in Project Management

Once the project plan is complete, distribute it to all board members so that it can be used as a guide during the project.

Keep the Project on Track

A well-defined project plan can assist a project team stay on track throughout the project. From the beginning to the end, the project must be reviewed, revised, and monitored on a regular basis.



Fig :4.10 Project on Track

Make use of Project Management Software.

Project managers encounter numerous problems, regardless of how precise the project plan is or how prepared they are. Thankfully, technological advancements have enabled monitoring everything from online life records to client connections more powerful and helpful. Project managers, too, desire to have access to software that makes their jobs easier.

Time Administration

It is always advantageous for every project management team to be proficient at successfully managing time at work. While there are numerous approaches that a project management team could use to deal with the opportunity, the following are a few of the most effective:

Tasks should be delegated.

Set priorities for your tasks.

Organize more efficient meetings

Understand how to say 'no.'

Today, write the job for tomorrow.

Celebrate your success.

The ultimate chance for the project management team is to rejoice once the project is completed by using the appropriate techniques. Going out for a team meal or a few celebratory drinks is a well-known method of observing. Rewarding the team with certification or personally praising the team is also a good indicator.

In Project Management, "Control Project Schedule"

Control of a Schedule in Project Management denotes the technique to monitor the project's progress and, as a result, updating and managing project changes to the scheduled baseline to achieve the goal.

When carried out correctly, this technique helps to reduce the risk of delivery slippage. Aside from monitoring the status, the schedule control process updates projects and manages schedule changes so that project managers may meet their objectives.

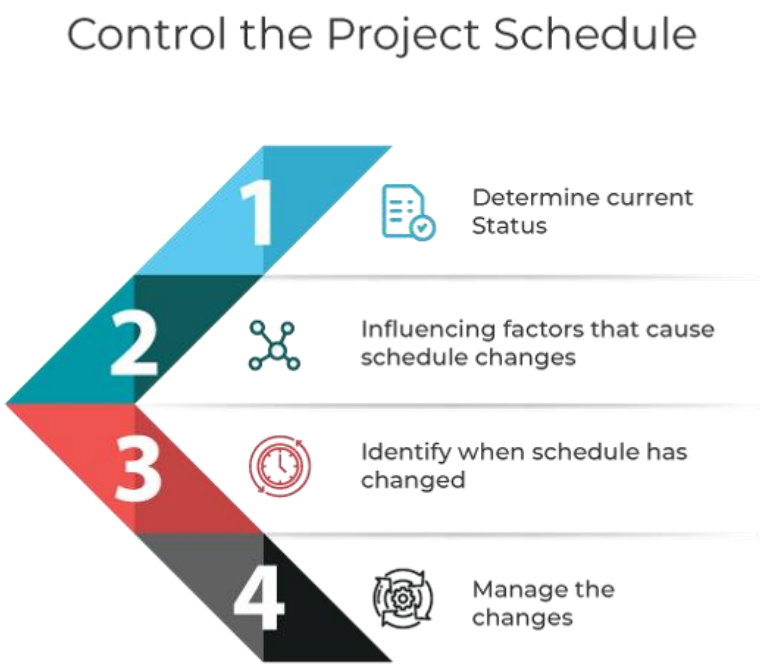


Fig :4.11 Control the project schedule

Understand the Control Schedule Process Principles

The developments should not only be responded to, but also proactively controlled. The project managers must act fast before the modifications have an influence on the overall timeline.

The control schedule procedure addresses the stakeholders' skills by approaching them with direction to work that the project managers must do based on the nature and duration of the task.

It is critical to understand the schedule's actual performance. The control schedule procedure enables project managers to adopt the state of the project schedule and validate and manage the required modifications.

Techniques for Managing the Project Schedule

The schedule variance and schedule performance index are used to survey the breadth of schedule adjustments by employing Earned Value Management (EVM).

It is critical in schedule control to determine if a schedule variance requires corrective action. For example, if there is a project disruption that has a detrimental impact on the timetable plan and so necessitates rapid action.

Use the critical chain scheduling method to control the schedule status by comparing the quantity of defense required and the remaining security.

The use of Schedule performance measurements to assess the amount of variance from the initial schedule baseline. The aggregate float variance is also an important module for evaluating project time performance.

Essential parts of project schedule control include determining the cause and extent of deviation from the planned baseline, as well as determining if corrective or preventive action is required.

4.5 UNIT END QUESTIONS

A. Descriptive Questions

Short Questions

1. Define a Network Diagram and its role in Project Management.
2. Describe the significance of a project schedule in Project Management.
3. Discuss the criticality of planning project activity sequences.
4. Provide an overview of the Critical Path method.
5. Elaborate on the concept of schedule management in Project Management.

Long Questions

1. Explore the Process of Sequencing Activities in Project Management.
2. Examine the Different Methods of Precedence Diagramming.
3. Justify the Significance of the Critical Path in Project Management.
4. Analyze the Steps Involved in Computing the Critical Path.
5. Elaborate on the Factors to be considered in Project Planning.

B. Multiple-Choice Questions

1. A schedule that has been defined at a degree of resolution that allows progress to be monitored and the project to be controlled, is called,

   a. Project tracking
   b. Project scheduling
   c. Project network
   d. Project monitoring

2. …….. is the key to a successful project.

a. Evaluation
b. review
c. Planning
d. Monitoring

3. A ……..is responsible for the entire project's development.

a. project manager
b. accountant
c. agent
d. government

4. The practice of finding and recording linkages between project tasks is known as …….. activities.

a. tracking
b. scheduling
c. mining
d. sequence

5. PDM stands for …….

a. Project Diagramming Method
b. Precedence Diagramming Method
c. Precedence Diagramming Manual
d. Precedence Diagonals Method

Answers:

1 -b, 2- c, 3- a, 4 - d, 5- b

4.6 REFERENCES

- Chowdhary, S. (1988). Project Management. New Delhi: Tata McGraw Hill.
- Gahlot, R. (1993). Project Implementation, Monitoring and Evaluation. Chandigarh: Commonwealth Youth Programme, Asia Center.

UNIT - 5 MARKET AND DEMAND ANALYSIS

STRUCTURE

5.0 Objectives

5.1 Introduction

5.2 Market and Demand Analysis

5.3 Situational Analysis

5.4 Conduct of Market Survey

5.5 Demand and Forecasting

5.6 Unit end Questions

5.7 References

5.0 LEARNING OBJECTIVES

- To define the terms "Demand" and "Forecasting" and apply them to demonstrate the quantity desired of a good or service using a demand schedule and a demand curve.
- To explain the concept of demand and forecasting to showcase the quantity desired of a good or service through the use of a demand schedule and a demand curve.

5.1 INTRODUCTION

Market and Demand Analysis Concept

The process of project evaluation frequently begins with an estimate of the market size. Before undertaking a full analysis of a project, it is vital to know, at least roughly, the size of the market because the feasibility of the project is significantly dependent on whether the expected level of sales surpasses a particular volume. Many projects have been abandoned because preliminary analysis suggested an insufficiently sized market.

Market and demand analysis is used to determine the total demand for a product or service as well as the market share that a project under consideration is likely to produce.

Companies do market demand analysis to determine how much consumer demand for a product or service exists in the market. This research assists management in determining whether they can effectively enter a market and create enough earnings to expand their business operations.

Key Market and Demand Analysis Steps and Their Interrelationships

Situational analysis and goal specification

The project analyst may speak with consumers, rivals, middlemen, and others in the business informally to gain a "feel" for the relationship between the product and its market. Wherever possible, the analyst may look at the company's experience to learn about consumer preferences and purchasing power, competition activities and plans, and middleman practices.

5.2 MARKET AND DEMAND ANALYSIS

Market and demand analysis are functions performed by a company's project manager during the evaluation of a project idea.

The market and demand analysis has six steps, but before we get to those, we must first define market and demand analysis.

So, let's have a look at what these are.

Market Analysis:

In simple terms, market analysis is a research conducted to analyze market needs and consumer preferences for a specific business proposal.

Demand Analysis:

Meanwhile, demand analysis merely attempts to estimate the aggregate demand for a specific product or service over a specified time period.

The most important steps in market and demand analysis

Situational Analysis

To gain a general understanding of the relationship between the product and its market, the project manager must conduct informal interviews with customers, competitors, middlemen, and other project and industry stakeholders.

To begin, he must examine the company's experience to learn about consumer preferences and purchasing power, competition activities and strategies, and middleman behaviours. Some of the most pressing questions that must be addressed are:

- What is the current level of interest in the new product/service?
- How is demand dispersed throughout time and space?
- What profit margins will persuade distributors to stock it?
- Who are the new products/purchasers? service's
- What distribution channels are best suitable for the new product/service?
- What are the chances of a quick sale?

Secondary Information Gathering

Information is gathered from a variety of secondary and primary sources. Secondary information is information that has been obtained from other sources and is already available on the market.

Primary information

Primary information, on the other hand, refers to information that is gathered for the first time for a specified reason. Secondary information, on the other hand, serves as the foundation and beginning point for market and demand analysis.

The following are some of the most prominent and popular secondary data collection sources:

- National sample survey findings
- Reports on plans
- Annual industry survey
- The Reserve Bank's monthly bulletin
- Advertising agency publications
- National Enumeration
- Annual reports of the Commerce and Industry Department
- The directory of exchanges
- National Union Statistical Abstract
- Yearbook of Statistics

Market Survey Execution

To begin gathering primary and secondary data, a thorough market study is required. There are various sorts of market surveys. It could be a census survey or a sample survey, for example.

A sample survey contacts or observes a subset of the population, whereas a census survey covers the complete population. The information gathered from the market survey can be related to some of the following:

1. Total demand and demand growth rate
2. Demand in different market segments
3. Buyer motivations for purchasing the product
4. Buyer's purchasing plans and intents
5. Buyer's social and economic qualities
6. Customer unsatisfied demands and desires
7. Attitudes and behaviors regarding different products

8. Preferences and trade practises
9. Consumers' level of satisfaction with the market's existing offerings

The market's characteristics

Based on information gathered from numerous primary and secondary sources as well as a market study, the market for the product or service under consideration can be summarized as follows:

- In the past or in the present, effective demand for the product
- Demand for the product is broken down.
- Product-related price factors
- Methods for distributing the goods and promoting its sales
- Buyers of the product
- Supply levels and the amount of market rivalry for the product
- Government policy pertaining to the labor market

Demand Forecasting

After gathering information about various components of the market and conducting demand research from appropriate primary and secondary sources, an attempt is made to forecast future demand for the product or service.

The project manager, on the other hand, has access to a variety of forecasting tools.

Market Analysis

So, market planning is the process of organizing and outlining a company's marketing goal for a product or service, as well as planning strategies and tactics to attain those goals.

A market strategy may differ for different items, and it is also recommended to have separate plans for different sorts of products or services because one plan may not fit or be suitable for different types of products or services.

Let us now have a look at the components of a market strategy;

Market Plan Components

Current Market Situation

Above all, this component requires us to analyze certain things such as where the organization is now, who the customer groups are, what the customer's needs and demands are, how large and diverse our target audience is, what products and services we provide, how much competition there is for our product or service in the market, and are there any environmental factors associated with our product or service.

S.W.O.T. Analysis

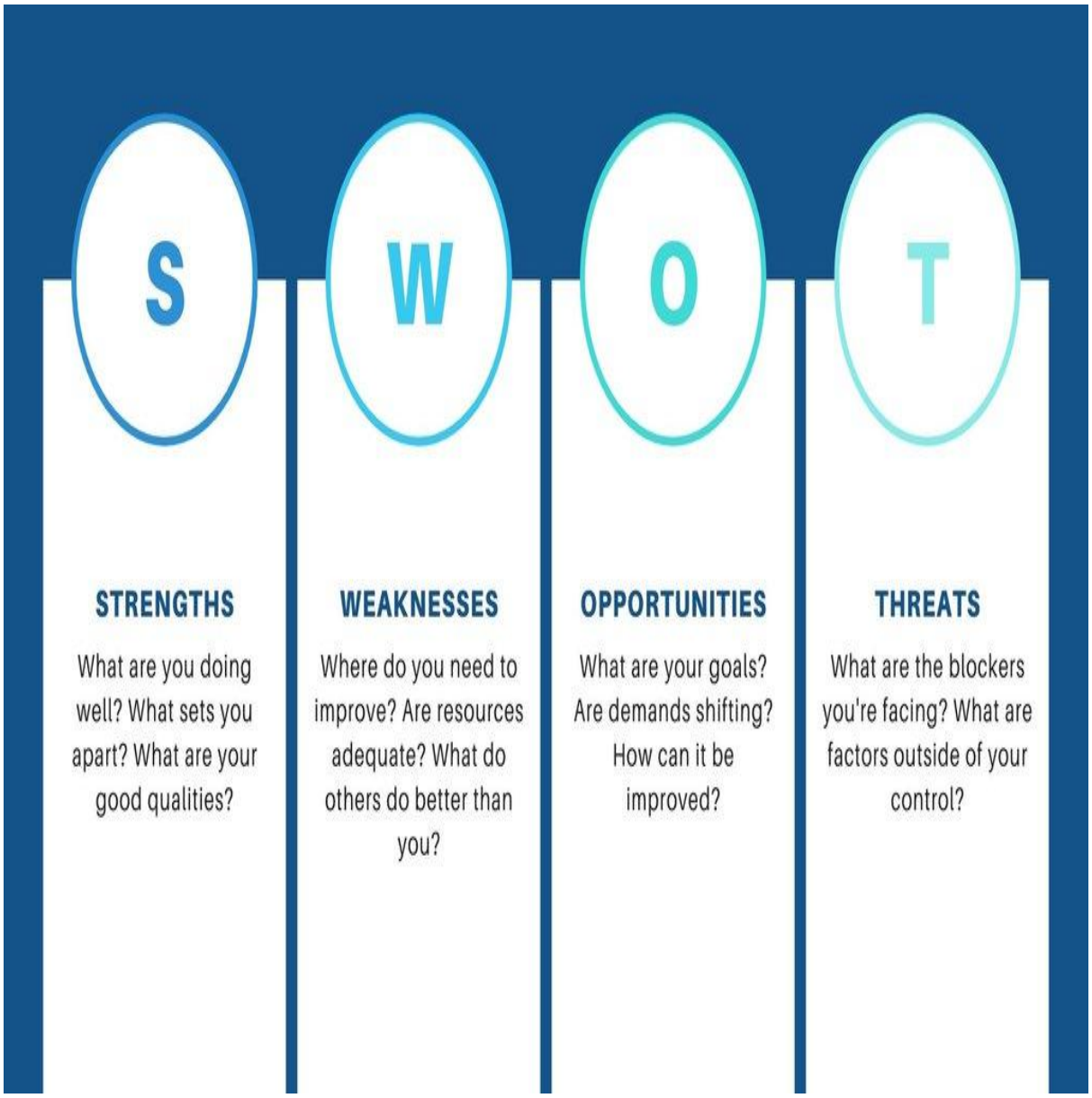


Fig :5.1 S.W.O.T. Analysis

S.W.O.T Analysis refers to the discovery and analysis of our organization's four components, which are Strength, Weakness, Opportunity, and Threats. Furthermore, these four components can be classified as internal and external influences.

Internal elements include strengths and weaknesses, while external factors include threats and opportunities. In other words, SWOT analysis assists us in identifying significant difficulties and opportunities for our organization, as well as an analysis of your internal operations.

Objectives

You can now make judgments about future aims after recognising the primary concerns influencing your organization. These will serve as the foundation for the formulation of strategies and action plans.

Objectives must meet certain requirements, such as financial and customer-focused marketing.

The objectives must be clearly specified, measurable, and ranked in order of significance.

Above all, they should be reachable and compatible with the ethos of your organization.

Strategy for Marketing

Obviously, it refers to the plan that must be performed in order to obtain the intended results. It considers factors such as who the firm is targeting, whether the firm will change the way it promotes and advertises the product or service, whether more research is required, and so on.

Program of Action

After all of the preceding steps have been completed, it is time to select how to begin taking action. Essentially, to finalize what will be done, when it will be done, who will do it, and how much it will cost to execute it.

Controls and Budget

The Budget is essentially a cash flow statement with a profit/loss statement to support the firm's marketing plan.

Along with budgets, control mechanisms and processes must be designed to evaluate the plan's success and determine whether anything needs to be adjusted. It must also include a backup plan in case something bad or unexpected happens.

Steps for conducting a market survey

- To begin, define the audience target segment for the market study.
- Choose the sampling scheme and sample size for the survey that will be conducted.
- Create the questionnaire, keeping in mind the information to be acquired and the people from whom the information is to be gathered in mind.
- Hire and train field investigators who will eventually conduct the survey on the ground.
- Attempt to collect information from a sample of respondents in accordance with the questionnaire.
- Examine, analyze, and interpret information obtained from the market survey data.

Demand Forecasting Methods

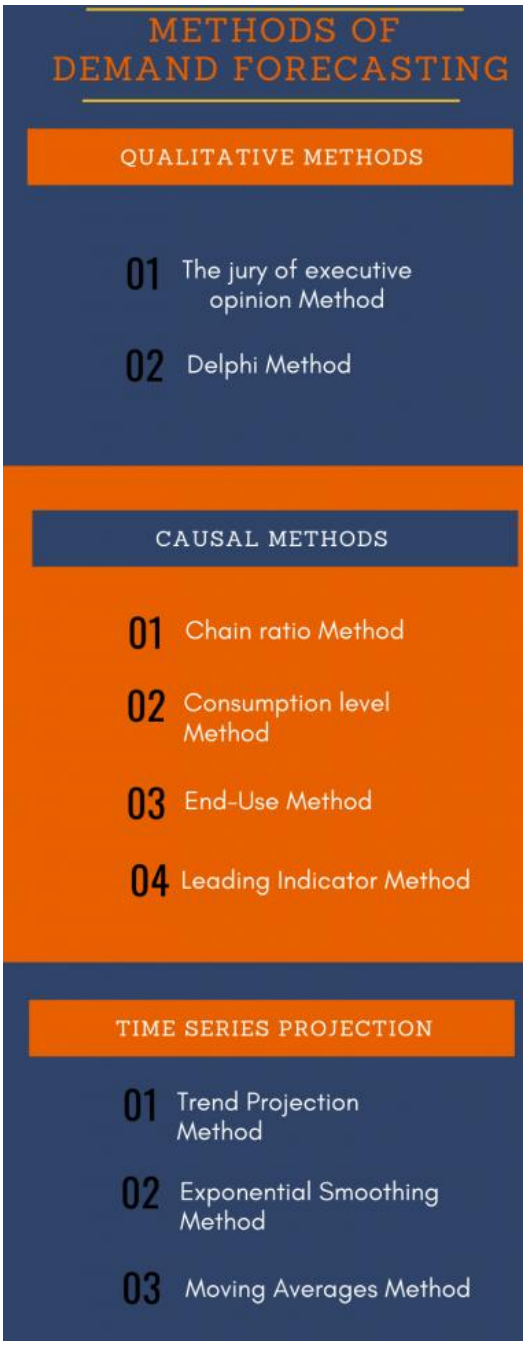


Fig :5.2 Demand Forecasting Methods

Demand Forecasting Uncertainties

While demand forecasting is thought to be a terrific tool in terms of the benefits it provides, the word itself implies that it is forecasting, which means to estimate, and so it is not failsafe. It has its own set of uncertainties and inaccuracies, which stem mostly from three sources:

Data on the previous and present market is accessible.

Lack of standardization of market elements such as product prices, quantity, and quality, among others.

The number of observations available for analysis

- Forecast errors may also be caused by abnormal or exogenous events.
- Methods used for forecasting may potentially generate errors in predicting due to unreasonable expectations established by us or inability to handle measurable or unquantifiable aspects.
- Uncertainties and errors can be caused by changes in the environment. The cause could be:
- Changes in Government Policy Due to Technological Change
- The discovery of new raw material sources
- Weather changes or the occurrence of natural disasters

How to Deal with Demand Forecasting Uncertainties

While uncertainties exist, there is a way to deal with them. Among them are:

Analyses are carried out using data that is based on uniform and standard definitions.

Evaluate the assumptions of the forecasting methods and select the way that will be best appropriate for the process.

Preparing and considering different scenarios, as well as their implications for the market and competitiveness.

Monitoring the environment closely so that significant changes can be easily detected and tapped.

5.3 SITUATIONAL ANALYSIS

What exactly is a situation analysis?

Before we go any further, let's answer the burning question: What is situation analysis? Sure, we gave a brief answer in the introduction, but let's get right into it.

Situation analysis is essentially a methodical examination of the internal and external forces influencing your company at any given time. Customers, rivals, the market environment, and your company's skills are examples of such elements. You can uncover strengths and weaknesses, as well as possible areas of growth, by studying these aspects of your firm and its environment.

If this definition appears too broad, it is because it is: scenario analysis is a wide term that incorporates a number of smaller actions. SWOT analysis, PESTEL analysis, Porter's Five

Forces analysis, 5C analysis, and VRIO analysis are examples of these tasks (but more on those later). In other words, scenario analysis is a stage of strategic planning during which you may employ a variety of analytical tools.

The significance of situation analysis

We've said it before, and we'll say it again: before developing a concrete project plan or marketing strategy, undertake a situation analysis. But don't take our word for it—break let's down exactly why scenario analysis is so vital in the early phases of planning.

Before anything else, scenario analysis provides a snapshot of your company's current state. No frills, no hyperbole, simply an honest assessment of where you are. What are your strong points? Weaknesses? How do you stack up against the competition? By doing a scenario analysis, you will have a full understanding of your business and its current position.

This can help throw light on other aspects of your company. What issues are you dealing with? What strategies are you currently employing to address these issues?

You may have a better picture of where you want your firm to go if you have a comprehensive view of where it is now. Following a situation analysis, you should be able to clearly distinguish the current and desired states of your firm. You may then set goals and take action to make your dream a reality.

Considerations in the context of a situation analysis

A thorough situation analysis is required for effectiveness. A half-baked job will simply not suffice. So, what exactly is a complete scenario analysis? To begin, it should examine your company from a variety of angles. But that's the short version. Let's look at some of the important views that contribute to situation analysis. Consider the following when conducting a situation analysis:

Situation of the product:

This one is quite simple: what is your current product? In this case, it may be useful to define "product" as all of the ways you meet the needs of your clients. Remember to mention any additional services you offer clients while evaluating your present offering. Is your customer service exceptional? Because this has a direct impact on the situation of your merchandise.

Situation of competition:

A situation analysis would be incomplete without some sort of competitor analysis. Your marketing strategy and company plan should always take competitors into account, which requires you to examine where your competitors stand. (VRIO analysis can be an excellent tool for determining long-term competitive advantage.)

Situation regarding distribution:

How will your product be delivered to customers? This might include the app store, physical retailers, and so on. That describes your distribution situation. Because it is where you actually reach customers, your distribution method can make or break your firm. Incorporating it into your situation analysis can assist you in identifying new ways to reach, engage, and keep clients.

Environmental considerations:

It may surprise you, but environmental variables can be both internal and external. Poor inter-company communication or changes in leadership and organization are examples of internal environmental variables. External environmental variables are frequently far-reaching: economic downturns, legislative constraints, and so on. A timely example of an external environment factor is stimulus checks.

Analysis of opportunities and issues:

As you evaluate each of the preceding scenarios, you'll most certainly begin to discover your company's strengths and weaknesses, as well as possibilities and dangers. You should undertake a SWOT analysis with your team to formalize and document this approach.

Situation analysis methods and diagrams

Remember how we mentioned scenario analysis is a broad term that encompasses a number of smaller, more focused activities? It's time to look at the lesser components of situation analysis.

Situation analysis often employs five forms of analysis: SWOT analysis, PESTEL analysis, Porter's Five Forces analysis, 5C analysis, and VRIO analysis. Let us take a deeper look at each of them.

The SWOT analysis

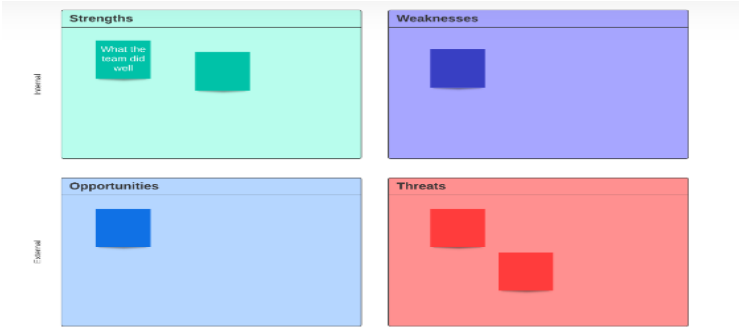


Fig :5.3 Swot analysis

SWOT charts should be your bread and butter when it comes to strategic analysis. SWOT is an abbreviation for strengths, weaknesses, opportunities, and threats. SWOT analysis requires you to consider your firm from each of these perspectives and document your findings on a SWOT chart—four quadrants matching to each part of the acronym.

SWOT analysis is best done in groups. You'll need a variety of perspectives to gain a complete picture of your company. SWOT analysis, like other team activity, necessitates teamwork and communication. Then there's Lucidspark. If you use Lucidspark to design your SWOT chart, team members from all around the world can attend the meeting. As you brainstorm with your team, you may edit in real time. If you've shared the chart with your team, each member will always have access to the most recent version.

The PESTEL analysis

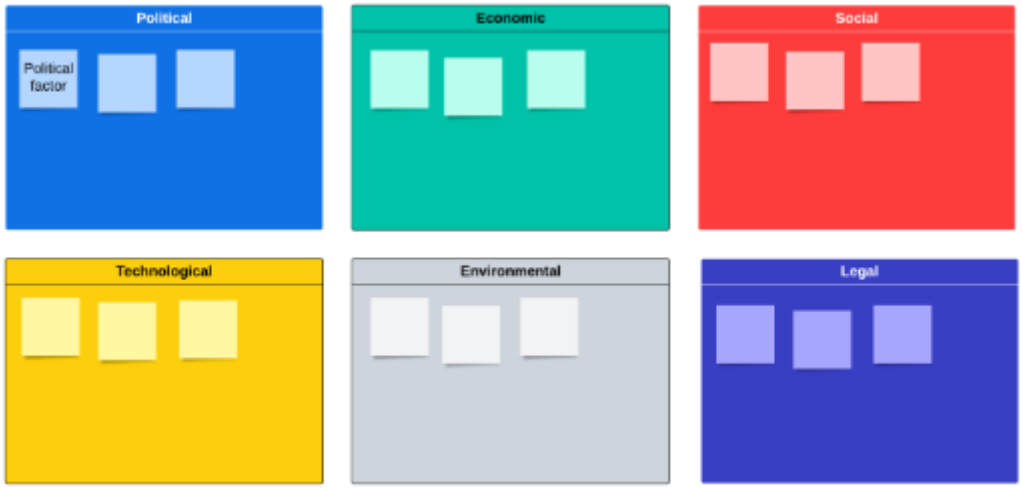


Fig:5.4 Pestel analysis

PESTLE, like SWOT, is an acronym. Each letter represents a different category of external elements that could affect your business: political, economic, social, technological, environmental, and legal. If you're not sure what belongs into each category, ask yourself the following questions as you proceed from one to the next:

Factors of politics:

Are there any government regulations or trade restrictions that will have an influence on your company?

Economic considerations:

Is there a recession or a boom in the economy? Did anyone receive a stimulus check recently?

Factors of society:

What lifestyle trends have an impact on your business? What demographic are you attempting to target?

Factors of technology:

Have there been any significant technological developments in your industry? Is there any new legislation concerning your technology?

Environmental considerations:

Is your industry subject to environmental regulations? These may be emission norms or something along those lines. (Depending on your industry, this may or may not be applicable.)

Legal considerations:

What health restrictions have an impact on how you do business? What about safety regulations? A legal factor is law that has an impact on your firm.

PESTEL analysis considers how each category of factors affects your business in turn. Make a PESTEL chart of your findings.

The Five Forces of Porter

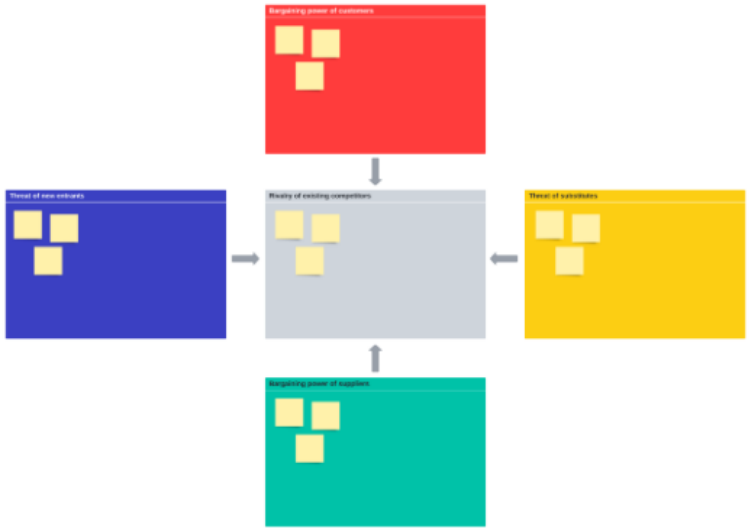


Fig :5.5 Five Forces of Porter

Porter's Five Forces, first proposed by Harvard professor Michael E. Porter in the late 1970s, is an analytical tool that helps you analyze your competition. The objective is to recognise and eliminate (or avoid) competitive dangers. According to Porter's method, your competitive environment is composed of five forces:

Substitute threat:

Can a new product or service replace your current one? If this is the case, clients will have more options, which means you'll need to have a competitive advantage to keep customers.

New competitors pose a threat:

If new competitors enter the market, you may lose clients since they will have more options to pick from.

Existing rivals pose a threat:

Competitors will always pose a threat to your firm, no matter how you slice it. They are also competing for market dominance, therefore you must outperform them.

Supplier bargaining power:

If you rely on a provider, they have a lot of power over you. If they decide to raise their prices, you have no choice except to accept them or find a new supplier.

Customer bargaining power:

How much does your product rely on the customer? What keeps them going if they don't rely on it?

The 5C analysis

You and your team will do a 5C study to analyze five elements affecting your business: the company, your rivals, your consumers, your collaborators, and the climate. Let's look at what each one means:

Company:

Examine your company's internal operations. What are your objectives and goals? What exactly are your products? Who makes up your team?

Competitors:

Examine the competition in your industry. What are they doing to gain market share? What are they doing that you are not?

Customers:

What are your consumers' demographics? Can you make them bigger?

Collaborators:

On which suppliers and distributors do you rely? Are there any other options?

Climate:

What political, legal, and economic considerations impact your sector and market?

VRIO Evaluation

VRIO analysis is an excellent method for identifying competitive advantages. VRIO analysis is a technique for assessing your resources and the competitive advantages (or drawbacks) they provide. In VRIO analysis, you look at a resource from four different angles:

- Is it worthwhile?
- Is it uncommon?
- Is it replicable?
- Are you prepared to use it?

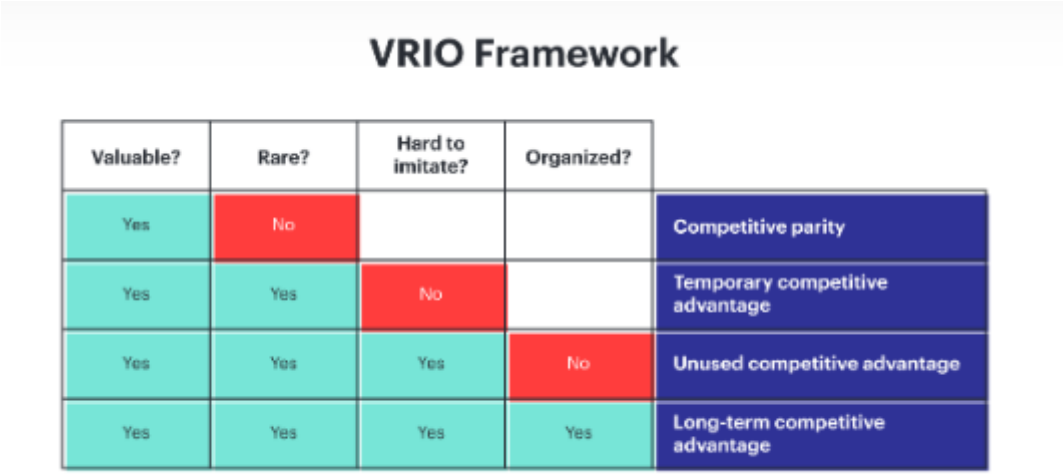


Fig :5.6 VRIO framework

5.4 CONDUCT OF MARKET SURVEY

Market Research Definition

A market survey is a survey research and analysis of the market for a certain product/service that includes an investigation into client preferences. A study of various client capacities such as investment characteristics and purchasing power. Market surveys are instruments for gathering direct input from the target audience in order to better understand their traits, expectations, and needs.

Marketers create fresh and intriguing strategies for prospective products/services, but there is no guarantee that these strategies will be successful. Marketers should decide the category and qualities of products/services that the target audiences will readily accept for these to be successful. By doing so, the success of a new path can be guaranteed.

Most marketing managers rely on market surveys to gather information that will help to accelerate the market research process. Furthermore, the responses to these surveys can help with product marketing and feature enhancement.

Market surveys gather information about a certain market, such as pricing patterns, customer needs, competitor analysis, and other such factors.

Market Survey Purpose

Obtain important client feedback: The primary goal of the market survey is to provide marketing and business managers with a platform to gather crucial information about their customers in order to maintain existing customers and attract new ones.

Recognize the customer's proclivity to purchase products:

Details such as whether customers will spend a specific amount of money on their products/services, customer propensity levels toward new features or items, what their thoughts are on competing products, and so on.

Improve on existing products and services:

A market survey can also be used to improve existing products, examine customer satisfaction levels, gather data on their market perception, and create a consumer persona using information from an existing clientele database.

Make educated business decisions:

Data acquired through market surveys is useful in making big changes in the firm, lowering the level of risk associated in making critical business decisions.

Market Research Templates

Product Evaluations:

New product/concept testing survey templates include questions designed to elicit information about products and concepts. These survey questions are curated by market research professionals and can aid in determining which items or features would be successful in a market.

Surveys of Conference Attendees:

Conference feedback survey templates include questions that can be posed to conference attendees. By applying comments from these surveys, an organization can arrange better conferences by improving overall conference management, improving IT infrastructure, expanding content coverage, and other things.

Surveys of Focus Groups:

Focus group survey templates can be used both during and after the focus group recruitment process. Using this existing survey design, you can easily gain insights from a committed group of 8-10 people.

Surveys of Hardware and Software:

Editable questions about software product evaluation, hardware product evaluation, pre-installation method, technical documentation quality, and other criteria are included in hardware and software survey templates.

Website polls:

Website survey templates are application-specific and include questions about website consumer feedback, visitor profile information, online shopping information, and so on.

The Importance of Market Research

There are five characteristics that demonstrate the significance of a market study.

1. Understanding the target market's demand and supply chain:

A product is more likely to succeed if it is developed with the target market's demand and supply in mind. Marketers can gain insights into market capacity to absorb new products and concepts in order to produce customer-centric products and features in this manner.

2. Creating well-thought-out marketing strategies:

A well-established organization's target market is the entire world. Obtaining data from the target market via rigorous market research via market surveys and segmentation can be a source of developing concrete and long-term marketing plans.

3. Determine the customer's expectations and needs:

All marketing initiatives focus around acquiring new customers. Market surveys are required by all small and large enterprises to collect feedback from their target audience on a regular basis, employing customer satisfaction methods such as Net Promoter Score, Customer Effort Score, Customer Satisfaction Score (CSAT), and so on. Organizations can use customer feedback to assess customer experience, satisfaction, and expectations, among other things.

4. Timely introduction of new products:

Market research can help you decide where to test new products or services. Market surveys give marketers a platform to examine the potential success of new items and make modifications to their product strategy based on the input they receive.

5. Gather consumer demographic information:

Client demographics are the foundation of any organization, and market surveys can be used to gather comprehensive and sensitive information about customer demographics such as color, ethnicity, and family income.

Examples of Market Survey Types

Enterprises employ many forms of market surveys to collect data based on the goal of their market research. The information gathered can be utilized to investigate many parts of the market to address themes such as the best time to launch a product/service, understanding market trends, measuring consumer loyalty, studying competitors, and many more.

There are different sorts of market surveys, of which we will discuss the top ten to gather information from customers about their requests, expectations, and thoughts on competition. Each of these market surveys takes a unique approach and has a significant impact on many parts of a firm.

Successful organizations in today's world use effective market research survey software to obtain actionable market insights through real-time data collecting and comprehensive analytics when conducting various sorts of market surveys. The top ten types of market surveys undertaken by successful businesses are shown below.

1. Market research for segmentation:

An organization can identify existing and prospective consumers and discover why customers choose their products/services and prospects have not yet purchased. This can result in a more organized market segmentation and analysis.

2. Market research to investigate several aspects of the target market:

Obtain information on market size, demographic information such as age, gender, family income, and so on in order to create a roadmap that takes into account the market's growth rate, positioning, and average market share.

3. Market research to elicit information about the purchasing process:

How does a customer make a purchasing decision? What factors influence the conversion of product awareness to sales? This type of market survey will reveal information about awareness, information, free trials, purchases, and repeat purchases.

4. Market research to develop buyer personas:

These surveys are used to create buyer personas by learning about client preferences, inclinations, and purchasing skills.

5. Market research to assess consumer loyalty:

What is the level of client loyalty to an organization? A market survey can help you find the answer to this question.

6. Market research to assess a new feature or concept:

It is critical for a company to incorporate market-compliant features and concepts. By conducting a market survey to determine which features to launch, all teams engaged in the feature development process will be able to do so with thorough research.

7. Market research for competitor analysis:

Healthy competition is usually beneficial to the growth of an organization. Market surveys conducted with the goal of competitor analysis will yield information on how the target market perceives the organization's products/services in relation to the competition.

8. Market research to determine the impact of sales activities:

Sales activities are the backbone of every firm, therefore keeping track of them is critical. Market surveys for sales activities will generate a report on the impact of sales activities, if their frequency should be increased, and any adjustments the audiences believe should be incorporated into the sales process.

9. Market research to determine prices for new products/services:

Product affordability is another factor that drives the market for businesses. Price ranges, product variants to accommodate numerous price ranges, target clients for each product, and so on.

10. Market surveys for customer service evaluation:

Customer happiness can be increased by providing excellent customer service. Factors such as the time it takes to resolve concerns, the scope of improvement, best customer service methods, and so on.

8 Steps to Conducting a Successful Market Survey

1. Establish a specific goal.

Begin your market research and survey by establishing a clear goal.

Why are you doing the poll?

What do you wish to learn?

Is it for product enhancements with an established customer base?

Are you planning to introduce a new product to the market and want to discover if there is enough demand?

What are people willing to pay for it?

Be specific about the conclusion you want in order to receive the information you need for your future marketing initiatives.

2. Determine the target market to survey.

This begins with determining which market you want to target.

Determine parameters for possible clients, such as those who live or work in a specific region, market size, or those who meet a specific demographic.

Use regional data to gain exact knowledge on the target group whose data you require, and then filter it down to support your overall purpose.

If you wish to expand your customer offering by launching a priority service, for example, you may just want to collect information from people who live in a specific location or make more than a certain amount of money.

3. Decide what you want to look into.

Your marketing objectives will guide this. If you're launching a new product, you might want to look into the demand, how aware people are of it, whether they currently buy from a competition, and how frequently they buy.

Knowing what you want to look into will help you determine what kind of information you require. Consider whether a qualitative or quantitative approach is preferable.

Discovering consumer attitudes regarding a brand, or current issues with existing products, for example, could give some vital information that will lead your strategy from beginning to end.

4. Enlist the assistance of survey experts.

This entails gaining access to a well-established panel. By contacting market survey data professionals, you can ensure that you ask the correct questions to the right people and obtain a sample size that provides the most accurate information.

The GlobalWebIndex panel spans 46 countries and over 2 billion internet users, making it the world's top market survey on the digital consumer.

By combining this panel with the assistance of in-house experts, you can ensure that you have the necessary insights in a timely manner.

5. Think about the best strategy to receive your answers.

Surveys are no longer limited to phone calls and focus groups; they can now be conducted via an interviewee or an online questionnaire.

Market research can also be conducted in groups or individually. Again, the best technique for your brand will be determined by your goals and the information you want to collect, as well as your target audience, market potential, and overall preferences.

Face-to-face interviews in the vicinity of a play area, for example, might work well if you want to obtain in-depth information from mothers of toddlers in a certain town, allowing the interviewee to do the hard work and ask follow-up questions that dig a bit deeper.

Using quantitative panel data to back this up, market researchers can gain valuable insights and market analysis they can rely on.

6. Conduct the survey efficiently.

Once you've determined your objectives, the data you'll need, the people you'll need to speak with, and the best means to collect this survey data, it's critical to maximize the sample size.

This entails reaching out to people at the proper moment, establishing a reasonable timetable for them to give their opinions, and determining where they are likely to be.

Consider your target audience once more. When you're physically connecting with individuals, consider where they're likely to go and when they're likely to go.

If it's an online market study, figure out which social media platforms or websites they're likely to use and when they're likely to be online.

Data analysis before the survey can assist make it easier to reach the right audiences.

7. Conduct an in-depth survey analysis.

Once the market survey results have been gathered, they must be thoroughly examined in order to extract relevant patterns and discoveries and to draw actionable insights from the data.

Look for telling statements and specific feedback about attitudes and actions in qualitative responses.

Calculate averages by interrogating quantitative responses.

With large-scale market surveys, compare results to global and local data.

8. Investigate the broader ramifications.

A market survey is vital to businesses, but when conducted in isolation, it may lack the real-world relevance to actionable outcomes.

To get the most out of your analysis, use large-scale market survey data to compare your findings across different data points. You can cross-reference with local subgroups and compare to global averages to understand where the true value is.

5.5 DEMAND AND FORECASTING

Introduction to Demand Forecasting

Demand forecasting is the task of anticipating a company's future demand. The demand forecast estimates how much of a product is anticipated to be sold in a specific market at a defined price during a specified future period.

All businesses want to know how they will fare in the future and what direction their business will take. More specifically, every company wants to know how much of a particular product

it can sell in a given market in a given time; if demand will increase or drop from current levels, and by how much; and what proportion of the market it can secure throughout the stipulated period.

This knowledge is essential for the firm's survival and growth. It cannot plan any of its activities without this information. Demand forecasting offers this critical information.

Demand forecasting is the starting point for all marketing activities:

Demand forecasting meets the primary objective of company planning by providing a credible estimate of market trends and demand possibilities. It assists the company in determining which goods should be deleted, which should be added to the line, and which should be modified. Demand forecasting has an impact on all of the firm's business choices and activities.

Demand forecasting serves as the starting point for almost every action. It enables the organization to pinpoint its precise market position; this, in turn, facilitates optimal resource allocation, market penetration, and marketing opportunity wins.

Demand forecasting is also the foundation of customer-oriented marketing. For example, demand forecasting gives not just the necessary arithmetic data about demand, but also crucial indications about customers' interests, preferences, and wants. The corporation can only carry out its marketing planning and strategy formulation, as well as define its marketing objectives, with the support of demand forecasting.

Again, it can only develop budgets with the support of demand forecasts. Demand forecasting is critical for setting demand targets as well as making decisions on physical distribution, promotion, demand force, and pricing. For example, in the case of demand force, the choice as to how many demand men must be engaged is dependent on the demand prediction, as are demand compensation plans, demand territory structuring, and demand activity planning.

Similarly, physical distribution, transportation, and storage plans on demand forecast, in selecting the price level" too, the demand forecast serves as a basis, in short, the entire marketing mix revolves around the demand forecast, i.e., product, price, promotion, and distribution.

Demand Forecasting – 2 Types

Forecasting for the Short and Long Term

Demand forecasting can be either short term or long term in terms of time span.

Type # 1. Short-Term Forecasting:

Short-term forecasting is confined to a time span of no more than one year. It is concerned with sales, purchasing, pricing, and financial policy.

i. In most organizations, anticipating future conditions is essential for developing an appropriate production policy that avoids both overproduction and underproduction. Production schedules must be adjusted to account for predicted sales.

ii. Knowing the conditions in the near future is critical for creating an appropriate price policy. If material prices are predicted to rise, a business may take advantage of the increase by acquiring earlier. Proper pricing forecasting may assist the firm in lowering its operating costs.

iii. Forecasting aids in the establishment of sales targets as well as controls and rewards. Sales targets will not achieve their goals if they are not tailored to the predicted sales levels. If sales targets are set too high, salespeople will fail to meet them; if they are set too low, the targets will be easily met and incentives would be useless.

iv. Demand forecasting will also be useful in short-term financial forecasting. Cash requirements are determined by sales and production levels. Obtaining additional cash on fair terms will take time. Failure to estimate demand may affect financial planning due to the effects on production schedule and inventory accumulation.

The majority of demand and sales forecasts are concerned with short-term expectations for existing products. Forecasting for established items can be reduced to a routine activity using information gathered from current markets and sales history. Forecasting for new items, on the other hand, is a challenging challenge since the product has never been sold before; there is no empirical demand foundation that can be projected into the future.

Types # 2. Long-Term Forecasting:

A long-term period is one that lasts more than a year. Some issues should be considered on a long-term basis.

i. Planning an extension of an existing unit or opening a new unit - Planning an extension of an existing unit or launching a new unit begins with an examination of the goods' long-term demand potential. A multi-product company must determine not just the overall demand condition, but also the need for individual commodities.

ii. Long-term financial planning - The majority of capital investment decisions involve long-term projection. Once the demand potential has been determined, the company will be able to develop long-term financial plans.

iii. Manpower planning - Manpower planning for existing and future businesses must be based on long-term estimates of the company's growth.

Long-term forecasting has a significant probability of mistake because certain aspects that forecasters consider in creating their estimations become more volatile as the period lengthens.

Demand Forecasting - Market Measurement Concepts

Demand forecasting is more than just a market measuring notion or term. There are many more, and it is critical that a marketing student is conversant with all of the frequently known concepts/expressions relevant to market measurement.

The following are the terms frequently used:

(i) Market potential (or industry potential).

(ii) Consumer potential (or demand potential).

(iii) Market demand (or industry demand).

(iv) Consumer demand (or demand possibilities).

(v) Market forecast (or industry forecast).

(vi) Consumer forecast (or demand forecast).

Market potential is a mathematical estimate of the entire prospective demand in a given market by all of the enterprises selling the product. It indicates the ultimate potential of that product and the industry as a whole, providing the best marketing effort is undertaken. 'Consumer potential' refers to a subset of market potential, what an individual firm can achieve at its peak in a specific market, again under ideal conditions and assuming optimal marketing effort.

The words 'Market demand' and 'Consumer demand' refer to the parts of 'Market potential' and 'Consumer potential' that can be realized under current conditions. 'Market forecast' and 'Consumer forecast' are even narrower - they refer to what the industry and the film will sell in real practice during the forecast period.

It is clear that 'Consumer potential' is a subset of 'Market potential,' 'Consumer demand' is a subset of 'Market demand,' and 'Consumer prediction' is a subset of 'Market forecast.'

Demand Forecasting is a Difficult and Complex Task:

Demand forecasting is always a difficult task in any organization. There are two important reasons for this. First, forecasting implies predicting the future. "We can be certain of only three things about the future: it cannot be known with certainty!...it will be different from what it is now!...it will be different from what we want it to be!" remarked Peter F. Drucker. Second, each firm has its own quirks.

As a result, estimating demand and demand is fraught with complications unique to the industry. Any attempt at demand forecasting must take into account these complications. It's no surprise that forecasting is difficult.

Forecasted Demand Period Range:

In terms of time frame, there are generally three types of demand forecasts:

i. The short-term forecast

ii. The long-term forecast

iii. Future planning forecast

The short-term forecast aids in short-term company strategy. These forecasts are typically generated for a year and revisited monthly, quarterly, or semi-annually. Revisions are done in response to new information and changing circumstances. Forecasts are used to plan various marketing activities such as personal selling, advertising, and warehousing arrangements, among others. They are also utilized for short-term planning of non-marketing operations like manufacturing, finance, and supplies.

The long-term projection helps with investment decisions when launching a new sector or aiming to expand or diversify. Because industrial investment is frequently irreversible and the pay-off period is lengthy, demand forecasting for a longer period of time, say ten years, will be critical for investment decisions. The margin of error in such long-term estimates may be substantially higher.

They would, however, aid in planning. Sometimes a longer-term projection, say for 15 or 25 years, is available. Forecasts of this type are typically utilized for long-term planning.

Demand Forecasting - The Need to Improve Forecast Reliability

The importance of enhancing the predictability of demand projections cannot be overstated. The firm's marketing system and marketing operations are directly proportional to the accuracy of its demand projections. According to the analysis, large differences between predicted and actual demand are typical among Indian enterprises. Analysis also reveals that the enterprises involved pay a high price for shortcomings in demand forecasting. It is critical that the trend be reversed and prediction dependability improved.

A Reliable Marketing Information System (MIS) is Required:

The issue appears to be caused mostly by a lack of effective, timely, relevant, and dependable data-driven marketing. Demand forecasting relies heavily on marketing data. Because of a variety of causes, including changes in economic and business conditions, changes in market potential, changes in competition, and changes in the database linked to all of these aspects.

The type of data required will, of course, vary depending on the product, market, and environmental conditions, as well as the degree of complexity of the forecasting approach used. However, all businesses require a mix of internal and external data/marketing information to complete the forecasting task.

Survey and Statistical Methods for Demand Forecasting (With Illustration)

Survey methods and statistical methods are the two primary categories of business forecasting methodologies. Survey methods are further classified into buyer intentions surveys and expert opinions surveys. Statistical approaches employ past experience as a guide and estimate future demand by extrapolating past statistical relationships.

The sophistication of statistical approaches varies. Demand for established items can be forecasted using either technique, while demand for new products must be forecasted using the survey method exclusively because there is no historical data for the new products.

Method # 1. Survey Methods:

i. Buyer Intentions Survey:

The simplest and most direct approach of forecasting demand in the near future is to ask customers what they want to purchase. This subjective approach has the advantage of predicting demand by individuals whose purchasing will actually determine sales.

After collecting information from product users, sales predictions are created by simply combining the probable demand of all consumers. Consumer surveys can be conducted using either a complete survey of all consumers or a sample survey method. Complete enumeration of consumers is difficult to do in markets where purchasers are numerous or difficult to identify.

This strategy has the disadvantage of relying only on the judgement and cooperation of consumers, whose expectations are susceptible to change and on which their projections are founded. Furthermore, it is seldom evident whether the purchasers' plans are genuine or fabricated during the interview.

ii. Survey of Expert Opinions:

The forecaster will use this strategy to estimate future sales by questioning those who are likely to know what consumers will buy. Many businesses acquire their basic estimates from their salespeople, who have the most intimate 'feel' for the market. Sometimes wholesalers and retailers are solicited to provide their "gut feeling" regarding future sales.

These people have been interacting with the merchandise for a long time and can therefore forecast the likely sales in the future period based on their experience. This strategy is

incredibly easy and requires very little statistical labor. The disadvantage of this strategy is that it may substitute opinion for situational analysis.

The basis of expert forecasts is difficult to pinpoint because it may result mostly from gut and impulse under pressure of inquiry. It is entirely subjective, and different experts may make different forecasts, or experts may be biased for a variety of reasons.

Method #2: Statistical Techniques:

i. Techniques for Naive Forecasting (Mechanical Extrapolation):

Naive forecasting models are only based on past observations of the variable being forecasted. It is considered that historical data from the same series can predict future patterns in an economic time series. Simple models make no attempt to describe the relationships between variables.

Techniques for extrapolation span from basic coin tossing to trend projections, auto-correlations, and other more complex mathematical approaches. They are commonly used by businesspeople to estimate demand, in part because they are easy and inexpensive, and in part because time series data show a consistent increasing tendency.

The technique is based on the presumption that tomorrow will be similar to today. Extrapolation is the process of studying a sales tendency in the past and extending that trend into the future. For example, if a company wants to anticipate revenues for the following year, it will use prior sales numbers to do so.

Simple forecast models presume that past values of a variable, such as sales, are the best basis for projecting present or future values of that variable. If Y represents the forecast value of the variable of interest, Y represents the actual observed value of the variable, and subscript t represents the time period, we can identify the simple model that states that the forecast value of the variable for the future will be the same as the value of that variable for the present period, i.e., -

Yt + 1 Equals Y1

This model will be useful when changes happen slowly and forecasts are made for a relatively limited length of time in the future.

ii. Time Sequence:

One significant statistical method is time series analysis. A time series is a collection of observations made at distinct times in time. Time series analysis and trend estimates are based on historical data. In this research, a corporation examines its previous sales to discover the nature of the current trend.

This tendency is then projected into the future, and the resulting sales serve as the foundation for a projection. One of the time series' key goals is to forecast the future movement of commercial activity. Before they can begin planning and budgeting, business analysts must forecast future company conditions.

Original series are divided into four components in the traditional approach to time series: (a) secular trend, (b) seasonal variation, (c) cyclical variation, and (d) random movement. For trend measurement, the moving average method or the least square approach are utilised. An example will best demonstrate the mechanics of this strategy.

Year	1919	1920	1921	1922	1923	1924
Values of Sales (Rs. '000)	19.8	20.7	26.7	28.4	31.9	37.8
Year	1925	1926	1927	1928	1929	
Values of Sales (Rs. ,000)	41.4	42.5	48.5	54.1	56.0	

Let

Y = a + bx be the equation of the straight line trend, with origin at the year 1927, x units = 1 year and y = values of sales (Rs. '000). Applying the method of least squares, the normal equations for determining the constants a and b are $\sum y=ax+b \sum x$; $\sum xy=a \sum x+b \sum x2$

iii. Moving Averages:

This strategy is used to track demand data trends. In this case, the forecaster simply computes the average value reached over multiple previous periods and utilises it to forecast demand for the future period. This method assumes that the future will be an average of past accomplishments.

A series of arithmetic means known as moving averages are produced from the given data and used as trend values in the moving average method. This method is really easy and does

not require any difficult mathematical computations. One downside of this strategy is that it cannot collect a few trend values at the beginning and conclusion of the series. The physics of this strategy are best demonstrated by illustration.

Illustration:

Assuming a four-year cycle, determine the trend using moving averages from the following data on tea output in India -

Year	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
Production 612 (mn1b)	464	515	518	467	502	540	557	571	586	

Year	Production (1) (2)	2-item moving total (3)	4 year moving total (4)	4-year moving total of Col. (3) (5)	average
1941	464	-	-	-	
1942	515	-	-	-	
1943	518	1964	3966	495.8	
1944	467	2002	4029	503.6	
1945	502	2027	4093	511.6	
1946	540	2066	4236	529.5	
1947	557	2170	4424	553.0	
1948	571	2254	4580	572.5	
1949	586	2326	-	-	
1950	612				

Col. (5) = Col. (4) ÷ 8

iv. Leading Indicator or Barometric Method:

If it is possible to isolate sets of time series that have a close correlation of their movements over time, and if one or more of these time series has historically led the time series in which the forecaster is interested, then this leading series could be used as a predictor or barometer for short-term changes in the series of interest.

Economic indicators can be classed as either leading, coincident, or lagging. The leading series are data on variables that move ahead or behind another series, the coincident series move alongside another series, and the lagging series move behind another series.

The bank rate is the leading interest rate, the rates at which commercial banks accept deposits and lend to the private sector are coincident, and the rates at which private money lenders accept deposits and lend to individuals are trailing.

v. Method of Simultaneous Equations:

The simultaneous equations approach is an extremely advanced statistical forecasting tool. This is also known as the total system method to forecasting, and it entails developing a comprehensive model that can explain the behaviors of all the factors over which the organization has influence. The model is solved when the number of equations in such a model equals the number of variables.

vi. Development of Econometric Models:

The application of economic methodology to decision-making is referred to as econometrics. Econometrics is the study of economic interactions through the use of economic theory, statistical analysis, and the development of mathematical models. We examine the link between a dependent variable and one or more independent variables in this section.

Depending on the influence of the independent variable over the dependent variable, the relationship can be linear, quadratic, cubic, or exponential. The major economic tools for measuring economic links are regression and correlation analysis.

Correlation analysis is concerned with evaluating the degree of association between two variables, whereas regression analysis is concerned with determining the functional relationship between the variables in order to predict a certain variable. Independent variables are variables that are used to predict the value of a variable. One independent and one dependent variable are studied in the simple bivariate example, and the form of relationship between the two variables is linear.

The econometrician's initial objective is to establish hypotheses about the link between a set of variables and a certain economic event. The single equation model, which is commonly used in empirical demand research, is the most basic type of econometric model.

In building a model to forecast automobile demand, for example, it may be assumed that the number of cars demanded (Qa) is a function of price (P), disposable per capita income (Yd), and advertising expenditures (Ae). If there are linear relationships, an equation can be represented as -

Qd = b0 + b1 P + b2 Yd + b3 Ae + b4 b5 b6 b7 b8 b9 b10 b11 b

The parameters to be estimated are b0, b1, b2, b3, and b4. Parameter is supposed to be negative, whereas b2, b3, and b4 are assumed to be positive. The preceding equation demonstrates not only which independent variables explain which dependent variable values,

but also the shape of the relationship between each independent variable and dependent variable.

For example, what if (P) has a negative impact on quantity requested (Qd), while other independent variables are projected to have a favorable impact on automobile sales? The word " or stochastic variable is used in the model to reflect variances between the observed and theoretical values.

If there were no errors, econometric models would try to explain the economic event being forecasted. Because management has the ability to control some of the independent variables included in this model, econometric models allow management to quantify the impact of policy changes. Furthermore, econometric models predict not only the direction but also the magnitude of change in an economic series.

vii. Forecasting with Input-Output Analysis:

One of the most advanced forecasting approaches has been devised, and it is based on Leontief's economic input-output model. The forecaster can use input-output analysis to track the consequences of an increase in demand for one product across multiple industries. An rise in demand for automobiles will first result in an increase in auto industry output.

This, in turn, will raise demand for steel, tyres, glass, and other materials. Furthermore, there will be secondary effects because an increase in steel demand, for example, necessitates an increase in the production of iron ore, which is required to create steel. As a result of steel demand, for example, there may be a rise in demand for machinery. The forecaster traces all inter-industry effects that emerge as a result of the initial increase in demand for automobiles using input-output analysis.

Input-output analysis has been utilized in a wide range of applications, from projecting sales for a single company to assessing the effects of big economic programmes. The most important contribution of input-output analysis is that it allows for the precise tracing and assessment of the impacts of all demands on the output of each industry that are influenced by an initial change in some ultimate demand.

viii. Computer Assisted Forecasting:

Computers are widely employed for demand forecasting these days since they are highly fast and can create predictions from large amounts of data. The computers are set up to compare forecasts provided by different approaches and keep track of predicting errors.

Demand Forecasting Factors - Demand Forecasting Factors

Demand forecasting is affected by the six factors listed below:

1. Forecasting can be done at four different levels: international, macroeconomic, industry, and firm. These have already been discussed.

2. Forecasting can be both generic and specific. A generic sales projection may be valuable to the company. Again, sales forecasting can be done for specific products or sales locations.

3. Forecasting methods and issues differ between new and old products. Past trends for established products are recognised and can advise future performance.

4. When forecasting, keep the commodity's characteristics in mind. Commodities are either producers or consumer's goods, and demand patterns differ for different sorts of goods.

5. Special variables specific to the product and market must be considered. The nature of market rivalry, as well as sociological and ecological issues, should not be overlooked.

Demand Prediction for New Products:

Anticipating demand for new products differs significantly from forecasting demand for existing products. A detailed examination of the product's attributes gives a guidance to demand predictions for future items. Forecasting methodologies must be adjusted to the specific product.

Joel Dean proposed the following methods for estimating demand for new products:

1. Evolutionary Strategy:

The new product's demand should be projected as an extension and evolution of an existing old product. Color television, for example, may be understood to pick up where black and white leave off. This strategy is only applicable when the new product comes so close to being essentially an enhancement of an existing product that its demand can be very much a projection of the old product's prospective development.

2. Substitute Method:

This method considers the new product to be a replacement for an existing product or service. Linoleum, for example, can be used in place of carpets, polythene bags can be used in place of fabric bags, and ball pens can be used in place of fountain pens. When utilized scientifically, this strategy is quite beneficial. Because the majority of new items are often alternatives for old ones, they are an improvement over the existing ones.

3. Growth-Curve Methodology:

The rate of growth and final level of demand for the new product can be estimated using this approach based on the pattern of growth of established products. Analyze the growth curves of all existing consumer durables, for example, and try to build an empirical law of market development applicable to a new product, such as a television set.

4. Opinion Polling Method:

Demand for new products is estimated using this method by making direct inquiries from eventual consumers. Such research could be limited to a sample and the results extrapolated to the entire population.

To investigate the demand for new products, opinion polling or surveys of purchasers' intentions as indicated by personal interviews have been regularly employed. Many organizations have successfully employed the technique of surveying buyer intentions as indicated by personal interviews to examine potential demand for a new product.

However, even for proven items, this method has sampling, exploring true intents, and presenting the intricacy of various alternative choices issues. These issues become more complicated with new items.

5. The Vicarious Method:

Consumers are approached indirectly using this tactic. Because they have an intimate 'feel' for the consumers, specialized dealers are contacted. The opinions of dealers who are ostensibly knowledgeable about consumer demands are sought. This is an indirect method. This method is simple yet difficult to measure.

However, dealer prejudice cannot be completely eliminated. It is vital to guard against excessive enthusiasm on the part of some dealers and excessive pessimism on the part of others. These can be checked by getting confirmation from people in the field as well as tallying with forecasts obtained through other methods.

6. Sales Experience Method:

According to this strategy, the new product is sold in a sample market, and the overall demand for a fully developed market is assessed from this. The challenge with this strategy is determining the sample market. If Calcutta, Mumbai, or Delhi are used as sample markets, the characteristics of such markets differ from those of small towns. Again, whether we choose Darjeeling or Shimla, the amount of the floating tourist population will influence sales. As a result, an unintentional experiment without regard for market characteristics may result in a massive loss.

Demand Forecasting - Demand Forecasting Evaluation

It is critical for the organization to appraise and analyze its overall demand forecasting system as well as the specific demand forecasting methodologies and techniques it employs on a regular basis. When the 'forecasts' and 'actuals' are close to one other, it is safe to believe that the forecasting system is accurate. Similarly, if the 'forecasts' and 'actuals' disagree significantly, it is safe to believe that the forecasting system needs improvement.

Such a comparison is only possible after the details of 'real demand' are revealed, but it has significant value and utility.

If a continual review of the system is also performed, it will serve a purpose other than a basic post-mortem. With such an ongoing examination, forecast refinements can be made as the forecast period progresses.

Evaluation of the forecasting system is also necessary from another perspective. Only an evaluation can determine whether assumptions in the forecasting exercise were incorrect, to what amount, and why. And such fact-finding work is required if the company wishes to enhance its predictions in the future.

The difference between 'forecasts' and 'actuals' can occur for a variety of reasons, including an inaccuracy in the underlying assumptions, an error in the forecasting method chosen, a lack of data, or computing errors. In certain circumstances, an altogether new set of environmental elements may have entered the scene and created the variation. The company should clearly identify and extensively analyze the sources of the deviation, as well as enhance the forecasting system.

Because all forecasts are based primarily on facts and judgment, the best strategy to increase forecast reliability is to optimize the utilization of facts/data and to improve judgment quality. Forecast accuracy would improve as the database was improved.

Demand forecasts must be divided into smaller territories and time spans:

Demand projections must be broken down into smaller areas and shorter time spans in order to be meaningful and valuable to individuals who operate the marketing system at various levels. It is natural for any company to initially calculate the forecast for its entire marketing territory, i.e., for the organization as a whole and for the entire year.

This projection must be divided into marketing regions and consumer areas, and then into each consumer demand territory. If the forecast stops at the corporate level, it will only serve as a paper plan; it will have no meaning or use for those running the marketing system at various levels; to the individual demand man working in his demand territory in a remote corner of the country, a national level or regional level estimate of consumer demand can only appear as a formidable number; the estimate of demand and demand in his territory alone can serve him as an intimate path.

Again, breaking down the forecasts into smaller geographical boundaries is insufficient. They must also be divided into shorter time periods. Demand estimates must be created for each season, quarter, month, and fortnight.

The Relationship Between Demand Forecasts and Demand Objectives:

Consumer demand objectives are derived from demand estimates. However, demand targets do not have to be the same as demand estimates. For whatever reason, the corporation may knowingly opt to accept a lesser level of demand than what it had forecasted as the possible level.

For example, if the firm is particularly profit-conscious, it may limit itself to the relatively more profitable portions of the market rather than the entire market. 01, it is possible that the organization lacks the financial and other resources required to meet the expected demand at the moment.

The Relationship Between Demand Forecasting and Demand Budgeting:

The demand forecasting and budgeting processes are inextricably connected. In truth, demand forecasting is only useful when properly incorporated into budgeting.

Forecasting Demand: Qualitative and Quantitative Methods (With Examples)

Forecasting is commonly connected with figures in the business community; an example is the annual sales estimate. Forecasts in the social sciences, on the other hand, are typically produced in a qualitative, verbal form. Both are correct and provide helpful information.

In general, qualitative projections come into their own with time (in strategic and macro forecasting). Because many of the methodologies were created in this discipline, the approach is sometimes referred to as technology forecasting in certain circumstances. Forecasts for the short period (tactical and micro) are typically more quantitative.

The subsections that follow will look at qualitative approaches, which are mostly employed to describe the long term. Most sound policymaking considers the long term first (for strategy) before delving into the immediate term (for its tactics). This idea will be extended to forecasting because it helps put the processes into context.

1. Qualitative Approaches:

1. Qualitative Approaches: In some circumstances, considerable amounts of statistics may be included, although the context will differ from that of more traditional, numerical quantitative forecasts based on trends.

Qualitative forecasts can be compiled from a variety of sources, including:

(i) Individual or Expert Opinion:

In actuality, most forecasts are created by a single person. In a small business, it could be the owner, whereas in a larger organization, it could be the marketing manager. In the largest of all, it may be the brand manager or perhaps the forecasting department manager. Individual forecasts are invariably a personal assessment, based on experience and industry rules of thumb.

Sales force projections are typically considered as quantitative because they are typically obtained from predicted sales statistics, which might be determined from customer forecasts. They are then added together to form the total projection. Despite their apparent numerical accuracy, they basically integrate the qualitative judgment of each salesman.

One issue with this technique is that it is frequently used in conjunction with commission systems, where the salesperson is well aware that his or her projection will be used as the foundation for the following year's targets and therefore his or her pay. The process becomes one of negotiating targets rather than anticipating. This is a poor foundation for unbiased forecasting. A more sophisticated and time-consuming technique would be to survey all customers to determine their purchasing plans for the future year.

Forecasts from major clients are a vital but underutilized input. For example, if you sell steel to the automobile industry, you must understand how that business forecasts its own future. The account planning process is an excellent vehicle for this critical information.

(ii) Expert Panel Process:

This is the first explicit method for applying scientific method to individual opinion. It entails assembling a group of experts (business consultants, academic researchers, or corporate executives) to pool their individual projections. Individual projections may be based on a variety of insights, ranging from the respective specialists' time-honed personal industry experiences to econometric assessments. Following confirmation (or at the very least discussion) of their individual instances, a corporate forecast "emerges" and is agreed upon.

Because the quality of the forecast is determined by the quality of the participants, the panel should include the best possible team of relevant experts—both from within and outside the company. As with the jury system, such a panel appears to select which forecasts are truly the best, especially when the panel members must also implement these projections. In general, however, others who later analyze similar forecasts underestimate the uncertainty involved with future events. Participants in forecasting are usually well aware of the limits of this strategy.

The experts that write numerous predictions in the Old Farmer's Almanac provide one form of expertise. Several of these almanacs recently forecast massive snowfalls for the winter of 1995. As a result, pre-winter salt sales were up 42% from the previous year, snowmobile sales were up 46%, snowblower sales were up 120%, and employment at one snowplow manufacturer had to be tripled to keep up with demand. However, the massive snowfalls did not materialize!

The Delphi approach, which was developed by the Rand Corporation, is another form of expert panel method. The (anonymous) experts are purposely not brought together in this case to avoid a bandwagon effect. Instead, a general questionnaire is distributed to the team, with only predictions of important changes requested.

The collected responses, which may include projections of technical developments, are then distributed to the team, along with a questionnaire that asks more specific questions, such as estimating when new technology will be introduced or forecasting its influence on the organization. Subsequent rounds of interrogation become more particular, until a sufficiently detailed image is established.

Dawn Jarisch, BICC Cables' group company purchasing manager, recently won the highly coveted Modern Distribution Management (formerly Supply Management) magazine's Idea of the Year award in the United Kingdom for developing a new technique incorporating elements of the Delphi method—a type of structured brainstorming based on the collation and analysis of expert opinion.

She was part of a small central team that developed and promoted an alternative method for producing price projections for material budgets. Its iterative approach canvassed and distilled internal opinion, augmented when needed by industry and macroeconomic forecasts, to produce minimum and maximum predictions, as well as a credible mean.

Role playing or simulation is a variation on the use of expert opinion in which the experts participating attempt to deduce how they would react in equivalent real-life scenarios. This is an expensive method that is rarely employed.

Another method is to ask specialists about occurrences that are comparable to the subject under investigation in order to build an analogy. For example, this analogy could originate from history, another field, or another country. If the anal-ogy corresponds to the parameters involved, it can provide valuable insight into the processes at work. Experts studying how the Soviet Union collapsed, for example, can speculate on how China's communist regime might fail in the future.

(iii) Technological Prediction:

This set of approaches is connected with tracing very long-term trends and, in particular, technological changes. Estimates are usually based on a plot of historical changes over time (a growth curve), which shows, for example, growing performance or decreasing cost.

Figure depicts a basic example. As a result of key inventions over the years, the brightness of the light, measured in lumens watt per energy unit, has increased at an exponential rate.

Using this historical line, one can reasonably predict the brightness of a yet-to-be-developed bulb in the future.

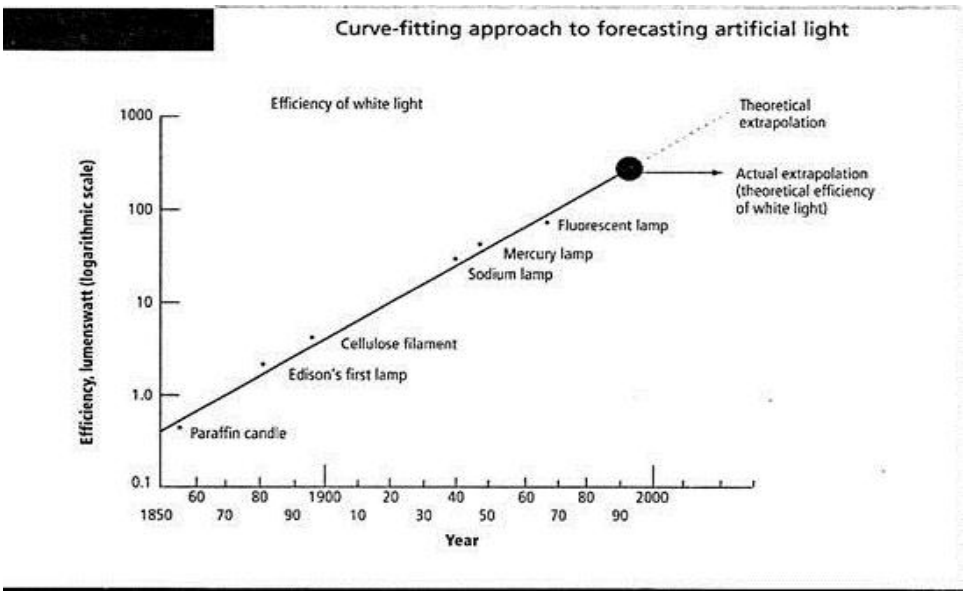


Fig :5.7 Technological Prediction:

An envelope curve extrapolation is a related technological forecasting tool. An envelope curve predicts that technology will advance in quantum leaps, with new approaches gradually improving until they reach their performance ceiling, at which time they will be surpassed by the next improvement. The hypothetical graph in Figure 6.4 depicts this strategy in the context in which it is typically used.

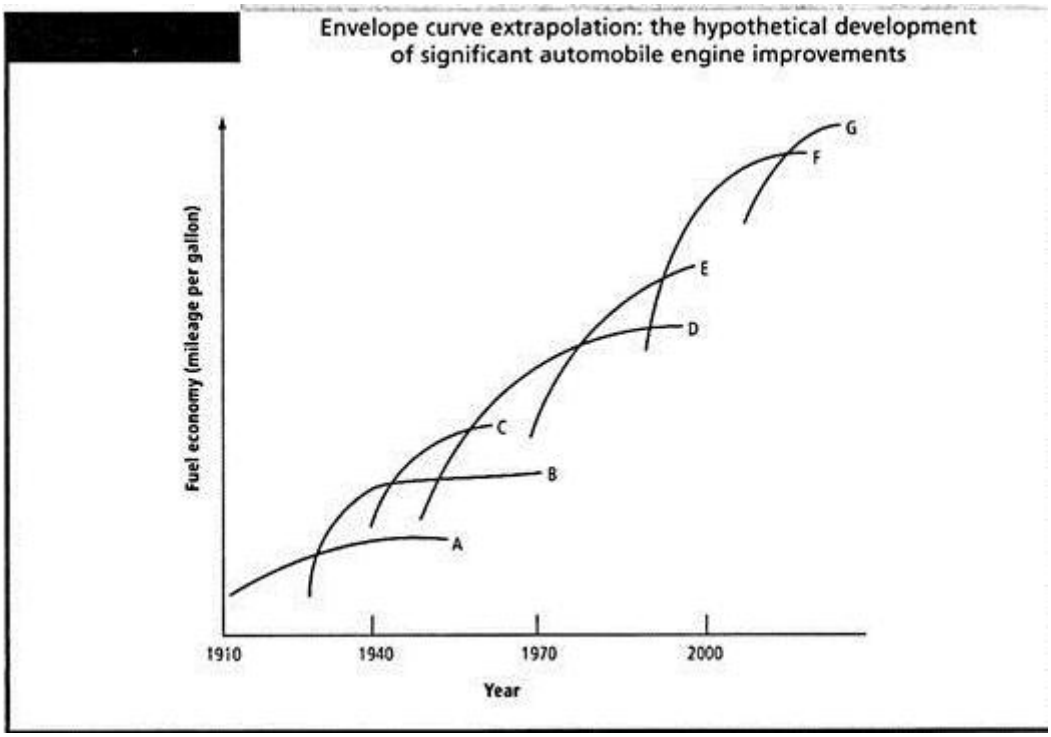


Fig :5.8

(iv) Tree of Decisions:

The usage of tree topologies can help in qualitative forecasting. The primary environmental factors affecting the organization, for example, are plotted, and the possible alternatives or decisions (thus the name decision trees) are shown at each stage, branching at each level like a tree.

At the end of this procedure, all of the many potential contributions, or at least those that the forecaster chooses to consider, will have been documented, including some that might not have been considered otherwise. This is the technique's greatest benefit, albeit coping with the large number of possibilities that emerges is an obvious issue.

The decision tree approach can be used to assign probability to each of the decisions. Bayes' Theorem provides a straightforward formula for dealing with conditional probability.

The probability of each conceivable scenario can then be estimated. This technique can be extended by computing the composite payoffs (the product of the calculated value of the result multiplied by the likelihood) for each alternative.

With the availability of computational power, these quantified outputs can assist provide a good gauge of the ideal results, as long as it is realized that all of the input components are opinions rather than concrete facts. The intelligent forecaster also attempts to comprehend how the various elements interact with one another. The same payout can be obtained by

taking low risks on low-return activities or taking high risks on high-return activities—and most businesses would presumably choose the former.

(v) Example:

This strategy combines forecasting input from many techniques, particularly expert opinion and Delphi methods, to provide an integrated view. Regrettably, it is rarely used because it necessitates much work. The fleshing out of the bare-bones forecasts and their integration into a comprehensive scenario means, on the one hand, that incompatibilities between the numerous forecasts are easier to discover. On the other hand, it enables extrapolations of these individual forecasts to include all of the organization's activities.

The identification of critical trend factors and the degree to which they vary is critical in scenario development. Key specialists are frequently recruited to gather knowledge regarding prospective variations and the viability of specific situations.

A large range of scenarios must be created in order to expose company executives to a wide range of potential events. Even the most unlikely circumstances should be considered in order to create scenarios spanning from the greatest to the worst. For example, a scenario for Union Carbide Corporation may have incorporated the risk of a disaster like the one that occurred in Bhopal, India.

Similarly, oil businesses must prepare for extreme swings in the supply environment, such as those caused by regional strife in the Middle East. They should take into account substantial changes in the demand landscape, such as technical advancements or government legislation.

Scenario creators must also consider the unpredictability of some factors. Simply extrapolating from current events is insufficient. Unexpected factors frequently enter the picture and have a substantial impact.

For example, despite some predictions regarding the climatic consequences of El Nino and El Nina, insurance firms never anticipated the level of devastation caused by hurricanes and tornadoes in the United States as a result of the cyclical warming and cooling of tropical water in the Pacific. Finally, given the rapid advancement of technology, the prospect of "wholesale" obsolescence of current technology must be considered. For example, quantum jumps in computer development and Internet technology may render a corporation's or even a country's technological investment outdated.

Management must assess and respond to situations in order for them to be useful by developing contingency plans. This type of planning broadens views and may prepare management for unanticipated situations. By honing response capability, familiarization can result in quicker response times to actual occurrences. The challenge, of course, is to create

scenarios that are uncommon enough to spark new ideas while remaining realistic enough to be taken seriously by management.

Many businesses value the creation of a marketing decision support system. It contributes to the ongoing decision-making process and serves as an important corporate tool in carrying out the strategic planning assignment. Only by keeping an eye on global trends and developments will the company be able to retain and improve its competitive position.

Many of the facts supplied are quantitative in nature, but qualitative components must also be considered. Quantitative analysis will continue to improve as high-speed computers enhance their ability to collect, store, analyze, and retrieve data. Nonetheless, qualitative analysis will continue to be an important part of corporate research and strategy planning.

2. Quantitative Techniques:

Most quantitative techniques, in general, revolve around time-series analysis of historical statistics. They handle the systems involved as if they were a black box. As a result, they can only be as reliable as the underlying information, and are thus best applied to internal statistics, such as sales figures, where the accuracy (and potential limitation) is well understood.

Explanatory models, on the other hand, attempt to describe how these systems work so that the impact of future changes can be predicted. As a result, they are more powerful, but substantially more difficult to construct.

Most management prefers the scientific approach of sales trend forecasting since it is seen to project ahead the historical trends that they have already observed. Thus, if sales have climbed by 15% in each of the previous three years, it is assumed that they will increase by 15% in the future year. However, we have seen how the fishbone effect can sometimes contradict these firm assertions. Furthermore, as the base broadens, maintaining growth rates will become more challenging.

The most basic and widespread type of forecasting is done manually or with the now ubiquitous electronic pocket calculator or personal computer. The procedures are still rudimentary mechanical equivalents of manual ones. These projections are based on the tendencies revealed by previous historical sales numbers. Again, this should be considered as a variation on pure judgment.

Although these basic manual approaches have many advantages, their effectiveness is limited by the subjectivity of their judgments. The more advanced systems (described below) have nearly as many assumptions incorporated into them, but because these value judgments are not immediately visible, they are incorrectly perceived to have fundamentally greater

accuracy. Before making any decision based on your forecast, you should always be aware of its limitations and assumptions, whether you employ manual or more advanced methodologies.

(i) Mathematical Techniques:

There are a number of mathematical techniques (some of which are quite sophisticated) that appear to have a solid scientific basis.

However, most of them, in essence, allow for only four components in any such forecast:

a. Pattern:

Fitting a straight or, on occasion, a curved line to past sales data determines the product's (or service's) continued growth (or decrease).

b. Chronological:

Any wavelike movement over time, for example, illustrates general business patterns. The issue in this cyclical scenario is determining which (if any) cycle is the genuine cycle and not an artifact. It is much more difficult to predict if the cycle will repeat itself in the future. The long-running Kondratieff Commission Cycles, which are frequently addressed in economic theory, are more difficult to observe (if they exist at all) and thus more disputed. Yoshihiro Kogane, on the other hand, provides a concise analysis of these cycles over the last two centuries.

c. Temporal:

Many items or services have distinct fluctuations, usually over a year, that are fairly stable throughout time, and this pattern is layered on the others.

d. Coincidences:

Most sales graphs exhibit unpredictability, such as industry disputes, however some (such as planned advertising efforts) may be somewhat predictable.

(ii) Actuals and percentage changes for the period:

The forecast may simply and, more often than not, repeat the trends observed in past seasons. This can be accomplished by either computing the average percentage growth or drawing the best straight line feasible through the historical statistics when placed on a graph.

This forecast has three related methodologies that use period actuals and percentage changes:

a. Annual Total in Motion:

This strategy smoothed out short-term volatility (particularly seasonality) by carrying forward the previous year's total. As a result, the statistics for each new month are added to the previous month's (MAT) total, and the corresponding figures from a year ago are subtracted.

The forecast is derived once more by extending the trend line, this time smoothed by include the entire year's data.

b. Combined Totals:

This metric is typically used for control (for example, assessing how cumulative sales are performing vs target) rather than predicting.

c. Z Diagrams:

All of these data (for one year) can be neatly arranged on one graph, a Z chart, as illustrated in Figure 6.9. The bottom bar of the Z represents monthly actuals, while the top bar represents the moving annual total. The cumulative figure is the diago-nal that eventually joins them (equal to the first month actual at the left and the moving annual total at the end of the year at the right).

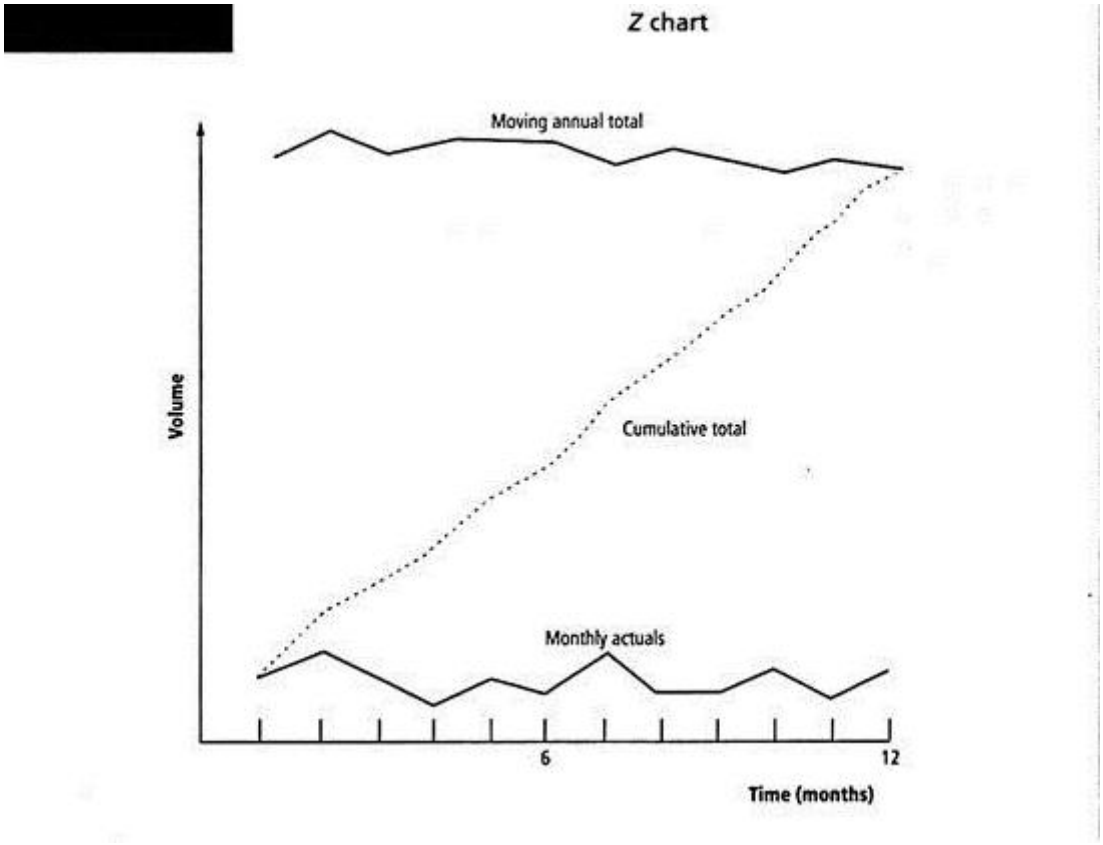


Fig :Z chart

(iii) Exponential Smoothing:

This is a basic but effective mathematical technique for giving more weight to recent times. For example, instead of calculating the average trend for the last year, the sales data for each month is given a weighting based on how recent that month was.

It takes the preceding amount, in this example the moving forecast, and adds the most recent actual sales figure, in a way similar to the moving annual total. It does so, however, in a

predetermined percentage chosen to represent the weighting to be given to the most recent time.

The general formula is as follows:

Ft+1 = Ft plus aEt

Where Ft+1 represents the new forecast, Ft represents the previous one, and Et represents the divergence (or error) of the actual new performance recorded against the prior period forecast; a represents the weighting to be applied to the most recent occurrences. In its most basic form, exponential smoothing does not allow for seasonality, however more complicated (but more difficult to understand) variants can.

(iv) Advanced Time-Series Models and Analyses:

In general, more complicated calculations, such as mathematical modeling, are required to account for fluctuations owing to seasonal trends as well as those due to long-term trends. Models are just more complicated equations.

General time-series models can be constructed by removing a steady overall trend (the straight line indicating the long-term average rise) and measuring departures from it to obtain the underlying, average seasonal pattern. Visual examination can also be used to create models (as the Z chart was).

The most sophisticated of the simple time-series algorithms are Auto-Regressive Moving Average (ARMA) techniques. To find underlying growth, they filter out the various effects of cycle and seasonality. Box-Jenkins is the most usually reported approach. Despite being widely reported in the literature, these advanced procedures are rarely applied in reality.

(v) Analysis of Multiple Regression:

At a higher level, computers are extensively utilized to perform regression studies on model parts. Regression analysis examines the strength of a variable's link to other variables.

A linear, straight line relationship of the form - is assumed in simple regression.

y = a + bx

Whereas a and b are constants (to be found). The purpose of regression analysis is to explain or predict a criterion variable (y) based on a predictor variable (x). This does not even necessitate the use of a computer, yet such straightforward interactions are uncommon.

Multiple regression analyses are usually required when a number of predictor variables are involved for prediction. Then, using statistical analysis and changes in the numerous variables, computer programmes are utilized to determine the likelihood of each predictor

variable having an effect on the criterion variable. The model's parameters and overall probability of each result can then be determined.

For example, in order to predict annual automotive sales for first-time buyers in the United States, the regression model can take into account the following factors:

Annual car sales = a + b1x (college grads) + b2x (interest rate) + b3x (unemployment rate) +...

(vi) Economic Models:

Large econometric models that replicate the workings of national economies can have hundreds of factors scattered across dozens of connected equations and demand a lot of computational resources. As a result, they are scarcely understandable even to those who manage them. This econometric model depicts how the many factors in boxes influence and are influenced by other factors.

Causal effects are represented by arrows. However, due to their tremendous complexity, these models are frequently regarded as nearly infallible. This is despite, or maybe because of, the widespread lack of knowledge among many of those engaged. Changes in government policy, for example, are frequently tested against national economic models to evaluate what will happen rather than what might happen.

Econometric models are also being employed to aid in the management of the new-product introduction strategy. Compaq used sophisticated simulation software to plan the transition from 486-based to Pentium-based systems. The programme was created to forecast current customer demand, pricing, and dealer inventory.

Based on the model, Compaq opted to launch its own Pentium computers some months after their competitors. The approach safeguarded the value of Compaq's 486 inventory and resulted in a 61 percent increase in profitability in the fourth quarter of 1994, boosting profits by $50 million. However, as pioneered by Dell Computer, the "build-to-order" approach of product development and sales fulfillment has begun to replace the "build-to-forecast" paradigm, and the traditional role of sales forecasting has begun to fade into the twenty-first century.

(vii) Key Indicators:

Certain factors may be established as leading indicators in the sense that they provide early warning of future trends. For example, suppliers of pop CDs would want to look into birthrate statistics to determine how their whole teenage market might change in the future.

There are a variety of useful published statistics that are widely used as indicators in the United States, including U.S. Durable Goods Orders, whose movements may indicate the

general economy six months ahead; Housing Starts, which may indicate the general economy 10 to 12 months ahead; and Interest Rates on Three-Month Certificates of Deposit, which is supposed to give an indication for 18 months ahead.

The leading indicator provided by the Conference Board's Consumer Confidence Index is one of the most useful—and most evident in its operation. Stock prices, corporate bond yields, industrial materials prices, business failures, money supply, unemployment rate, producer price index, consumer price index, and business inventories are all valuable leading indicators.

Marketers can forecast overseas market conditions by using leading indicators similar to those available in the United States, as well as the country's trade balance and exchange rates as international leading indicators. A country's persistent trade imbalance typically suggests that its government will either tighten fiscal and monetary policies, limiting domestic consumption, or that its currency will weaken, making imported goods more expensive.

In any case, a country's trade deficit portends lower purchasing power. Marketers can forecast a foreign country's purchasing power by merely looking at 180-day forward exchange rates in the Wall Street Journal's Foreign Exchange Rate section. If forward exchange rates appear to be rapidly declining, it often signifies an impending loss of purchasing power.

(viii) Game Theory:

Game theory, defined as "the study of rational action in circumstances involving interdependence," has recently gained prominence on two fronts. First, three game theorists were awarded the Nobel Prize in economics in 1994, and second, the US Federal Communications Commission employed game theory significantly to aid in auctioning off the wavelengths required to support pagers and pocket telephones.

Prior to game theory, most economic models assumed that corporations acted in a vacuum. It was not anticipated that the acts of one firm would influence the actions of other firms. That economic premise holds true as long as markets are totally competitive or there are no pure monopolies. Corporate activity, competitor reaction, corporate action, and so on are all possible using game theory. Unfortunately, due to its intricate mathematics, game theory is difficult to apply. However, it is currently being taught at several prominent MBA programmes, implying that it will be used more frequently in the coming years.

3. Worksheets:

The spreadsheet is undoubtedly the most valuable tool that personal computers give in the context of forecasting and planning. Despite its apparent simplicity, managers frequently

misuse this tool, viewing it merely as a more complex calculator. However, in the current environment, it has a lot of significant contributions to make.

One key application of spreadsheets is the automation of routine budgets. The grind of pumping out vast amounts of regular figures plagues the whole planning cycle. Many, if not most, of these are generated from other numbers and ultimately lead back to a small number of indirect variables in the model. The planning cycle gets considerably easier once these connections are entered into a spreadsheet. Even in this fairly simple technique, there are risks, not the least of which is that spreadsheets include all existing assumptions about the relationships into the model.

This conundrum has two solutions:

(I)Simple structure - The spreadsheet should be built so that the linkages (and thus the assumptions) are obvious and simple to update.

(ii) Check Process - Some of the time saved by utilizing the spreadsheet should be used on a regular basis to challenge the assumptions to ensure that they remain valid.

Perhaps the most significant application of spreadsheets is to challenge these assumptions. Because computations can be easily redone with varied assumptions, the marketing manager can test out all of the potential options. Sensitivity analysis is an iterative procedure that can be used to fine-tune or improve the critical parameters.

Although widely used spreadsheets like Microsoft Excel and Lotus 1-2-3 continue to be important, spreadsheet add-ons like Palisade Corporation's At Risk may give more powerful analytical tools for decision making.

Modeling:

Spreadsheets can be used to create rough models. For example, by eyeballing the graphs of historical sales and fine-tuning the resulting model parameters until the results generated most nearly match the historical results, a model of the seasonal, trend, and cyclic components of sales figures (as well as the impact of promotions) can be created. This procedure may be time consuming and lack the beauty of modern techniques, yet it may yield results that are nearly as good (and more easily understood).

Forecasting Alternatives:

There are a number of alternatives to forecasting that can assist decrease risk, including risk caused by bad forecasting, if formal planning is not required.

(I) Insurance - For example, future swings in exchange rates may be covered by hedges on the financial futures market.

(ii) Portfolios - Risk can be distributed by entering multiple markets or launching multiple goods that are unlikely to encounter the same economic downturns or competition.

(iii) Flexibility - The Japanese, in particular, have evolved methods for dealing with sudden changes.

Flexibility:

The most significant of the possibilities outlined above is flexibility. This is most visible in the development of flexible manufacturing and substantially shortened development lead times for high-tech goods, primarily by Japanese corporations. However, similarly expedited time scales can be employed much more simply where technology development is less demanding and promotional efforts must be changed quickly.

This strategy, while not superior to others, only demands that once change is identified, the reaction time be so short that the response can be done before the change becomes substantial. More essential, the response time should be faster than competitors who may otherwise benefit from the change. However, such a strategy necessitates the development of a highly sophisticated early detection technique for environmental change.

Factors limiting forecasts include:

Spyros Makridakis summarizes the most likely forecasting errors and biases. The hockey stick effect refers to the most common error in practice. When actual results fall short of optimistic predictions, the starting point of the new projection is adjusted to account for this, but the slope of the forecast line remains (still optimistically) unaltered. Nobody in the forecasting process questions why the forecast was missed—and nobody learns from past mistakes.

However, perhaps the most significant practical constraint of forecasting is its incorrect use due to managers' lack of expertise. McHugh and Sparkes conducted a survey and arrived at the now-classic conclusion that despite the requirement and the fact that prior forecasting performance results show a high level of inaccuracy, it appears that not only do naive strategies dominate (representing 90% of techniques currently used), but also relatively few respondents are taking steps to remedy the situation... The primary issue appeared to be a complete lack of specific techniques, particularly the Delphi method, cross-impact analysis, and Box-Jenkins, and in the case of causal model-building, regression, and correlation analysis, the issue appears to be a lack of working experience with the specific techniques.

In fact, users favor basic, intuitive, easy-to-use, and understandable methods. Ultimately, it is these criteria, rather than accuracy, that define when and how forecasting is utilized. All of these constraints typically result in a forecasting phenomena known as the cliff, which is

usually related to long-term forecasting. In essence, management uses forecasting for a length of time (sometimes without completely comprehending why and how it should be carried out) until difficulties develop. All formal forecasting is then abruptly halted, as if thrown off a cliff.

5.6 UNIT END QUESTIONS

A. Descriptive Questions

Short Questions

1. Provide an explanation of Demand Forecasting and its meaning.
2. Define the term "Market."
3. What is the Delphi Method? Explain its concept.
4. Identify the first step in the marketing research process.
5. Elaborate on examples of different types of forecasting problems.

Long Questions

1. Describe the commonly used methods for forecasting.
2. Define the process of conducting marketing research.
3. Provide an explanation of Situational Analysis.
4. Elaborate on the various components of a Market Plan.
5. Discuss S.W.O.T. Analysis.

B. Multiple Choice Questions

1. Which of the following are determinants of demand for a product/service?

   a. Price of the product/service
   b. Income of the buyer
   c. Desire to purchase the product/service
   d. All of the above

2. The law of demand states that if there is an increase in a product's selling price _____.

   a. The quantity demanded of that good will decrease
   b. The quantity supplied of that good will decrease
   c. The quantity demanded of that good will increase
   d. The quantity supplied of that good will increase

3. An inferior good is a commodity whose _____ with an increase in income.

a. Demand falls
b. Demand rises
c. Supply falls
d. Supply rises

4. Two goods are _____ when the quantity consumed of one increases with the decrease in price of the other.

a. Substitute
b. Normal
c. Complementary
d. None of the above

5. If the price elasticity of demand for a good is 0.5, then the demand for that good is _____.

a. Inelastic
b. Elastic
c. Unitary elastic
d. None of the above

Answers:

1- d, 2- a, 3- a, 4-c, 5- b

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UNIT – 6 TECHNICAL ANALYSIS

STRUCTURE

6.0 Objectives

6.1 Introduction

6.2 Technical Analysis

6.3 Social Cost Benefit Analysis

6.4 Rationale for SBCA

6.5 UNIDO Approach

6.6 Saving Impact and its Values

6.7 Little Merles Approach

6.8 Unit End Questions

6.9 References

6.0 OBJECTIVES

- To differentiate between the types of analysis in management.
- To identify the rationale for SBCA, UNIDO Approach, Saving Impact and its values, and Little Merles Approach.
- To define various methods of demand forecasting.

6.1 INTRODUCTION

The information needed for demand and market analysis is often gathered through a combination of secondary sources and a market survey. A distinction is generally established in marketing research between primary and secondary information. Primary information is information that is gathered for the first time to meet a specific goal; secondary information, on the other hand, is information that already exists and was gained in another context. Secondary data serves as the foundation and beginning point for market and demand analysis. It indicates what is known and frequently provides clues and cues for additional research.

Secondary information is data that has been obtained in another context and is easily accessible. It serves as the foundation and beginning point for market and demand analysis.

It indicates what is known and frequently gives leads and cues for acquiring primary data for further research.

6.2 TECHNICAL ANALYSIS

What Exactly Is Technical Analysis?

Technical analysis is a trading discipline that uses statistical trends derived from trading activity, such as price movement and volume, to analyze investments and uncover trading opportunities. Unlike fundamental analysis, which attempts to determine the value of a security based on company performance such as sales and earnings, technical analysis focuses on price and volume.

Recognizing Technical Analysis

Technical analysis methods are used to examine how supply and demand for a securities affect price, volume, and implied volatility variations. It is based on the concept that a security's historical trading activity and price fluctuations can be useful indications of the security's future price movements when combined with appropriate investment or trading guidelines.

It is frequently used to produce short-term trading signals from various charting tools, but it can also aid in determining a security's strength or weakness in relation to the larger market or one of its sectors. This data assists analysts in improving their overall valuation estimate.

In the late 1800s, Charles Dow and the Dow Theory pioneered technical analysis as we know it today.

Several notable researchers, including William P. Hamilton, Robert Rhea, Edson Gould, and John Magee, contributed to Dow Theory principles, assisting in the formation of its foundation. Nowadays, technical analysis includes hundreds of patterns and signals created over many years of research.

Making Use of Technical Analysis

Professional analysts frequently combine technical analysis with other types of study. Retail traders may base their conclusions only on a security's price charts and related figures, but competent stock analysts rarely confine their research to fundamental or technical analysis alone.

Any security with previous trading data can be subjected to technical analysis. This comprises stocks, futures, commodities, fixed-income securities, currencies, and other financial instruments. Indeed, technical analysis is significantly more common in commodities and FX markets, where traders are concerned with short-term price changes.

Technical analysis aims to estimate the price movement of nearly any tradable asset that is susceptible to supply and demand pressures, such as stocks, bonds, futures contracts, and

currency pairs. Indeed, some regard technical analysis as merely the study of supply and demand forces as represented in a security's market price movements.

Technical analysis is most typically used to analyze price fluctuations, although some analysts track other variables as well, such as trading volume or open interest figures.

Indicators of Technical Analysis

Hundreds of patterns and signals have been generated by researchers to enhance technical analysis trading across the sector. Technical analysts have also created a variety of trading algorithms to assist them in forecasting and trading market fluctuations.

Some indicators are primarily concerned with identifying the current market trend, including support and resistance levels, whilst others are concerned with determining the strength of a trend and the likelihood that it will continue. Trendlines, channels, moving averages, and momentum indicators are examples of popular technical indicators and charting patterns.

Technical analysts look at the following main sorts of indications in general:

- Price developments
- Patterns on a graph
- Indicators of volume and momentum
- Oscillators
- Averages of movement
- Levels of support and opposition

Technical Analysis's Underlying Assumptions

Fundamental analysis and technical analysis are the two basic methodologies for analyzing stocks and making investment decisions. Fundamental analysis is examining a company's financial documents to assess the fair worth of the business, whereas technical analysis considers that a security's price already represents all publicly accessible information and instead concentrates on statistical price movement analysis.

Rather than studying a security's intrinsic characteristics, technical analysis seeks to understand the market sentiment underlying price fluctuations by looking for patterns and trends.

Charles Dow published a series of editorials in which he discussed technical analysis theory. His papers comprised two fundamental principles that have remained the foundation for technical analysis trading.

Markets are efficient because values indicate elements that influence the price of a security, yet even random market price movements appear to follow definable patterns and trends that tend to repeat over time.

Dow's work is being used in the field of technical analysis today. Professional analysts commonly accept three broad assumptions about the discipline:

Everything is discounted in the market: Everything from a company's fundamentals to broad market dynamics to market psychology, according to technical experts, is already priced into the stock. This viewpoint is compatible with the Efficient Markets Hypothesis (EMH), which has a similar conclusion about prices. The only thing left is to examine price changes, which technical analysts see as the result of supply and demand for a specific stock in the market.

Price movements in trends: Technical analysts anticipate that prices, even in random market movements, will reflect trends regardless of time period. In other words, a stock price is more likely to follow a previous trend than to fluctuate unpredictably. This premise underpins the majority of technical trading systems.

History tends to repeat itself: According to technical analysts, history tends to repeat itself. The recurrent nature of price swings is frequently linked to market psychology, which is based on emotions such as fear or enthusiasm. To comprehend trends, technical analysis uses chart patterns to examine these emotions and subsequent market movements. While many forms of technical analysis have been employed for more than a century, they are still seen to be important because they show patterns in price movements that frequently repeat themselves.

Fundamental Analysis vs. Technical Analysis

When it comes to approaching the markets, the two basic schools of thinking are fundamental analysis and technical analysis. Both strategies are employed for investigating and projecting future stock price patterns, and like every investment strategy or philosophy, they have supporters and detractors.

Fundamental analysis is a way of appraising securities that attempts to calculate a stock's intrinsic worth. Fundamental analysts research everything from the overall economy and industry conditions to a company's financial state and management. Earnings, expenses, assets, and liabilities are all crucial to fundamental analysts.

Technical analysis differs from fundamental analysis in that the only inputs are the stock price and volume. The underlying premise is that all known fundamentals are priced in, hence there is no need to pay close attention to them. Technical analysts do not attempt to calculate a security's intrinsic worth, but rather utilize stock charts to uncover patterns and trends that indicate how a stock will perform in the future.

Technical Analysis's Limitations

Some analysts and academic researchers believe that the EMH explains why they should not anticipate any actionable information from past price and volume data; yet, by the same logic, business fundamentals should not yield any relevant information. These perspectives are known as the EMH's weak and semi-strong forms.

Another objection leveled against technical analysis is that history does not repeat itself perfectly, so price pattern analysis is of questionable value and should be avoided. Prices appear to be better predicted when a random walk is assumed.

A third criticism of technical analysis is that it only works in specific circumstances since it is self-fulfilling. Many technical traders, for example, will set a stop-loss order below a company's 200-day moving average. If a big number of traders have done so and the stock reaches this price, there will be a high number of sell orders, causing the stock to fall, confirming the expected trend.

Then, as the price falls, more traders will sell their positions, confirming the strength of the trend. This short-term selling pressure is self-fulfilling, but it has little influence on where the asset's price will be in weeks or months.

To summarize, if enough others employ the same signals, they may create the movement predicted by the signal, but this small group of traders cannot drive the price in the long run.

6.3 SOCIAL COST BENEFIT ANALYSIS

What Is Project Management's Social Cost-Benefit Analysis?

The basic goal of any firm is to maximize their return on investment. As a result, the promoters prefer to evaluate commercial viability. However, certain projects may not produce desirable results in terms of economic profitability, thus such programmes are carried out because they have societal effects. These are infrastructure projects such as roadways, rail, bridges, and other construction projects, irrigation, and energy efforts, among others, that play a significant part in socioeconomic issues rather than purely commercial prosperity. As a result, such efforts are evaluated for their net socioeconomic benefits and cost control, which is nothing more than a national assessment of prospective socioeconomic costs.

As a result, SCBA, also known as Social Cost-Benefit Analysis in project management, has evolved into an excellent financial evaluation tool. It is a method of evaluating infrastructure projects from a social (or economic) standpoint. Learn more about PMP training, which is the most widely recognised certificate in project management globally.

What precisely is a social cost-benefit analysis? It is a strategy for estimating the value of money, notably public investments, that is gaining popularity. Furthermore, it aids in decision-making for the many elements of the company and closely associated project design programmes.

SCBA Advantages in Project Management

In project management, social cost-benefit analysis allows for a thorough assessment of various project possibilities. This is more than just a financial issue. Nonetheless, a SCBA recognises non-financial effects. Consider the implications of increased accessibility on the environment, the economy, and other variables, for example.

Social cost-benefit analysis assists governments in pursuing new projects that benefit all citizens rather than just a select few. Furthermore, it contributes to an economy's overall development by assisting in decision-making that improves job, investment, savings, and consumption, so growing a country's economic activity.

Both investments can benefit from social cost advantages. As a result, public investment is critical for a developing country's economic development.

1. Instability in the market

A private corporation would evaluate a transaction based on productivity and market prices. However, the government must take into account additional factors. Identifying social costs in the face of market inefficiencies and when market pricing is unable to do so. Shadow prices are the term used to describe these hidden societal costs.

2. Investing and Savings

An investment in a market is an undertaking that leads to higher savings.

3. Distribution and redistribution of income

The effort should not result in money accumulation in the hands of a few and income distribution.

4. Career and Living Conditions

The effect of a programme on employment and standard of living will also be assessed. As a result, the contract should lead to an increase in employment and living conditions.

5. Extraneous factors

Externalities can be both beneficial and damaging to a business. As a result, before finalizing a transaction, both effects must be evaluated. Positive externalities, for example, can take the form of technical advancements, whereas negative externalities can take the form of increasing urbanization and ecological damage.

6. Subsidies and Taxation

Subsidies and taxes are treated as expenses and revenue, accordingly. Taxation and subsidies, on the other hand, are considered transfer payments in social cost-benefit analysis.

What does SCBA cover?

SCBA's goal is to determine the financial benefits of each endeavour in light of shadow prices because initiatives affect people's savings and investments, as well as the impact of development on revenue sharing in society. Furthermore, it is necessary to analyse how certain variables such as employment and self-sufficiency will be accomplished if the strategy is implemented.

SCBA can be applied to both the public and private sectors.

1. Public investment: For the developing world, undertaking social cost analyses for economic infrastructure development is crucial. When the national government helps to shape a country's economy, it is critical to assess the social implications of that development.

2. Corporate investment: Evaluating the social impact of private development projects is critical because these programmes are authorized by federal and quasi-government bodies.

Different SCBA Approaches in Project Management

Two separate approaches to SCBA had emerged by the late 1960s and early 1970s. These are the following: 1. The UNIDO Approach 2. The L-M Method. The PMP Course Online package is a wonderful option if you're looking for an online curriculum for the PMP certification exam that includes thousands of PMP practice questions.

1. The UNIDO Approach

The following is the UNIDO (United Nations Industrial Development Organization) planning methodology: The project assessment principles reflected the UNIDO technique, establishing a systematic assessment for SCBA in emerging economies. However, due to the gravity and complexity of this assignment, concise and functional project evaluation and execution direction was required. As a result, the core premise of the process is the publication of the UNIDO Guidance to Practical Project Assessment in 1978.

The appraisal procedure is applied to both planned and finished projects. It is a process for determining the viability of a project or idea in a systematic manner. It aids in determining viability prior to devoting funding to it. It typically requires a comparison of multiple scenarios, which is performed through the use of any decision technique or financial evaluation criteria.

The UNIDO project evaluation technique is divided into five stages:

Evaluation of the proposal's market performance at market prices.

calculating the net benefit from a financial standpoint

Adaptation to account for the effects of development on savings and investment.

Adaptation to take into consideration the program's effects on wealth distribution.

Modifying the program's findings on merit products with a social value does not imply that they are economically significant.

2. L-M (Little-Mirrlees) Method

This technique in social cost-benefit analysis was pioneered by I.M.D. Little and J.A. Mirlees. The fundamental tenet of this strategy is that in developing countries, the social cost of consuming a commodity differs greatly from the price charged for it. As a result, Shadow Prices must represent the true value of a resource to the community. The LM Strategy addresses every area of SCBA in poor countries.

L-M Numeraire is currently a source of uncommitted public revenue. The resources of a project - inputs and outputs - are classified essentially as labor traded items and non-traded interests. As a result, in order to establish the true worth of such sources, we must select -

Wage Rate in the Shadows (SWR)

The SWR is used to estimate the cost of adding a person to an assignment. This necessitates determining -

Because of the use of a unit of labor, the value of output is lost.

Extra consumption as a result of labor transfer

Traded Items Pricing in the Shadows

The cost at the international market is just the shadow pricing of traded items.

When a commodity is shipped, the FOB price acts as the shadow price; when products are imported, the shadow price is the CIF price.

Shadow Pricing of Non-Traded Goods

Non-traded commodities do not participate in international trade. (For instance, land, construction, and logistics.) As a result, there is no discernible border pricing.

UNIDO vs. L-M Methodology

The UNIDO approach is widely used in the country, although the L-M system takes into account international issues as well. At various levels, the UNIDO model stresses efficiency, cost reductions, and redistribution. The L-M technique, on the other hand, considers these characteristics concurrently.

6.4 RATIONALE FOR SBCA

The social cost-benefit analysis is a component of determining the quality of a project or a government plan. The analysis of social costs and benefits is an important element in project

evaluation for evaluating investment projects. The scope of social cost benefits can be applied to both public and private investment.

Social cost-benefit analysis (SCBA) rationales:

SCBA focuses on the project's social costs and benefits. The primary sources of disagreement are:

(1) Imperfections in the market:

Market pricing serves as the foundation for calculating the project sponsor's monetary expenses and advantages. The following are frequent market defects encountered in developing countries

Rationing; Minimum wage regulations; Foreign exchange regulations

(2) Extraneous factors:

A project may have a positive external impact. For example, it may build infrastructure such as roads that help the surrounding areas.

(3) Subsidies and taxes:

Taxes are definite monetary costs in the private sector, while subsidies are definite monetary gains.

(4) Savings concern:

However, from a societal standpoint, the division of rewards between consumption and saving is important.

(5) Redistribution anxiety:

A private company is unconcerned about how its profits are divided among diverse social groups. However, society is worried about the distribution of advantages among different groups.

(6) Desires for merit:

Merit desires are goals and preferences that are not stated in the marketplace but are deemed by politicians to be in the public good.

6.5 UNIDO APPROACH

UNIDO's approach

UNIDO's strategy: overcome the hurdles that CSR poses to SMEs

Governments have yet to achieve an agreement on standard methods to CSR, which means that the "rules" are being imposed de facto by the companies that are embracing it, which are

largely huge multinational corporations (TNCs). As a result, SMEs, particularly those in developing and transition countries, are presented with CSR techniques that are frequently incompatible with their economic and social surroundings. They cannot, however, afford to ignore CSR because the very TNCs driving the CSR campaign are also their clientele. This situation drew the attention of UNIDO, which has been at the forefront of supporting the development of small and medium-sized enterprises in developing nations and transition economies for many years.

Recognizing the need to address the special CSR requirements of SMEs, UNIDO joined the Global Compact as the fifth core UN agency in 2003. UNIDO's approach to promoting CSR as a means of increasing the productivity and competitiveness of developing economies was developed primarily in this context.

UNIDO also plays a key role within the UN system in promoting environmentally and socially responsible entrepreneurship through its training capacities and enterprise support tools, as well as through the UNIDO/UNEP network of partners.

National Cleaner Manufacturing Centers (NCPCs).

UNIDO often targets one or more of the following stages in its CSR Projects:

Micro-level assistance entails providing direct assistance to a group of companies in the same sector, region, cluster, supply chain, and so on. Because of the restricted outreach and upscaling effects, this level is only intended for demonstration and CSR case building reasons.

Meso-level support focuses on business support and advisory institutions (public or private) who want to extend their service offering and institutional capabilities. In this regard, UNIDO assists these intermediary organizations in promoting the adoption of CSR ideas in their spheres of influence.

Macro-level: At the macro-level, UNIDO engages in CSR-related policy work to assist government institutions in deciding which public policies best support a country's private sector's attempts to apply socially and environmentally responsible business practices.

The Responsible Entrepreneurs Achievement Programme (REAP), at the heart of UNIDO's CSR initiative, assists SMEs in implementing responsible business practices by developing a global network of trained and qualified UNIDO CSR consultants.

The UNIDO method to project evaluation:

The UNIDO approach was foreshadowed in the project evaluation standards, which provide a thorough framework for Social Cost Benefit Analysis (SCBA) in developing countries. Because of the intensity and length of this task, there was a need for concise and operational

guidance for project evaluation in practice. This technique is mostly based on UNIDO's (United Nations Industrial Development Organization) 1978 publication Guide to Practical Project Appraisal.

Both proposed and implemented initiatives are appraised. It is the methodical process of determining the viability of a project or proposal. It entails calculating the project's feasibility before committing resources to it. It frequently entails weighing the pros and cons of several solutions using any decision process or economic evaluation tool.

The UNIDO project appraisal technique has five stages:

Calculation of the project's financial profitability at market prices.

Obtaining the project's net benefit in terms of economic prices.

Adjustment for the project's impact on savings and investment.

Adjustment for the project's influence on income distribution.

Adjustment for the project's influence on merit goods and merit products with social values that differ from their economic values.

6.6 SAVING IMPACT AND ITS VALUES

Before you start generating cash, you should become acquainted with certain theories that are essential knowledge for any procurement specialist and make savings management and reporting more cost-effective. Savings Management is the most difficult duty that firms must deal with.

When it comes to purchasing a product, most managers and owners believe they require everything on the list. However, the majority of the inventions are already in use, while some are not significant. This is why corporations frequently waste time and money on items that they do not even need.

Controlling capital and appropriately increasing savings through expenditure and acquisition management is critical. Nonetheless, business owners want to know that their savings can and are being managed competently.

Some ways for good procurement savings management are listed below

Procurement Savings Management:

1. A decrease in the number of deliveries.

When purchasing supplies from the same store, most business owners make the mistake of not handling the deliveries. This explains why they must pay more for deliveries in comparison to the initial cost of the products. As a result, it is preferable that you reduce the

quantity of delivery. You must assess all of the products and their weights in relation to the delivery charges. Following that, you can merge a few orders to confirm that they do not exceed the weight limit and that you can manage everything efficiently. This will not only help you to save money on shipping, but it will also allow you to save money. This will result in a good shift because you will have learned how to properly manage delivery costs.

2. Keep an eye out for specials and discounts.

We are unlikely to pay attention to any internet promotions or discounts when purchasing things. It is crucial to know that several forms of discounts are available, and these are available not only to people but also to corporations. When purchasing things online, it is critical to examine the promotions, offers, and discounts that are available to help you save money. It is also critical to check the retailer's rules and practices regarding the discounts. This may also assist you in saving more money than you thought. Obtain rebates from reputable providers.

3. Evaluate your circumstances.

One of the most important aspects of Savings Management is analyzing your current situation.

When a corporation does not assess its requests, you risk wasting more money on things that you do not really need.

It is critical that you begin at the beginning and select all of the goods that are critical to the firm. You will note that after assessing this, you will have removed a large number of products from your directory, perhaps saving you thousands of dollars.

It is preferable not to just go with the flow and double-check the list as many times as possible. It may take some time at first, but as time passes, selecting the proper things will get easier for you. You will only combine goods from the list that you believe are necessary for the organization.

4. Think about subcontracting:

Saving money is not only related to purchasing inexpensive and only useful things. There are various different methods for saving money, one of which is outsourcing vital services. You should be aware that you will be responsible for a variety of company-related duties, which will necessitate the use of a trained staff. It is preferable to outsource rather than wasting time and money training a staff and reimbursing them even when you do not require their services. You will only be required to pay for the services that you require. There will be no need to train staff or deal with other issues, and you will not be required to offer the necessary equipment and technologies. This will help you save money in the long run.

5. Review your contracts.

Do not forget to go over the conditions of your contracts again. If you've been dealing with the same contractor for a long period, chances are you can negotiate a cost decrease. Because you have been a consistent customer for the supplier, it is critical that he reduce the cost of services. You should choose a price that is both acceptable to you and useful to the vendor because that is the only way he or she will agree to your terms and conditions. You must make the correct choice.

6. Boost productivity by incorporating technology

There are numerous technological items and tools available on the market that you should introduce to the organization. Your staff are compensated on an hourly basis. With the advancement of technology, your staff will be required to spend less time at work. In addition, they will be able to work efficiently. This means that the money you save on employee pay may be used to increase their compensation, which will be beneficial to everyone.

Ranks of Confidence

This concept is best summed up by the old adage, "a bird in the hand is worth two in the bush."

Saving money is a process that begins with a notion and usually concludes with an agreement (amendment) and certification of the actual amount saved. As a result, while you're still engaged in that activity, the straightforward question of "how much have you recovered thus far?" becomes complicated. Savings that are simply totaled or divided into "savings accomplished" and "savings in progress" will deceive stakeholders.

The concept of confidence levels is similar to the well-known "quality gates" in product development. Simply said, these are the stages that characterize the maturity of your savings. (Another approach to think about it is to compare them to a sales funnel that starts with expectations and ends with signed-up clients.)

The following confidence levels are commonly used:

As you progress up the maturity ladder, your confidence in estimating the final worth of your savings grows, hence the phrase "confidence level."

Using this strategy, you may precisely answer the question "how much" - you provide a total amount of savings broken down by confidence level. This provides shareholders with a clear picture of where they stand in terms of saving activities.

Not all of your candidates will cross the finish line, just as rookie soldiers in a regular military movie. Many will be removed in the early stages, and many more will emerge as a

shell of their former selves. The pace of delivery and the accuracy of the initial forecasts will reveal the true master and chief of the process.

IDEA, CL 1.

Ideas at this stage are the result of initial brainstorming, and you'll need a consistent stream of them to meet your goals. These are the CRM equivalents of the sales choices. At this time, savings rates are based on "educated speculation" and are only rough estimates. As the programme progresses, the numbers are likely to fall dramatically. These are the suggestions required to pass the first "common sense" exam and move on to the next step.

CL 2: FIRST CASE.

This is the stage at which you plan the first proper viability study. This includes gathering current source data (existing quantities and costs), as well as initiating discussions with specialists (procurement, engineering, manufacturing, and quality) to determine whether (1) the proposal is practical and (2) it has the potential to save money.

It is common for the person who came up with the initial idea to fail to consider investment expenses, internal constraints, and so on, and the case is closed at this stage after careful consideration.

CL 3: MARKET CONFIRMATION.

Following the initial probability study, obtain market facts to support your original assumptions. This could take the form of:

Market research entails investigating suppliers, prices/price indexes, other technologies, and so on.

RFL/Request for Information - probing asks for more complex concepts (new technologies, solutions, required investment, lead times, etc.) that allow vendors to validate your ideas.

RFQ/RFP - Request for Quotes/Proposals in order to receive the most recently validated pricing.

At the end of this step, you should be able to make a yes/no decision on implementing the suggested changes.

CL 4: OUTSOURCED/IMPLEMENTATION

This stage often begins with the signing of a new contract or the implementation of the changes. At this point, you are usually confident about the amount of savings (either overall or per unit), but the reserves are just beginning to form and will likely take some time to show up in the P&L.

By this point, the real savings project (as in assessment, planning, and implementation) has been accomplished, and the strategic procurement team has moved on to the next issue. The development is taken over by operational procurement or other departments.

CL 5: IN-HAND CASH

The final piece of the puzzle is the finance department's certification of the savings. Have they occurred? Did they need to be changed? The actual value of savings can fluctuate due to factors outside of procurement's control; for example, if the acquired volume of items were smaller, the negotiated 10% on unit pricing would not result in a 10% reduction in spending over the baseline.

Adapting the confidence levels to your needs:

The list above is by no means exhaustive, and you are strongly urged to expand it based on your company's needs. I've seen firms with as many as 8-9 CLs.

Why would you require further actions?

Separate processes for Engineering and Quality approval (supplier qualification, samples, PPAP/APQP) - even the finest recommendations may fail at the level of verifying a supplier's real-world capabilities.

Separate stages for stakeholder approval - especially where, for example, the workers' council or customers may have a right to be heard.

Divided stage for Finance department checks - for businesses with variable demand or significant organizational complexity that affects final results.

Levers:

"Give me a lever and a place to stand, and I'll shift the world." Archimedes -

In consulting jargon, "levers" are approaches or technologies that can be used to save money. In theory, all savings can be realized by utilizing time and human inventiveness. In practise, having a list of typical approaches as a handy souvenir during the brainstorming stage is always beneficial.

For future analysis, it is critical that you constantly explain the lever used for each unique savings plan. You can use that knowledge to improve future forecasts, but more importantly, you can look for prejudice among your employees. The problem is that people tend to use the levers that they are comfortable with - the ones they have used in the past. As a result, many potential options remain unexplored, and you miss out on potential savings. You can utilise the "savings by lever" data to identify extra employee training.

There are as many lever categories as there are consulting firms, and there is no single "optimal" technique. In fact, I strongly advise you to design one that is specifically tailored to

your company's requirements. After all, manufacturing and service organizations, as well as logistics, procurement, and quality departments, will focus on various levers. You could choose to organize the problems by topic or by the department that will deal with them. Whatever style you use, keep the entries as distinct (avoid overlap) and as detailed as possible. Examine it with your staff to ensure that the final list is clear to them and that there are no issues with interpretation that might result in incorrect assignments.

Savings vs. Cost Avoidance

These two words are at the heart of financial planning. The distinction is critical to understand because this is all about money: money saved and money spent on bonuses for management (and sometimes staff) for meeting targets.

A recent COVID pandemic can be used to illustrate the difference between the two theories:

In 2019, your company purchased protective face masks from a local supplier on a monthly basis for roughly 20 cents each. In late December, your foresighted procurement staff agreed to pre-purchase fresh face masks in quantity from the manufacturer in order to push the price down to 15 cents, which, according to the research, would be a more reasonable pricing. Because of the impending epidemic, the supplier initially offered 25 cents, but you managed to cut the price to 18 cents by paying in cash upfront and obtaining the masks in a single delivery.

Strictly speaking, you have SAVED 2 cents each mask and PREVENTED A 5 cent per mask COST INCREASE.

As a result, when we talk about SAVINGS, we usually refer to actual cost reductions that have a direct impact on the company's Profit & Loss (P&L) statement, whereas COST EVADING refers to cases where procurement professionals' actions resulted in a clear advantage to the company but have no direct impact on the P&L. (It's similar to the positive activity of firemen who managed to put out a fire shortly after it started: the building did not burn down, but the company is not any richer than it was the day before.)

It is critical that you establish your savings computation technique BEFORE you begin a savings scheme (especially one that involves consulting businesses), because the value of P&L SAVINGS produced is typically used as a reference for determining the management and consulting company's pay.

1. Avoid/reduce Maverick Spending

Maverick spending, also known as tail spend or rogue spending, can account for up to 80% of consumption in businesses that do not have a centralized purchase-to-pay procurement process.

Because this spend is not currently managed through procurement, it might be a quick victory if you can direct well end-users and persuade them of the benefits.

You can search through spend accounts for any uncontrolled spending, then assign it to your favorite suppliers and go over your strategy with end-users and your staff.

2. Examine the Supplier's Terms and Discounts

Ascertain that a Master Agreement exists for all providers. Discuss with your suppliers when you might be able to save money on procurement by modifying your purchase habits. It is possible that by purchasing somewhat more things, you may automatically earn a larger discount.

3. Combine Suppliers and Deliveries

Save money on delivery fees and the costs of accepting deliveries. Managing purchasing documentation and payment processing fees will also be reduced.

4. Merge Purchasing Requests and Gaps

This lowers shipping and purchasing documentation costs.

5. Examine Purchasing Restrictions

This ensures that only purchases that are truly necessary are made. It will save additional charges and storage costs and is a smart approach to ensure that a company saves money on procurement.

6. Purchase from Catalogs Agreed Upon

Make sure you only buy one brand or type of goods. Duplication can be costly and ineffective. Higher orders from a single supplier result in better discounts.

7. Examine Stock Levels

This helps to reduce storage expenses because stocks not only cost money to pay in, but they can also deteriorate with time, becoming unsuitable in some cases.

Stock left in warehouses is considered "dead money." It takes money to store, and it might deteriorate and become obsolete.

So, before you place another order, go over your stock levels and see if you can use what you already have.

8. Examine the Purchased Products' Requirements.

Is it possible to get a lower-spec machine to conduct the same job? For example, it's a well-known anecdote that NASA developed a sophisticated pen capable of writing in space, whilst the Russians utilized a 5 cent pencil - both accomplished the same task (writing in space), but at vastly different costs.

9. Examine Stock Replacement Strategies

Items should be renewed only as necessary, not on a regular basis. Take into account the cost of waiting for a replacement.

For example, replacing a critical machinery part on a regular basis is required, while switching most lights before they fail is not.

10. Ensure that appropriate management controls are in place.

Stick to them for impulsive purchases. Are the appropriate individuals demanding the appropriate products for the job? This should reduce unnecessary or inaccurate purchases.

11. Train and Inform Employees

Staff should be trained and informed about cost-effective procurement, and they should be encouraged to save money whenever possible.

12th. Automate/Utilize Technology

While we might imagine that most businesses have a framework in place, this is not totally accurate. For example, the Head of Procurement of an energy generation corporation with units in five Asian and African nations was still using Excel for some acquisitions.

While automating the purchase process initially costs money, procurement savings should be realized by speeding up and simplifying purchasing.

You can connect the purchasing system to the inventory and accounting systems as part of employing knowledge to generate procurement savings. This not only saves money on staffing but also reduces errors.

Another approach to leverage technology is to organize reverse auctions, which are a very effective way to reduce procurement expenses. Top-performing businesses make extensive use of automation to optimize their procurement procedures.

13. Enhance Risk Management

Supplier reliance is one of the most serious hazards that a company can face. One strategy to mitigate risk is to ensure that your procurement process does not rely too heavily on a single large supplier. This includes paying close attention to contracts, following up with vendors, and taking preventative measures to avoid logistical issues.

Part of risk management entails focusing on cost minimization. Procurement reductions can be realized by focusing on strategies to slow the rate of cost increases or negotiating contracts that include value-added services (such as prolonged warranties or free shipping).

14. Request Price Cuts from Your Vendors

Changing your purchase habits is a common way to make procurement expenditures. Discuss with your suppliers whether they are willing to provide you a bigger discount if you increase your order volume slightly or pay earlier than the standard payment cycle of 30 to 60 days.

Or simply request the discount. You'll be surprised how many providers are prepared to offer at least a minor discount simply by asking for one. Not bad for just asking!

15. Unify!

First, centralize diverse purchasing functions to save money on labor, processes, and technology.

Second, integrating warehouses can result in significant real estate and staff savings.

A well-managed Purchasing/Procurement Department is critical to a prosperous business, and procurement savings can only be beneficial. There are numerous ways to save money on procurement, and all employees and management should be aware of them and taught in appropriate procurement savings strategies.

Contact us today to learn more about how Simfoni's technology and methods may assist your organization in achieving world-class Spend Analytics, Supplier Management, Impact Assessment, Savings Tracking, and Tail Spend Management.

6.7 LITTLE MERLES APPROACH

The social cost benefit analysis is a way for assessing initiatives from a social standpoint. We have reviewed one of the fundamental approaches utilized for SCBA, UNIDO Analysis. This module is about the LM method. A comparison of the similarities and differences between the two approaches has also been attempted.

From the perspective of developing countries, the Little-Mirrlees approach of project appraisal cannot live up to the lofty expectations of its inventors and protagonists. In a mixed and partially managed economy, perhaps no form of project evaluation can accomplish so. It cannot be taken as proven that the development function can best be delegated to project evaluators unless a number of prior assumptions can be made about issues such as the degree of "openness," the country's development objectives, and the planning approach and apparatus (or, rather, the lack thereof). The Little-Mirrlees method's relevance in developing countries is likely to be far more limited than its designers anticipate. Given a long-term plan and broad sectoral investment allocation, the approach can be utilized to make some micro-level decisions—but no more.

Information from the Journal

The Economic and Political Weekly is a Mumbai-based Indian institution with a global reputation for excellence in independent scholarship and critical inquiry. EPW, as the publication is generally known, was founded in 1949 as the Economic Weekly and has been published since 1966 as the Economic and Political Weekly. It holds a distinctive place in the intellectual history of independent India. EPW has remained a unique forum for more than five decades, bringing together academics, researchers, policymakers, independent thinkers, members of non-governmental organizations, and political activists for weekly debates spanning economics, politics, sociology, culture, the environment, and numerous other disciplines.

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6.8 UNIT END QUESTIONS

A. Descriptive Questions

Short Questions

1. Explore the concept of Technical Analysis.
2. Provide a detailed explanation of Project Management's Social Cost-Benefit Analysis.
3. Elaborate on the UNIDO Approach.
4. Discuss the L-M (Little-Mirrlees) Method.
5. Explain the concept of SBCA (Social Benefit-Cost Analysis).

Long Questions

1. Analyze the advantages of Social Cost-Benefit Analysis.
2. Provide an explanation of the Little Merles Approach.
3. Discuss effective ways for managing procurement savings.
4. Explain the rationale for conducting Social Cost-Benefit Analysis (SBCA).
5. Describe in detail the type of technical analysis performed in India.

B. Multiple Choice Questions

1…… published a series of editorials in which he discussed technical analysis theory.

a. I.M.D Little
b. Modigialiani
c. Phil Kotler
d. Charles Dow

2. This technique in social cost-benefit analysis was pioneered by I.M.D. Little and J.A. Mirlees.

a. L-M (Little-Mirrlees) Method
b. The UNIDO Approach
c. MM Theory
d. None of these

3. UNIDO's strategy: overcome the hurdles that ……poses to SMEs.

a. CSR
b. CAR
c. MSB
d. JIT

4. ……also plays a key role within the UN system in promoting environmentally and socially responsible entrepreneurship.

a. UNIOD
b. UNSIO
c. UNIDO
d. UNIFO

5. UNIDO joined the Global Compact as the fifth core UN agency in……..

a. 2002
b. 2003
c. 2000
d. 2001

Answers:

1- d, 2- a, 3- a, 4-c, 5- b

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UNIT-7 FINANCIAL ESTIMATES AND PROJECTIONS

STRUCTURE

7.0 Objectives

7.1 Introduction

7.2 Cost of a Project

7.3 Means of Finance

7.4 Estimates of Sales and Production

7.5 Working Capital Requirement

7.6 Cost of Capital

7.7 Projected Cash Flow Statement

7.8 Projected Balance Sheet

7.9 Financing of Project

7.10 Equity

7.11 Debentures

7.12 Term Loan

7.13 Unit End Questions

7.14 References

7.0 OBJECTIVES

1. To introduce financial estimates and projections.
2. To identify the cost of a project and recognize the means of finance.
3. To make estimates of sales and production and identify working capital requirements in every organization.
4. To understand the cost of capital and projected cash flow.
5. To gain an understanding of various statements, such as projected income statement, projected balance sheet, and financing options for a project, including equity, debentures, and term loans.

7.1 INTRODUCTION

Financial estimates are financial transaction estimations based on previous facts, judgments, understanding, and experience. Financial predictions, on the other hand, are merely estimates of future expenses and revenues. It will contain both internal and external data. Financial predictions for the short and medium term are recommended.In a nutshell, the cost of the

project is the expected total of all the costs involved with a project. The cost of the project, on the other hand, is determined by the nature and scale of the project with which the company is dealing.

Finance Methods

Finance is thus the lifeblood of any firm. It is impossible to perform commercial activities, large or little, without enough financial resources. Different sorts of projects necessitate different amounts of funding at various stages of the project.As a result, it is critical to determine how much financing is required and where we will obtain the necessary funds for our project.Because of the range of available sources of finance, it is critical to choose the source of money based on the project's needs.For example, if our project requires more liquid money, we must hunt for sources with high liquidity; but, if such liquid funds are not required, choosing a highly liquid source may not be the best selection.Here are the several types of financing available in general.

Sales and production projections

In this, we attempt to forecast our future sales as well as our production capability to meet those forecasts. When it comes to sales and production projections, these are both crucial and challenging to estimate.Because of fluctuating market demands and ever-changing market realities, sales revenue estimation must be done with great attention.Before conducting sales and production estimations, keep the following considerations in mind:However, the firm shall not evaluate the selling price if it includes excise duty and other expenses.The most recent selling price must be utilized because older pricing may cause problems when evaluating production costs and our final priceIt is recommended that capacity usage be low in the beginning and progressively increase.

Financed at the cost of production

The cost of production unquestionably refers to the total of all expected costs associated with production. However, the following factors influence production costs:

Cost of raw materials

The cost of raw materials is unquestionably the largest component of production costs. However, the cost varies depending on the quantity of the product, the quality of the product, the complexity of the product, the nature of the product (perishable or non-perishable), and so on.

Cost of labor

The cost of labor is heavily influenced by the amount of labor required in a certain production process as well as the cost of labor in the area of operation. As a result, various other

elements influence the cost, such as labor availability, labor laws in our business, typical labor remuneration in your industry, and whether the manufacturing process is labor intensive or capital demanding.

The cost of utilities

For example, utilities include power, gasoline, and water. These charges indeed add up to the cost of production and are variable in nature, therefore the higher the utilisation, the higher the expenses. Electricity, for example, is a variable cost since the more electricity used, the higher the cost.

Other overhead expenses

These include, for example, insurance costs, rent costs, maintenance costs, taxes, repair costs, everyday expenses, and miscellaneous expenses. These prices, however, differ from one organization to the next and from one product category to the other.

Working Capital Needed

Working capital is the additional capital required by a business for day-to-day operations and trading activities. It is the most significant factor to consider when making financial projections. It is calculated using the formula below.Working capital equals current assets minus current liabilities.Working capital is also an important consideration when running a business. It is the criterion for which we demand the most liquid finances because cash fulfills the majority of these requirements. As a result, estimating the need for working capital becomes critical.We also saw the application of working capital. But that isn't enough; we also need to know where we can get finances and handle our working capital needs.It considers the estimates made in order to estimate the profitability of a project. These are difficult to implement because the market for a product is dynamic and might alter dramatically from time to time.

Cash Flow Statement Projection

The cash flow statement is a type of financial statement that shows the flow of funds in and out of the organization as well as the total net impact on the cash available.It is a key component of the financial estimates. Furthermore, a balance sheet has two sides. The capital and liabilities side comes first, followed by the assets side. Thus, the balance sheet is prepared in a T-shaped style, with the capital and liabilities on the left side and the asset column on the right. The balance sheet format, on the other hand, can be found in the Companies Act. As a result, the balance sheet is prepared at the end of the fiscal year.

Multi-year Forecasts

Multi-year forecasts are thus projections made for a long period of time throughout several years. When forecasts are taken into account, it is regarded as a significant document. It considers both a company's internal and external stakeholders.

7.2 COST OF PROJECT

What is the definition of Project Cost Management?

The practice of estimating, planning, and controlling costs throughout the project life cycle with the goal of keeping expenditures within the agreed budget is known as project cost management.

It is necessary for a project to be considered successful if

It meets the requirements and scope; its execution quality is high; it is done on time and within budget; and it is completed on time and within budget.

As a result, project cost management is one of the essential pillars of project management and is applicable across all industries, including manufacturing, retail, technology, and construction. It aids in the development of a financial baseline against which project managers may assess the current status of their project costs and, if necessary, realign the direction.

What Is the Importance of Project Cost Management?

The significance of cost management is obvious. To give an example from real life, if you decide to build a house, the first step is to determine your budget. When you know how much you want to spend on the project, divide the high-level budget into expenses for sub-tasks and smaller line items.

The budget will dictate crucial decisions such as: which designer to hire—a high-end one who will construct and deliver the project from start to finish, or someone who can assist with a few parts and work on a reduced budget? What many stories should the house have? What material quality should be used?

Without a budget, not only is it difficult to answer these concerns, but it is also impossible to determine whether you are on track once the project is started. The scale of this problem is amplified in large organizations due to the concurrent operation of several projects, changes in initial assumptions, and the addition of unforeseen costs. This is where cost management comes in.

Project managers can save money by applying effective cost-cutting measures.

- Clarify expectations with stakeholders.

- Control scope creep as a result of customer transparency.
- Track progress and respond quickly with corrective action.
- Maintain planned margins, boost ROI, and avoid project losses.
- Create data to use as a standard for future projects and to track long-term cost trends.

Project Cost Management in Four Steps

While cost management is a continuous activity, it is useful to divide the function into four steps: resource planning, estimation, budgeting, and control. They are mostly sequential, however certain resource changes may occur midway through the project, requiring budget adjustments. Alternatively, deviations identified throughout the control process may necessitate estimate adjustments.

Let's take a closer look at each of these four processes.

1. Project Resource Management

The process of identifying the resources needed to execute and complete a project is known as resource planning. People (such as employees and contractors) and equipment are examples of resources (such as infrastructure, large construction vehicles and other specialized equipment in limited supply).

Before any actual work begins on a project, resource planning is completed.

To begin, project managers must first prepare the work-breakdown structure (WBS). They must examine each subtask in the WBS and ask how many people, what kind of abilities, and what kind of equipment or material are required to do this task.

By using this task-level method, project managers may create a precise and full inventory of all resources, which is then used as an input in the next phase of estimating costs.

Here are a few pointers to keep in mind as you go through the process:

Before selecting sub-tasks and the related resources, consider historical data—past timelines and effort.

Consider feedback from SMEs and team members—a collaborative approach works effectively, especially in projects that lack historical data.

Examine the effect of time on resource requirements. For example, a resource may not be available for several months, causing the project's timeline to slip. This may have an effect on cost estimates.

Although this occurs during the planning stage, project managers must account for ground realities. For example, you may discover a requirement for a resource with specific expertise;

but, if such a resource is not accessible within the organization, you must consider hiring a contractor or training your staff to bring them up to speed. All of these real-world elements have an impact on cost management.

2. Cost Calculation

The process of calculating the expenses associated with all of the resources required to complete the project is known as cost estimation. We require the following information to do cost calculations:

Resources required (output from the previous step)

- The cost of each resource (e.g., staffing cost per hour, vendor hiring costs, server procurement costs, material rates per unit, etc.)
- The time frame for which each resource is required
- Assumptions list
- Potential dangers
- Previous project expenses and, if applicable, industry benchmarks
- Insight into the financial health and reporting systems of the company

Estimation is likely the most difficult step in cost control because accuracy is critical. Project managers must also consider fixed and variable expenses, overheads, inflation, and the time value of money.

The bigger the difference between estimated and actual expenses, the less likely a project is to succeed. There are, however, numerous estimating models to choose from. If you have a lot of past cost data from similar projects, analogous estimating is a viable option. Some businesses prefer quantitative methodologies like parametric modeling or programme assessment and review techniques (PERT).

Then there's the decision of using a top-down or bottom-up method. When prior costing data is available, top-down usually works. In this case, project managers typically have prior experience executing similar projects and can thus make an informed decision. Bottom-up works well for projects in which companies lack experience; thus, it makes sense to compute a cost estimate at the task level and then roll it up to the top.

Cost Estimation as a Decision Facilitator

It's important to note that cost estimation occurs during the planning stage, so nothing is fixed in stone. In many circumstances, project teams develop various options for a project, and cost estimation assists them in deciding which path to go. There are numerous costing approaches available to assist with this comparison study, including activity-based costing, task costing, and lifecycle costing.

Lifecycle costing, for example, evaluates a project's entire end-to-end lifecycle. Maintenance expenses, for example, are sometimes overlooked in IT projects, while lifecycle costing considers the long term and accounts for resource utilization until the end of the cycle. Similarly, the purpose of manufacturing projects is to reduce future service and replacement costs.

Occasionally, the estimation process allows teams to assess and cut expenditures. Value engineering, for example, can help you get the most out of a project while keeping costs low.

3. Budgeting for Costs

Cost budgeting can be considered as an extension of estimating or as a different procedure. Budgeting is the process of allocating expenditures to a specified portion of a project, such as individual tasks or modules, for a set period of time. Budgets incorporate contingency buffers to cover unforeseen costs.

For example, suppose the total expected expenses for a three-year project are $2 million. However, because budget allocation is a function of time, the project manager decides to focus on the first two quarters for the time being. They determine the tasks to be accomplished and set aside, say, $35,000 for this time period and these tasks. To get at this figure, the project manager consults the work breakdown structure (WBS) and some of the estimation approaches outlined in the preceding section.

Budgeting establishes a cost baseline against which we may analyse and evaluate project cost performance. Without the budget, the overall expected cost would remain an abstract figure that would be difficult to quantify halfway. The evaluation of project performance allows you to determine how much budget needs to be released for future phases of the project.

Another reason to tighten budgets is because organizations frequently rely on predicted future income flows to fund themselves. The project manager has a limited money pool throughout the first phases and must set targets accordingly. It's akin to starting with the foundation and one story of a house and then finishing the remainder of the project as you save more.

4. Cost Management

Cost control is the process of determining cost variations from the baseline and taking necessary action to close the gap, such as increasing the budget allotted or limiting the scope of work. Cost control is an ongoing procedure that occurs throughout the project's lifecycle. The emphasis here is on timely and unambiguous reporting as well as measurement.

The cost management strategy, together with the cost baseline, is an important input for cost control. This plan includes specifics such as how project performance will be measured, the

deviation threshold, what measures will be taken if the threshold is exceeded, and a list of persons and positions with executive power to make decisions.

Earned value management (EVM) is a prominent method for measuring cost performance. Let's look at an example.

You monitor the progress of work X at the end of a week and discover that it is 25% accomplished. Now, how can you know if you're on pace to finish the assignment on time?

First, a project manager determines the estimated cost of this activity (at the planning stage). Assume Task X has a $4000 budget and is expected to be 50% accomplished by the end of the week.

Task X's planned value (PV) per week = $4000 *.5 = $2000

Earned value (EV) of work X over the course of a week = $4000 *

25 = $1000

You must now calculate the actual cost (AC) of the work, which includes other variables such as equipment and material expenses (for example, $800).

Variance in schedule = EV - PV = $1000 - $2000 = -$1000

Variance in cost = EV - AC = $1000 - $800 = $200.

The negative schedule variance implies that the task is running behind schedule, whereas the positive cost variance suggests that it is running under budget.

Cost control can provide the level of transparency that decision makers require to respond rapidly to a situation while working with hundreds of jobs in large projects.

Software for Project Costing

- Cost management, like other areas of project management, becomes complex when several variables are at play. The method itself is complex, requiring meticulous attention to detail as well as a strict approach. The usage of project management software can greatly simplify this procedure.
- Consider the following benefits of adopting project cost management software:
- The automation of time-consuming quantitative analysis during estimation and measurement aids in the avoidance of human errors.
- Instead of one-time interventions, data integration across planning, estimate, budgeting, and control enables continuous monitoring and swift, proactive responses.
- Cost software aids in the evaluation of alternative options through scenario forecasting and what-if analysis, making decision-making easier.
- Dashboards and other rich user interfaces provide clear and simple reporting.

- Project cost software reduces the difficulty of multicurrency management in projects spread across multiple geographical areas.
- Many project cost solutions support third-party interfaces, allowing data to be aggregated and evaluated.
- With the availability of performance data from multiple projects, benchmarking and standardization are conceivable.

7.3 MEANS OF FINANCE

What exactly is finance?

To begin, small businesses must recognise that finance entails more than just money. While money is a legal instrument utilized in transaction settlements, finance relates to asset allocation and monetary resource management.

Finance encompasses a wide range of actions such as establishing a cash flow forecast for your company, depositing money in a high-interest savings account, and creating budgets and financial models.

Finance Types

Finance is roughly classified as follows:

- Finance for Individuals
- Government Finance
- Finance for Corporations or Businesses

Finance for Individuals

Personal finance is the management of a person's monetary resources across five important areas: income, savings, investments, spending, and asset protection. The goal is to make wise investment decisions and to create a safety net that will support the individual in the absence of limits or bad debts.

To protect themselves from unanticipated occurrences, business owners should create a comprehensive personal finance strategy. Saving for retirement, for example, allows you to develop suitable structures and avoid running out of money. Personal finance also encompasses wealth transfer across generations, tax administration and compliance, credit cards, asset management, hedge funds, and debt servicing.

Personal finance is constantly adapted to the demands of the individual in the short, medium, and long term.

Because of their diverse goals, earning potentials, incomes, and time periods, two persons may not have the same financial plan. Paying off a loan, for example, could be your short-term goal while establishing pension funds, or a real estate investment could be another person's short-term priority.

Government Finance

Governments, like individuals, must distribute resources to various areas of the economy. Public finance is the process by which federal, state, and municipal governments collect revenue and manage expenses for all public services.

One of the most important functions of a government is to generate money through trade, taxes, and loans and to distribute that income among different purposes such as debt servicing, infrastructure development, and recurrent expenditure. Government agencies support a stable economy and prevent market failure by overseeing income generation and allocation.

Tax administration, debt issuance, budgeting, foreign commerce, and inflation control are all parts of governmental finance. These elements have a direct and long-term impact on business and personal finances

Finance for Corporations or Businesses

Corporate finance encompasses all financial activities associated with running a corporation. Consider the acquisitions and investments, funding, capital budgeting, risk management, and tax management required for financial market business growth.

To improve their value and develop their capital structure, businesses must strike a balance between cash flow, risks, and investment opportunities.

A good illustration of corporate finance is when a company decides between stock and debt financing to raise capital. The act of getting capital through stock exchanges and issues is known as equity financing, whereas debt financing is a loan that must be repaid with interest on a set date.

Companies must create a revenue generation strategy that will decide their medium and long-term profitability.

What's the Distinction Between Finance and Accounting?

Accounting and finance are both critical to the success of any small business, but they are not the same thing. The primary distinction between finance and accounting is how they approach a company's financial records.

Accounting is concerned with cash inflows and outflows, reconciling financial statements and records, and managing reporting. Finance, on the other hand, analyses accounting records and paperwork to build plans that increase business growth and profitability.

The Goal of Finance

The goal of finance is to assist individuals, corporations, and the government conserve, manage, raise, and use money as efficiently as possible. The basis of any institution or organization is doomed to unhinge if monetary resources are not properly managed and utilized. As a result, for any business to achieve its objectives, a dedicated finance system is required.

Consider the average company organization. They may have departments such as finance, human resources, accounting, sales, marketing, development, or investments, as well as a few others such as administrative and customer service. Finance may be the most significant of all these distinct departments since it strives to guarantee that money is handled efficiently and that the best financial goods are part of the business plan. Assume the sales team is working overtime to boost revenue. However, the finance department does not ensure that the corporation adheres to its budget or invests funds in the appropriate departments or assets. As a result, the entire venture has practically been for naught. And this will quickly lead to anarchy in the way the firm operates.

On a national scale, a lack of sufficient financial understanding can lead to a crisis in an economy, harming the lives of its population. As a result, governments' awareness of the importance of managing and protecting public finances has grown over the previous decade.

Finance Examples

Every day, financial transactions happen. Buying and selling, taking out a loan, maintaining accounts, investing, moving money from one account to another, refinancing an asset, going public with an IPO offering, levying taxes, forgiving student debt, selling shares, repaying debt, creating budgets, and forecasting budgets are all examples of what this entails.

Finance Terminology

Here are some key financial words to be familiar with:

Assets:

Assets are any resources that a company has that have monetary value. Current assets, fixed assets, physical assets, intangible assets, operating assets, and non-operating assets are all included.

Liabilities:

Liabilities include any financial commitments for which an entity is liable, including debt. Non-current liabilities (such as leases, mortgages, and company loans) must be paid within the same year as current liabilities.

The balance sheet:

A balance sheet is a document that lists all assets and subtracts all liabilities to determine the entity's overall net value. This is done to ascertain one's own net worth. (assets such as income, investments, and real estate less liabilities such as mortgages and student loans)

Accounts payable:

Accounts Receivable (A/R) is the total amount owed by all customers to a company, usually in the form of invoices. This is the total amount of money.

Flow of funds:

The overall movement of money into and out of your organization each month is collated into a cash flow statement, which is used to verify the entity's capacity to pay its debts dependably.

Profit and Loss Statement:

To maintain profits, a company's income must exceed its expenses. They will suffer damages if they do not. An income statement is a document that aggregates and analyses all profit and loss.

Profit after taxes:

This is also known as net operating income or the bottom line, and it refers to the total amount earned or lost by a company at the end of each reporting period (usually one month).

Money's Time Value:

A dollar today is worth more than a dollar tomorrow, according to the Time Value of Money idea. The present value of money today is always worth more than its future value due to compounding interest, inflation, and the function of money in our economy.

7.4 ESTIMATES OF SALES AND PRODUCTION

New entrepreneurs routinely seek me for sales forecasting assistance. These business owners are always upbeat about the future of their new venture. However, when it comes to the details, most don't know how to forecast future sales or how much money they'll make.

Looking into the future is a daunting task. The good news is that none of us are fortune tellers and know no more about your new venture than you do. (If you have the ability to look into

the future, please skip the startup and go play the stock market.) It'll be much easier and more profitable!)

So, my recommendation is to simply take a big breath and relax. You have the same tools as everyone else to create a believable, reasonably accurate forecast. Let's get started and sort things out.

What exactly is sales forecasting?

Revenues forecasting is the process of anticipating future sales in order to make better decisions. A projection is usually based on a combination of previous sales data, industry benchmarks, and economic trends. It's a way for helping you better manage your personnel, cash flow, and any other resources that may have an impact on revenue and sales.

Established businesses may usually generate more accurate sales estimates based on previous sales data. Newer enterprises, on the other hand, will have to rely on market research, competition benchmarks, and other types of interest to build a sales baseline.

What is the significance of sales forecasting?

Your sales forecast serves as the foundation for the financial story you are developing for your company. You'll be able to easily produce your profit and loss statement, cash flow statement, and balance sheet once you've completed your sales projection.

Sales predictions assist you in setting objectives.

But, more than just laying the groundwork for a full financial projection, your sales forecast is all about defining goals for your organization. You want to know the answers to queries like:

What do you plan to accomplish in the coming month? Year? 5-years?

How many customers do you hope to have in the coming month and year?

How much money should each consumer spend with your company?

Your sales projection will assist you in answering all of these issues, as well as any ones concerning your company's future.

Sales estimates provide information to investors.

A robust sales forecast also gives potential investors a picture of your performance and performance milestones. They, like you, want to know that you have set goals and a clear path for your business. The more precise, organized, and up-to-date your prediction, the better you will be able to explain your company's position to third parties and even workers.

How to Budget Based on Your Sales Forecast

Your sales projection also serves as a reference for how much you should spend. Assuming you want to run a profitable firm, your sales forecast will help you determine how much you should spend on marketing to attract new customers and how much you should spend on operations and administration.

You don't always have to be lucrative, especially if you're attempting to expand quickly. However, in order to earn a profit, your expenses must finally be less than your sales.

What level of detail should your forecast have?

When projecting your sales, the first thing you should do is choose what you should forecast. You don't want to be overly general and anticipate sales for your entire firm. However, you do not want to make a forecast for each product or service that you sell.

If you're opening a restaurant, for example, you don't want to make forecasts for each item on the menu. Instead, concentrate on broad categories such as lunch, supper, and drinks. Forecast the primary categories of clothes that you will sell if you are launching a clothing store, such as outerwear, casual wear, and so on.

You'll generally require three to ten categories that cover the many types of sales you do. More than ten will be a lot of work to forecast, and fewer than three likely suggests you haven't broken things out sufficiently.

You can't go wrong with this. After all, it's just predictions, and you can always go back and make changes later. Simply choose a handful to get started and then go on.

For example, more than 1.4 billion cell phones were sold worldwide in 2015. It's very enticing for a company to claim that they'll capture 1% of the whole market. After all, 1% is such a small percentage that it had to be true, right?

The difficulty is that this type of guessing is not grounded in reality. On the surface, it appears to be credible, but you must delve deeper. What motivates those sales? How are people becoming aware of this new smartphone company? How many individuals will buy from the new company once they learn about it?

So, instead of forecasting "from the top down," forecast "from the bottom up." Bottom-up forecasting, as the name implies, is more of an informed guess, beginning at the bottom and working up to a projection.

Begin by considering how many potential clients you might be able to touch through advertising, sales calls, or other marketing strategies. This is your SOM (your "share of the market"), the subset of your 1% market share that you may realistically expect to achieve—especially in the first few years of your business. This is your intended market.

How many of the people you can reach do you believe you'll be able to pull in or get on your website? Finally, how many of those who walk in the door, call, or visit your website will buy?

Here's an illustration:

- 10,000 individuals see my company's internet advertisement.
- 1,000 visitors visit my website after clicking on the advertisement.
- 100 people eventually make a transaction.
- These are obviously all nice round numbers, but they should give you an understanding of how bottom-up forecasting works.

The final stage in the bottom-up forecasting process is to consider the average amount spent by each of the 100 people in our example. Do they spend $20 or $100 on average? It's fine to guess here, and the best way to refine your prediction is to go out and talk to and interview your potential clients. You'll be astonished at how precise a number you may obtain with a few easy interviews.

What is a sales forecast?

Remember that your sales forecast is an estimate of how many items and services you feel you can sell over time. This will cover the costs of producing and selling the goods and services, as well as the expected profit.

We'll go over particular procedures, assumptions, and questions to ask in order to create a viable sales estimate. To begin, these are the general steps you must take to build a sales forecast:

- Make a list of the products and services you offer.
- Estimate how much of each you anticipate selling.
- Define the unit price or monetary worth of each sold good or service.
- Multiply the number of units sold by the price.
- Determine the cost of producing and selling each commodity or service.
- Add this cost to the expected sales volume.
- Subtraction of total cost from total sales

This is a high-level overview of what is contained in your sales prediction to give you an idea of what to expect. If you sell a wide range of products, you may find it necessary to group related items into uniform categories. To make adjustments easier, attempt to keep your anticipated items categorized similarly to how they appear on your accounting statements.

Assumptions for sales forecasting

Keep in mind that your sales projection is based on assumptions. You're not predicting the future, but rather gathering data to help you define it. These assumptions are always changing, so you'll need to keep an eye on the following:

Market circumstances

Understanding the macroeconomic effects on your firm might help you better predict overall growth. An expanding or contracting market might provide either a low or high ceiling for prospective sales gains. As a result, you must understand how your company will respond to any changes.

What is the overall market like? Is the economy stagnating or accelerating? Is your industry experiencing an increase in competition? Is it possible that there is a labor or material shortage? Do you now have access to new customers?

Goods and services

You can find yourself changing your products and services on a regular basis. This can include sales elements that affect the customer or manufacturing factors that affect the entire cost.

Are you changing or updating your current offerings? Are you introducing a new product or service that will either complement or disturb your existing sales? Are you changing your prices or your sales channels? Are you able to reduce production costs? Or are expenses rising as a result of rising material, labor, or other manufacturing costs?

Seasonality

Depending on what you sell, you may notice sales dips or surges at certain seasons of the year. This seasonality could be due to weather, holidays, new product/feature launches, or a variety of other predictable events.

If you've been in business for a long, you can probably look at your accounting data to see if there are any trends. If you're a new firm, observe how your competitors behave at different periods of the year to assist you spot these tendencies early.

Marketing initiatives

The amount you spend on marketing, as well as the messaging you use, may have an impact on your entire sales. Make sure to link any performance changes to marketing activity that may have an impact on your performance.

Are you planning to launch a new marketing campaign? Are you increasing or decreasing your advertising budget? Are you tweaking your digital ad targeting? Are you expanding or eliminating certain marketing channels from your overall strategy?

Regulatory modifications

You may discover that specific rules or regulations have a direct impact on your industry. It's difficult to predict which legislation will have a favorable or negative influence, and how frequently this type of regulatory change will occur. The greatest thing you can do is maintain an ear to the ground and be prepared to adjust expenses or sales if any changes appear to be gaining traction.

How far in advance should you forecast?

Finance recommends that you forecast monthly for the next 12 months and then only generate an annual sales projection for the next three to five years.

The further you project your prognosis into the future, the less you'll know and the less usefulness it will have for you. After all, the world will change, your business will change, and you will need to update your prediction to reflect those changes.

A year from now is far enough into the future to make a guess. To keep your forecasts accurate, you'll need to update them with actual performance on a frequent basis.

And don't forget that all forecasts are wrong—and that's just fine. Your forecast is simply your best estimate at what will happen. You can update and adjust your forecast as you learn more about your business and your consumers. It is not a given.

7.5 WORKING CAPITAL REQUIREMENT

Defining the Working Capital Need

The amount of money required to meet your operational costs is referred to as your working capital requirement (WCR). It reflects your company's short-term finance needs. These requirements are produced by gaps in your cash flows (money coming in and out) related to cash inflow and cash outflow associated with your business activities, or your principal activity.

Inventory sales lead times

When a corporation manufactures a particular quantity of goods, it frequently takes time to liquidate this inventory. As a result, there is a time lag between when money is spent on production and when cash is received once the goods or services are sold.

Client payment periods

Although payment can be earned and defined at any time, it is often necessary to wait for it to be resolved. This means that a corporation can spend money to create things or deliver services but may not receive payment for a few days, weeks, or months.

Payment periods for suppliers

Companies rarely manufacture their items from scratch; instead, they frequently rely on suppliers for basic ingredients. If this is the case, once the production cycle begins, the company is obligated to these third parties for the time it takes to earn money from the sale of its products or services. However, in some cases, suppliers may seek reimbursement before the company has received sufficient revenue to cover its obligations. A premature cash outflow like this raises the company's WCR.

Working Capital Formula

Subtract a company's current liabilities from its current assets to calculate working capital. Both data can be obtained in publicly reported financial accounts for public corporations, however private companies may not have this information readily available.

Current Assets - Current Liabilities = Working Capital

Working capital is frequently expressed in monetary terms. Assume a business has $100,000 in current assets and $30,000 in current liabilities. As a result, the company is believed to have $70,000 in operating capital. This means that the corporation has $70,000 available in the immediate term if it needs to raise funds for a specific purpose.

A positive working capital calculation indicates that the company's current assets exceed its current liabilities. The corporation has more than enough resources to satisfy its short-term debt, and there is enough cash to cover the obligation if all current assets are sold.

When a company's working capital calculation is negative, it signifies that its current assets are insufficient to cover all of its current liabilities. The company's short-term debt exceeds its short-term resources. Negative working capital indicates poor short-term health, limited cash, and likely difficulties in meeting debt commitments when they come due.

Working Capital Components

All working capital components can be found on a firm's balance sheet, albeit a corporation may not need all of the working capital components listed below. A service company, for example, that does not hold inventory will simply not include inventory in its working capital calculation.

Cash, accounts receivable, inventory, and other assets that are expected to be liquidated or converted into cash in less than a year are described as current assets. Accounts payable, wages, taxes payable, and the current portion of long-term debt due within a year are examples of current obligations.

Currently Owned Assets

Current assets are economic gains that the corporation anticipates receiving within the next year. The company has a claim or right to receive the financial gain, and calculating working capital assumes that the corporation liquidates all of the items listed below into cash.

Money and its equivalents:

The entire amount of money on hand at the company. This includes foreign currency and specific sorts of investments, such as money market accounts with extremely minimal risk and extremely short investment terms.

Inventory:

All unsold goods are being stored. This includes raw materials purchased for manufacturing, partially assembled inventory in process, and finished goods not yet sold.

Accounts Receivable: All cash claims for inventory sold on credit. This should be included minus any provision for dubious payments.

Receivable Notes:

All of the claims to payment for other agreements, which are frequently agreed to in writing.

Expenses Paid in Advance:

The entire amount for expenses was paid in advance. Though they may be difficult to liquidate in the event of a cash need, they nonetheless have short-term worth and are included.

Others:

Any other type of short-term asset. Some businesses, for example, may recognise a short-term deferred tax asset that decreases a future liability.

Current Liabilities

Current liabilities are simply all debts owed or expected to be owed by a corporation during the next twelve months. The ultimate purpose of working capital is to determine if a company can satisfy all of its debts with short-term assets already on hand.

Accounts Receivable:

All unpaid vendor invoices for supplies, raw materials, utilities, property taxes, rent, or any other operating expense payable to a third party. Invoice credit terms are frequently net 30 days, therefore practically all bills are included here.

Payable Wages:

Staff employees' underpaid accumulated salaries and wages. Depending on the date of the company's payroll, this could only amount to one month's wages (if the company only issues one paycheck per month). Otherwise, these liabilities are of a relatively brief duration.

Current Share of Long-Term Debt:

All short-term payments for long-term debt Assume a corporation funds their warehouse and has a 10-year debt with monthly payments. The following 12 months' payments are classified as short-term debt, while the remaining 9 years' installments are classified as long-term debt. When determining working capital, only the last 12 months are included.

Tax Refundable:

All responsibilities to government agencies. These could be accruals for tax obligations for filings that aren't due for several months. However, these accruals are almost always of a short duration (due within the following 12 months).

Dividends Due:

All approved payments to shareholders have been made. A firm may choose to forego future dividend payments, but it must honor existing payout obligations.

Unearned Income:

All funds received prior to the completion of the job. If the company fails to execute the project, the client may be obliged to return the capital.

Working Capital Limitation

Working capital can provide valuable information into a company's short-term health. However, there are certain drawbacks to the calculation that cause the measure to be misleading at times.

To begin with, working capital is constantly shifting. When a business is fully operational, several, if not the majority, of its current asset and current liability accounts will change. As a result, by the time financial data is gathered, the company's working capital position has most certainly altered.

Working capital fails to take into consideration the various forms of underlying accounts. Consider a corporation whose present assets are entirely accounts receivable. Though the company may have positive working capital, its financial health is dependent on whether its customers pay and the company's ability to generate short-term cash.

Similarly, assets can swiftly lose their worth. If a key customer declares bankruptcy, account receivable balances may lose value. Inventory is vulnerable to obsolescence or theft. Physical currency is also vulnerable to theft. As a result, a company's working capital may fluctuate due to factors beyond its control.

Finally, working capital is based on the assumption that all loan commitments are known. Agreements can be missed or invoices can be processed wrongly in mergers or fast-paced

organizations. Working capital is strongly reliant on proper accounting standards, particularly those pertaining to internal control and asset protecting.

Particular Considerations

Most large new ventures, such as expanding production or entering new markets, necessitate an initial investment. This decreases the immediate cash flow. As a result, organizations that are inefficiently employing working capital or require extra funding upfront might increase cash flow by squeezing suppliers and customers.

High working capital, on the other hand, isn't always a good thing. It could mean that the company has too much inventory or is not investing its excess cash. Alternatively, it could indicate that a corporation is not taking advantage of low-interest or no-interest loans; rather than borrowing money at a cheap cost of capital, the company is burning its own resources.

A comparable financial indicator known as the fast ratio compares current assets against current liabilities. It reports the relationship as a % rather than a dollar amount, in addition to employing distinct accounts in its formula.

7.6 COST OF CAPITAL

Cost of Capital Definition

The cost of capital is the rate of return on investment that a corporation expects to earn in order to increase its market value. In other words, it is the rate of return that capital suppliers seek as compensation for their capital input.

Cost of Capital Components

The cost of capital is determined by three elements, which are discussed below:

Return with Zero Risk

It refers to the projected rate of return when there are no financial or business risks involved in a project.

Business Risk Insurance Premium

The capital budgeting decisions that a company makes for its investment projects determine business risk. So, if a corporation chooses a project with higher-than-average risk, it is evident that capital sources will expect or demand a larger rate of return than the regular rate.

As a result, the premium element is crucial here because it raises the cost of capital. But how much is the premium? It is up to the firm's project selection decision to determine which projects are incompatible with the firm's goals and objectives, as well as how much they want the project to improve their market worth.

The Financial Risk Premium

Financial risk is related to the firm's capital structure pattern. The premium enters the picture depending on the amount of debt owed by the firm. The greater the debt capital, the greater the risk in comparison to a corporation with relatively low obligations.

Cost of Capital Formula

The three components of cost of capital discussed above can be written in an equation as follows:

K = Cost of Capital

r0 = Return at zero risk level

1. = Premium for business risk
2. = Premium for finance risk

How to Determine the Cost of Capital

The following approaches can be used to calculate the cost of capital:

Specific Capital Cost Calculation

The cost connected with the source of capital is referred to as the specific cost. Consider the cost of equity. Calculating the specific cost of capital entails adding up all of the capital types indicated below.

Debt costs

Preference share price

The price of equity shares

Retained earnings cost

Composite Computation Capital Expense

The cost of composite capital is the sum of the costs of several sources of capital. It is also known as the Weighted Average Cost of Capital (WACC). The stages involved in calculating WACC are as follows. The formula for arriving is as follows:

Ko denotes the total cost of capital.

Wd = Debt Weight

Wp = Weighted preference capital share

Wr = Weighted average of retained earnings

We = Weighted average of equity share capital

Kd = Debt Specific Cost

Kp denotes the specific cost of preference share capital.

Kr denotes the specific cost of retained earnings.

Ke denotes the specific cost of equity share capital.

Examples of capital costs

Companies that operate efficiently should have a lower or equal cost of capital to their competitors in the same industry. Here are some examples of capital costs and how they are calculated:

Exemplification 1

New Homes Real Estate Investment Trust is looking at renovating 25 apartment homes' kitchens and bathrooms. The $30 million renovation is expected to save $5 million per year for the next five years. There's a chance the renovation won't save New Homes the full $5 million per year. New Homes could also choose to invest in a five-year bond with the same level of risk and a 10% annual return.

The renovation project is expected to generate an annual return of 16% ($5,000,000 / $30,000,000). Because the required rate of return exceeds the 10% return New Homes could have gotten elsewhere, the renovation project is a better investment than the five-year bond.

7.7 PROJECTED CASH FLOW STATEMENT

What exactly is cash flow projection?

First and foremost, if you want to learn about cash flow estimates, you must first understand what cash flow is.

The quantity of money flowing in and out of your business is referred to as cash flow. A healthy cash flow can help guide your company to success. However, inadequate or negative cash flow might mean disaster for your company's future.

Create a cash flow prediction if you wish to forecast your company's cash flow. A cash flow prediction forecasts the amount of money that will flow into and out of your organization, including all of your income and expenses.

Most firms' cash flow predictions typically encompass a 12-month period. Your company, on the other hand, can generate a weekly, monthly, or semi-annual cash flow prediction.

The Benefits of Cash Flow Forecasting

Estimating projected cash flow estimates can help your company succeed.

There are numerous advantages to projecting cash flows. Some advantages of generating a cash flow projection include the ability to:

- Estimate monetary shortages and surpluses.
- Examine and contrast business expenses and income over time.
- Estimate the impact of a company change (e.g., hiring an employee)
- Demonstrate to lenders your ability to pay on time.
- Determine whether any changes are required (e.g., cutting expenses)
- Cash flow prediction is not appropriate for every firm. If done incorrectly, your anticipated cash flow analysis can be time-consuming and costly.

Keep in mind that cash flow forecasts will almost certainly never be perfect. You can, however, utilize your projected cash flow as a tool to help manage your cash flow.

The simple truth is that your cash projections let you see where your business is going. It can also show you where you need to improve and minimize expenditures.

How to Determine Projected Cash Flow

Gather some historical accounting data if you're ready to start calculating projected cash flow for your business.

You must obtain income and expense records for your firm from your accountant, books, or accounting software. You may need to acquire extra information depending on the timeframe you want to anticipate.

Do you want to know how to calculate cash flow projections? Follow the steps in the estimated cash flows section below.

1. Determine your company's cash at the start of the period.

To determine your cash from the start of the period, deduct the previous period's expenses from your income.

Cash at the start of the period = Income from the previous period - Expenses from the previous period

2. Forecast incoming cash for the following quarter

Following that, you must forecast how much cash will enter your organization during the next time.

Incoming cash includes revenue, sales made on credit, loans, and other items.

Looking at trends from prior periods can help you forecast future cash. Make sure to account for any differences or influences from previous periods (e.g., new products).

3. Projected costs for the next quarter

Consider all of the expenses you will incur in the coming time. Consider raw supplies, rent, utilities, insurance, and other expenses.

4. Deduct the projected expenses from the income.

Subtract your projected expenses from your estimated income to calculate your company's cash flow.

Estimated Income - Estimated Expenses = Cash Flow

5. Add the cash flow to the opening balance.

After calculating cash flow, add it to your opening balance. This will also provide you with your final balance. Your ending balance will be carried over to the next period as your starting balance.

Repeat the preceding steps to finish the expected cash flow for the next period.

Confused? Not to worry! Consider the following project cash flow statement example:

Projected Cash Flow Statement				
	January	February	March	April
Opening Balance	**8,000**	**9,000**	**11,500**	**10,500**
Cash In				
Sales	10,000	10,000	8,000	8,000
Total	**10,000**	**10,000**	**8,000**	**8,000**
Cash Out				
Materials	3,000	2,000	3,000	4,500
Marketing	2,000	1,500	2,500	1,500
Wages	4,000	4,000	3,500	4,000
Total	**9,000**	**7,500**	**9,000**	**10,000**
Cash Flow	**1,000**	**2,500**	**– 1,000**	**– 2,000**
Closing Balance	**9,000**	**11,500**	**10,500**	**8,500**

Making a cash flow projection

Start generating columns for your future periods if you want to develop your own cash flow estimate. You can also use a spreadsheet to organize your cash flow statement estimates.

In your cash flow prediction, you should incorporate the following categories:

Opening equilibrium

Earn money (e.g., sales)

Take money out (e.g., expenses)

Cash in and cash out totals

Cash Applications (e.g., materials)

Cash flow total for the period

Balance at the end

Periods (e.g., month of January)

Plug in your expected cash flow calculations after you've laid out the sections on your cash flow projection report.

Reviewing your cash flow forecast

Cash flow predictions are not fixed. Check in with your projection on a regular basis to see where you stand.

If you notice significant disparities or problems in your cash flow projection, it's time to crunch some more figures and do some digging. Identifying problems with your projection early on can help you avoid severe errors later on.

Consider variable expenses such as: to ensure your prediction remains as accurate as feasible.

- Months with three pay periods
- During peak seasons, sales
- The months in which premiums are due (e.g., insurance)
- Hiring more employees
- A solid rule of thumb is to avoid looking too far ahead. Too many factors can damage your business's future cash flow (for example, an economic downturn).

As previously stated, a typical time period for cash flow projection is 12 months. Try to keep your cash flow projections to no more than a year in advance. You may help prevent unplanned charges and errors from affecting your projection this way.

7.8 PROJECTED BALANCE SHEET

What do forecasted balance sheets entail?

Projected balance sheets, also known as pro forma balance sheets, are statements that reflect expected changes in a company's financial situation, such as investments, other assets, liabilities, and equity financing. Company owners or accounting experts use forecasts to learn more about their business and forecast income and expenses for the future. The following are descriptions of the main line items that you will most likely find on a projected balance sheet:

Assets:

A business asset is anything owed by a corporation. Assets typically influence the perceived and calculated value of a firm and can be classified as fixed, tangible, intangible, operating, or non-operating. Items such as machinery, computer software, office equipment, intellectual property, and cash are examples of assets.

Liabilities:

The liabilities of a firm are the line items that the organization owes. Some frequent liabilities include mortgage debt, unpaid employee paychecks, unpaid taxes, and any items on the accounts payable sheet that represent what the company owes to vendors and suppliers.

Equity:

The amount that company shareholders would get if all liabilities were paid is referred to as equity. Divide a company's total liabilities by its total assets to calculate equity. For example, if a company's total liabilities are $100,000 and its total assets are $120,000, the company's equity is $20,000.

Why is a forecasted balance sheet necessary?

Projected balance sheets are crucial because they can help with strategic and effective business planning. Before corporate leaders and owners can correctly establish long-term business plans, it is critical that they understand more about the firm's growth, including how assets should expand, which debts the organization must acquire, and the equity it holds for shareholders.

You may view the important financial facts you need to prepare properly by creating a projected balance sheet, which can involve recruiting more personnel, attracting additional investors, expanding operations, or purchasing equipment that will boost productivity and lead to increased sales. Without a projected balance sheet, you may not be aware of the actions your firm can take to achieve its goals, nor will you be able to articulate why an individual or business should give cash to the organization.

How to Make a Proposed Balance Sheet

Here are some procedures to take if you need to generate a projected balance statement for your company:

1. Design a template for the forecasted balance sheet.

A projected balance sheet is something you can make numerous times, especially because they are typically used to estimate balances for a specific time period. You may want to create a balance sheet before a merger, before a sales presentation, or on a regular basis to ensure you understand what the next few months of the firm should look like so you can decide whether to make a significant purchase or grow operations in some way.

With a structured projected balance sheet, you can simply alter the assets, liabilities, and equity for the time period you're working in without having to spend time and effort constructing one from scratch each time. Consider utilizing an accounting programme or spreadsheet software to make this process easier and to provide a consistent format that everyone adjusting or reviewing can comprehend.

2. Collect previous financial statements

Gather any financial statements you may have, unless you are a startup with no past financial statements. Accountants and other financial specialists analyze an organization's past financial statements to generate reliable estimates about the company's financial future by studying patterns and assessing ongoing assets and liabilities that are already included on current balance sheets. Gather at least two years' worth of financial data to ensure your estimates are as precise as feasible.

3. Examine your current and historical assets and obligations.

Examining these items can help you better prepare for creating a projected balance sheet since you will be reminded of and more aware of the assets you previously had, the assets you currently have, and the prior and present liabilities. With these line items visible, you'll be able to assess if the identical assets and liabilities should be on the projected balance sheet you're developing. A mortgage loan liability that the company has paid, for example, does not need to appear on a projected balance sheet, but an ongoing debt with periodic payments does.

Keep in mind that assets might alter depending on sales, inventory, and any money received by the business. While certain assets and liabilities may continue to appear on balance sheets, it is critical to examine each line item separately to decide if it is a necessary component of establishing a projected balance sheet.

4. Estimate your fixed assets

Fixed assets are more tangible and long-term for the business because they are assets that the organization employs on a regular basis, such as production machines or corporate vehicles. Fixed assets are a simple addition to any anticipated balance sheet, but keep depreciation in mind. Depreciation is the decrease in value that an item undergoes when it is utilized more frequently, especially if regular wear and tear is present. The line items you list under assets may remain the same year after year, but their value diminishes with time, which is vital to consider when creating a projected balance sheet.

5. Calculate the company's debt.

If you've been managing the company's debts, estimating how much debt the company will have during the time period covered by the projected balance sheet should be a straightforward task. Examine your present debts, including the amounts owed, the payments you'll due and make in the next months, and when the debt should be totally paid off. With this information, you'll be able to determine which debts to include and in what quantities on the anticipated balance sheet.

6. Estimate your equity

To forecast your equity, examine last year's equity, calculate the company's net income, account for dividends, and include any changes in equity. When you are able to anticipate equity effectively, you are estimating the earnings for the business that can be passed on to the stakeholders. This is also vital information for investors who want to know if their investment will yield a good return.

Example

Projected Balance Sheet

Particulars	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year	7th Year	8th Year
Liabilities								
Promoters Capital-periodic	1.40	1.40	1.43	1.52	1.62	1.72	1.82	1.93
Retained Profit	5.26	10.73	16.48	22.64	28.88	35.07	41.19	47.22
Term Loan O/S/td>	4.36	2.49	0.62	0.00	0.00	0.00	0.00	0.00
Working Capital Loan	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58
Current Liabilities	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sundry Creditors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**13.59**	**17.20**	**21.10**	**26.74**	**33.07**	**39.37**	**45.60**	**51.73**
Assets								
Gross Fixed Assets	6.39	5.75	5.17	4.66	4.19	3.77	3.39	3.06
Less: Depreciation	0.64	0.57	0.52	0.47	0.42	0.38	0.34	0.31
Net Fixed Assets	5.75	5.17	4.66	4.19	3.77	3.39	3.06	2.75
Balance of Preliminary & Pre-Op & Contingency	0.41	0.20	0.00	0.00	0.00	0.00	0.00	0.00
Current Assets	2.42	2.51	2.61	2.70	2.80	2.90	3.00	3.11
Cash in Bank / Hand	5.01	9.31	13.84	19.85	26.50	33.07	39.54	45.87

Total	**13.59**	**17.20**	**21.10**	**26.74**	**33.07**	**39.37**	**45.60**	**51.73**

7.9 FINANCING OF PROJECT

What exactly is project financing?

Project financing is a long-term, zero or limited recourse financing option accessible to borrowers against the rights, assets, and interests associated with the project in question.

If you are intending to start an industrial, infrastructure, or public services project and want funding, Project Financing may be the answer.

Instead of the sponsors' balance sheets, the loan can be repaid using the cash flow generated once the project is completed. If the borrower fails to comply with the loan terms, the lender has the right to take over the project. Furthermore, if a corporation uses this strategy while partially moving the associated project risks, financial organizations might make higher margins. As a result, this form of lending arrangement is popular among sponsors, businesses, and lenders alike.

An intermediary, known as a Special Purpose Vehicle, is formed to bridge the gap between sponsors and lenders (SPV). The SPV's primary responsibility is to oversee finance procurement and management to ensure that project assets do not succumb to the aftereffects of project failure. Before a lender decides to finance a project, it is critical that all potential risks to the project are identified and assigned to avoid future complications.

Key Features of Project Financing

Because a project involves large sums of money, it is critical that you understand this structured financial system. The following are the key characteristics of project financing:

Scheme for Capital-Intensive Financing:

Project financing is appropriate for enterprises that require a large amount of stock and debt, and it is typically used in developing countries to promote economic progress. This financing plan, which is more expensive than corporate loans, raises costs while decreasing liquidity. Furthermore, the projects in this strategy frequently involve Emerging Market Risk and Political Risk. To insure against these risks, the project must also pay costly insurance.

Risk Distribution:

Some of the risks associated with the project are passed to the lender under this financial arrangement. As a result, sponsors prefer to choose this financing method since it allows them to offset part of the risk. Project Financing, on the other hand, might provide lenders with a higher credit margin.

Applicable for several participants:

Because Project Financing frequently involves a large-scale project, it is possible to assign multiple parties to handle the project's various parts. This contributes to the smooth running of the entire process.

Asset Ownership is Determined upon Project Completion:

The Special Purpose Vehicle is in charge of overseeing the project's processes as well as monitoring the project's assets. Once the project is done, the project ownership is transferred to the entity specified in the loan terms.

Solution for No or Limited Recourse Financing:

Because the borrower does not own the project until it is completed, lenders do not have to waste time or money examining the borrower's assets and credibility. Instead, the lender can concentrate on the project's feasibility. If the financial services company believes that the project will not generate enough cash flow to repay the loan after completion, it might request limited recourse from the sponsors.

Repayment of Loan Using Project Cash Flow:

The extra cash flow generated by the project should be used to pay down the borrower's outstanding debt, according to the terms of the loan in Project Financing. As the debt is gradually paid off, the financial services company's risk exposure decreases.

Improved Tax Treatment:

If Project Financing is used, the project and/or the sponsors may benefit from preferential tax status. As a result, sponsors choose this structured financing method for receiving cash for long-term projects.

Sponsorship Has No Effect on the Project:

While this long-term financing plan maximizes a project's leverage, it also ensures that the sponsor's credit standing has no negative impact on the project. As a result, the project's credit risk is frequently higher than the sponsor's credit risk.

What Are the Various Project Financing Stages?

Stage of Pre-Financing

Project Plan Identification -

This procedure includes identifying the project's strategic plan and determining whether or not it is feasible. This stage is critical for the lender to perform in order to guarantee that the project plan is in line with the goals of the financial services organization.

Recognizing and Reducing Risk –

One of the most important procedures to do before beginning the project financing venture is risk management. Before investing, the lender has every right to investigate if the project has sufficient available resources to minimize future hazards.

Examining the Project's Feasibility -

Before a lender decides to invest in a project, it is critical to determine whether the project is financially and technically feasible by analyzing all relevant elements.

Stage of Financing

This step, as the most important aspect of Project Financing, is further subdivided into the following:

Finances Arrangement -

To manage the project's finances, the sponsor must get equity or a loan from a financial services organization whose interests are similar to those of the initiative.

Negotiating a Loan or Equity -

During this stage, the borrower and lender negotiate the loan amount and reach an agreement on it.

Verification and documentation -

In this step, the loan conditions are mutually agreed upon and documented while keeping the project's policies in mind.

Payment -

Once the loan documentation is completed, the borrower receives the monies agreed upon to carry out the project's activities.

Stage of Post-Financing

Project Monitoring on Time -

As the project begins, it is the project manager's responsibility to oversee it at regular intervals.

Project Completion -

This is the final step of the project.

Repayment of a loan-

After the project is completed, it is critical to monitor the cash flow generated by its operations because this money will be used to repay the loan used to fund the project.

7.10 EQUITY

Meaning of Equity:

The amount of capital invested or owned by a company's owner is referred to as equity. The difference between a company's liabilities and assets on its balance sheet is used to calculate equity. The value of equity is determined by the current share price or a value set by valuation professionals or investors. This account is often referred to as owners', stockholders', or shareholders' equity.

Equity Calculation:

Assets - Liabilities = Equity is the accounting equation.

What are the Different Kinds of Equity:

Equity is classified into two types:

Book Price:

Equity is recorded in accounting as its book value and is determined using the financial statement record and the balance sheet equation. Equity = Assets - Liabilities is the equation used to calculate book value. Despite the fact that assets are the total of the company's non-current and current assets. Fixed assets, cash, inventory, accounts receivable, property plant, intangible assets, and other details are also included in the primary account assets.

On the balance sheet, liabilities are the sum of current and non-current liabilities. Short-term debt, credit, deferred revenue, accounts payable, long-term debt, fixed financial commitments, and capital leases are some of the other accounts.

Equity is always recorded at its book value in accounting. This is the value determined by accountants through the preparation of financial accounts and the balance sheet equation: assets = liabilities Plus equity. The equation can be rewritten as equity = assets minus liabilities.

The sum of a company's current and noncurrent assets on the balance sheet equals the value of its assets. Cash, accounts receivable, inventories, prepaid costs, fixed assets, property plant and equipment (PP&E), goodwill, intellectual property, and intangible assets are the most important asset accounts.

Liabilities are the sum of all current and non-current liabilities on the balance sheet. Lines of credit, accounts payable, short-term debt, deferred revenue, long-term debt, capital leases, and any fixed financial commitment are examples of common liability accounts.

In actuality, the value of equity is computed considerably more precisely and is based on the following accounts:

- Capital stock
- surplus contributed
- Earnings retained
- Profit after taxes (loss)
- Dividends

Accountants must track all capital raised and repurchased by the company (its share capital), as well as its retained earnings, which are calculated as cumulative net income minus cumulative dividends. Equity is equal to the sum of share capital and retained earnings.

Market Price:

Equity is denoted in finance as market value, which might be significantly lower or higher than book value. The distinction is that an accounting statement looks at the past (past expenditures), whereas a financial statement looks ahead and forecasts what a company's financial situation will be.

The market value of a publicly traded company's stock is calculated as Market Value= Share Price X Shares Outstanding. A private company, on the other hand, hires investment bankers, boutique valuation firms, or accountancy firms to analyze market value.

What is the equity market value?

The market value of Equity is the total market value of a company's outstanding stocks. The outstanding stock/shares are the shares owned by a company's shareholders, investors, and so on. After liabilities are paid, a company's assets are referred to as equity. Market capitalization is another name for it.

As a result, the market value of equity is always changing as the two inputs (existing stock and market value) change. The market value of equity in a corporation differs from the book value of equity since the book value does not consider the company's future potential growth.

Market Value of Equity is calculated by multiplying the current market price per stock by the total number of outstanding stocks in the organization.

Equity is often expressed in finance as a market value, which may be significantly higher or lower than the book value. Accounting statements are backward-looking (all outcomes are from the past), whereas financial analysts look ahead, to the future, to estimate what they feel financial performance will be.

If a corporation is publicly traded, calculating the market value of its equity is simple. It's simply the most recent share price multiplied by the total number of outstanding shares.

When a company is private, determining its market value is much more difficult. If the company needs to be formally evaluated, it will frequently hire professionals to do a detailed analysis, such as investment bankers, accounting firms (valuations group), or boutique valuation firms.

Factors Influencing Equity Market Value:

A Large Number of Market Participants- As the number of investors, traders, and analysts increases, the market becomes more comprehensive and competent.

New Information Availability-

Any new developments in the firm, such as its expansion or the creation of new products, have an impact on the company's financial situation. As a result, it affects the price of the company's share, which in turn determines the company's market value.

Factors Circular-

The market value is always changing. The market value falls, as it does during a recession.

Interference by the government-

This point significantly disrupts the market value of the companies. In circumstances where a few countries forbid foreigners from trading in their markets. As a result, the market value of these enterprises in such a limited market cannot expand as much as it might in other free markets.

Equity Examples:

If ABC Company has one lakh outstanding shares and the current market value of the company is $50 per share. The company's stock market valuation will be (50 per share X 1 lakh outstanding shares = 50 lakhs).

7.11 DEBENTURES

What Exactly Is a Debenture?

A debenture is a form of bond or other loan instrument that is secured by collateral but not guaranteed. Because debentures lack collateral backing, they must rely on the issuer's trustworthiness and reputation for support. Debentures are regularly issued by enterprises and governments to raise cash or funds.

Debentures Explained

Debentures, like other bonds, may make periodic interest payments known as coupon payments. Debentures, like other types of bonds, are formalized in an indenture. An indenture is a legally enforceable agreement between bond issuers and bondholders. The contract

outlines the terms of a debt offering, such as the maturity date, the scheduling of interest or coupon payments, the method of calculating interest, and other details. Debentures can be issued by both corporations and governments.

Long-term bonds, with maturities of more than ten years, are often issued by governments. These government bonds are considered low-risk investments because they are backed by the government issuer.

Debentures are also used by corporations as long-term loans. Corporation debentures, on the other hand, are unsecured.

Instead, they are only supported by the underlying company's financial health and creditworthiness. These debt instruments bear interest and are redeemable or repayable on a predetermined date. These planned debt interest payments are often made before stock dividends are paid to shareholders. Debentures are helpful for businesses because they have lower interest rates and longer repayment terms than other types of loans and debt instruments.

Debenture Varieties

Bearer vs. Registered

Debts may be registered to the issuer when issued as debentures. In this instance, the transfer or trading of these securities must be facilitated by a clearing facility that notifies the issuer of changes in ownership so that interest can be paid to the relevant bondholder. In contrast, a bearer debenture is not registered with the issuer. Simply by holding the bond, the owner (bearer) of the debenture is entitled to interest.

Irredeemable versus Redeemable

Redeemable debentures specify the exact terms and date by which the bond's issuer must repay their obligation in full. Irredeemable (non-redeemable) debentures, on the other hand, do not obligate the issuer to return the principal in full by a specific date. As a result, irredeemable debentures are frequently referred to as perpetual debentures.

Nonconvertible versus convertible

Convertible debentures are bonds that, after a certain length of time, can be converted into equity shares of the issuing firm. Convertible debentures are financial securities that combine the advantages of debt and equity. Debentures are fixed-rate loans with fixed interest payments used by businesses. The holders of the debenture, on the other hand, have the choice of holding the loan until maturity and receiving interest payments, or converting the loan into equity shares.

Convertible debentures are appealing to investors who want to convert to equity because they anticipate the company's stock will rise over time. The ability to convert to equity, however, comes at a cost because convertible debentures pay a lower interest rate than comparable fixed-rate investments.

Traditional debentures that cannot be changed into equity of the issuing corporation are known as nonconvertible debentures. When compared to convertible debentures, investors are compensated with a higher interest rate to compensate for the absence of convertibility.

Debenture Characteristics

A trust indenture must be drafted before issuing a debenture. The first trust is a contract between the issuing corporation and the trustee who manages the investors' interests.

Rate of Interest

The coupon rate, or the interest rate that the corporation will pay the debenture holder or investor, is determined. This coupon rate can be fixed or variable. A floating rate may be linked to a benchmark, such as the yield on a 10-year Treasury bond, and will fluctuate in response to changes in the benchmark.

Credit Score

The credit rating of the company, and eventually the credit rating of the debenture, influences the interest rate that investors will get. Rating agencies assess the creditworthiness of corporate and government debt.

These organizations provide investors with an understanding of the dangers associated with debt investing.

Credit rating agencies, such as Standard & Poor's, usually assign letter grades that indicate the underlying creditworthiness. The Standard & Poor's system has a scale that spans from AAA for good ratings to C and D for the lowest ratings. Any debt instrument with a rating lower than a BB is considered speculative grade.

These are also known as garbage bonds. Simply put, the underlying issuer is more likely to default on the debt.

Date of Maturity

The maturity date of nonconvertible debentures, as previously indicated, is also a significant element. This is the deadline for the corporation to repay the debenture holders. The corporation has alternatives for how the reimbursement will be made. Most commonly, it is as a redemption from capital, in which the issuer pays a lump sum payment when the loan matures. Alternatively, the payment could be made via a redemption reserve, in which the corporation pays set sums each year until complete payback is made at the maturity date.

Debenture Advantages and disadvantages

Debentures are the most frequent type of corporate long-term debt instrument. These are issued by a company to raise funds for its expansion and operations, and investors can benefit from regular interest payments that are safer investments than a firm's equity shares of stock.

Debentures are unsecured bonds that firms issue in order to raise debt capital. They are fundamentally riskier than an otherwise identical secured note because they are not backed by any sort of collateral. Because of the additional risk, debentures will have a higher interest rate to compensate bondholders. This also implies that bond investors should pay close attention to debenture issuers' creditworthiness.

A debenture's lack of security does not always make it riskier than any other bond. Both a US Treasury bond and a US Treasury bill are technically debentures. They are not collateralized, yet they are deemed risk-free.

Investors' Debenture Risks

Debenture holders may be exposed to inflationary risk.

The risk here is that the debt's interest rate will not keep pace with the rate of inflation. Inflation measures price rises in the economy. Assume that inflation generates a 3% increase in prices. If the debenture coupon is paid at 2%, the holders may experience a net loss in real terms.

Debentures are likewise subject to interest rate risk.

During rising market interest rates, investors hold fixed-rate debts in this risk scenario. These investors may discover that their loan yields less than what is available from other investments paying the current, higher market rate. In this case, the holder of the debenture receives a lesser yield.

Furthermore, debentures may be subject to credit risk and default risk.

As previously indicated, debentures are only as safe as the underlying issuer's financial health. Investors are at risk of debenture default if the company experiences financial difficulties owing to internal or macroeconomic issues. In the event of bankruptcy, debenture holders would be repaid before common stock stockholders.

A Debenture Example

The U.S. Treasury bond is an example of a government debenture (T-bond). T-bonds are used to finance projects as well as day-to-day government activities. The US Treasury Department sells these bonds at auction throughout the year.

Some Treasury bonds are available for purchase on the secondary market. Investors can buy and sell previously issued bonds in the secondary market through a financial institution or broker. T-bonds are almost risk-free since they are guaranteed by the full faith and credit of the United States government. They do, however, face the risk of rising inflation and interest rates.

What Is the Difference Between a Debenture and a Bond?

A bond is a sort of debenture. It is an unsecured or non-collateralized debt issued by a company or other organization, and it usually refers to bonds with longer maturities. Secured bonds are backed by collateral in the form of property, securities, or other assets that can be seized in the event of a default to repay creditors. Unsecured debentures lack such collateralization, making them more risky.

Are Debentures Dangerous Investments?

Debentures are less hazardous than investing in the same company's common stock or preferred shares because they are debt securities. In the event of bankruptcy, debenture holders would be regarded as more senior and would take precedence over other types of investments.

However, because these debts are not secured, they are intrinsically riskier than secured obligations. As a result, these may have higher interest rates than otherwise comparable collateral-backed bonds from the same issuer.

In truth, a United States Treasury bond and a United States Treasury bill are both debentures. They are not collateralized, but they are considered risk-free assets.

What Is the Structure of Debentures?

All debentures are structured in the same way and have the same characteristics. First, a trust indenture is created, which is a contract between the issuing entity and the entity that manages the bondholders' interests. Following that, the coupon rate is determined, which is the interest rate that the corporation will pay the debenture holder or investor. This rate can be fixed or floating, and it is determined by the credit rating of the company or the bond. Debentures can also be convertible or non-convertible into shares.

Is a debt a liability or an asset?

This is dependent on who is considered. A debenture, as a debt instrument, is a liability for the issuer, who is effectively borrowing money by issuing these securities. Owning a debenture is an asset for an investor (bondholder).

7.12 TERM LOAN

An Overview of Term Loans

Term loans are short-term, upfront financing alternatives for local and small businesses that are repayable over time. These are long-term debts issued by businesses with a payment schedule and interest paid in installments at set or adjustable rates. However, these loans are not made available to enterprises unless they have solid financial documents and a track record of creditworthiness.

Term Loans Explained

Term loans are advantageous due to the length of time required to repay the loan plus interest. Short-term loans pay out the borrower's principal in less than a year, whereas term loans give them time to organize cash and pay in measured payments. Term loans are frequently used to purchase fixed assets such as machinery or buildings, as well as to begin initiatives that require a large sum of money and time to reap the benefits of such investments. Term loans make this possible.

Term loans can be granted for one year or for a period of 25 years. It alleviates cash shortages in enterprises. They are secured loans, and assets are frequently used as security or collateral against payment to ensure that payments are made on time. These loans are favoured means of finance for many businesses since they do not dilute management in the same way that equity, bonds, or debt financing can.

Term Loan Benefits

Interest rates have been reduced.

Term loans have lower interest rates when taken out for a longer period of time than short-term loans. Furthermore, interest rates are fixed and do not change over the life of the loan.

Increased Flexibility

Term loans offer a great deal of flexibility. Everything from the time to the principal and interest rate is subject to discussion. The greater your company's credit score, the more flexibility you have with loan terms.

Improves Cash Flow

When a company takes a term loan, it effectively frees up cash flow for other reasons because the loan amount meets the funding needs for large capital expenditures. A company, for example, can seek a term loan to fund a recruiting round. This will cover the costs of the time required to educate employees before they can contribute to the bottom line.

Rapid Approval

Short-term loans are typically approved within a day or two. Even long-term loans do not take a lengthy time to approve. As a result, term loans are a much faster method of funding when compared to other options.

Maintains ownership equity

Term loans are a sort of debt financing, hence they have no effect on the corporation's shareholder equity, which remains unchanged. Furthermore, unlike equity finance, firm owners are not required to give up any control over operations.

Types of Term Loan

Businesses can choose from a number of term loan options. They are frequently tailored to borrowers' needs based on characteristics such as the quantity of capital required by the firm, the borrower's repayment capacity, and the corporation's economic health in terms of profits and cash on hand. These criteria determine the majority of the loan's terms, including the interest rate charged. The most common way to categorize term loans is by loan tenure. As a result, the following term loan kinds exist:

Short-Term Credit:

These are two-year loans with a maximum period of two years. These loans often have a period of one to two years. These loans are often used to cover the day-to-day needs of the business or to meet the firm's working capital requirements. A short-term loan can be obtained from a variety of sources. Commercial banks, trade credit, and bill discounting are among them.

Because of the shorter repayment duration, short-term business loans typically have higher interest rates than other types of term loans. If the loan duration is exceptionally short, these loans may even require weekly repayments. Any company considering such a loan should bear in mind that not only do these loans carry interest, but the fees are significantly higher if the company fails to make any payments.

Long-Term Loans:

These are loans with terms ranging from two to five years. These loans are a hybrid of short-term and long-term financing. These loans are typically used by businesses to refurbish or repair a fixed asset. As an example, consider the refurbishment of a showroom. These loans have characteristics of both short-term and long-term loans. While the interest rates are higher than on long-term loans, the information necessary during the loan application process is significantly less demanding.

Long-Term Credit:

In the majority of cases, these are loans with terms of more than five years. Depending on the nature of the obligation, tenure terms may reach 25 or 30 years. Because of the bigger ticket amounts and associated risks, most long-term loans are secured and need collateral. These loans include home loans, auto loans, and loans secured by real estate. When loans are secured, interest rates are also lower. Long-term loans, on the other hand, may be unsecured in some cases. Because of the additional risk, interest rates are often higher in these situations.

In India, term loans are classified into two types:

Loan with Security:

If a person wishes to acquire a secured loan from a bank or an NBFC, they must provide collateral security to the lender. Equipment, machinery, raw materials, stock, or residential/commercial real estate may be considered collateral.

Loan with No Security:

The majority of financial institutions provide unsecured business loans, which means that no collateral or security is required by the lender. Because there is no risk to the borrower, banks and non-bank financial firms (NBFCs) charge acceptable interest rates on business loans.

What is an example of a term loan?

There are two kinds of term loans: short-term loans and long-term loans. The type of loan you apply for will be determined by the nature of your business and your financial requirements.

A term loan is an example of a Small Business Administration (SBA) loan. You might earn up to $5 million in capital from the SBA if you apply for a conventional 7(a) loan. Your lender will choose your interest rate, but it cannot exceed the SBA's cap.

Of course, not all firms require this level of funding, therefore the SBA also provides 7(a) modest loans. These loans have a maximum lending amount of $350,000. SBA loans feature fixed interest rates and a predetermined repayment time.

A term loan can be used to grow your business operations, purchase equipment, or finance a new marketing campaign. Term loans enable businesses with limited cash flow to engage in new prospects and enhance their chances of generating additional revenue.

What are the advantages and disadvantages of term loans?

Term loans, like all lending solutions, offer advantages and disadvantages that must be considered before making a decision.

Pros

- They can meet short-term finance requirements. A term loan can be a fantastic alternative if you need to buy new assets or equipment for your business. You can use the chance to expand your activities, and the revenue you generate will help you repay the debt.
- They typically have lower rates. Term loans often have low interest rates and flexible repayment terms. You can return the loan over time without it becoming an undue financial burden on your company.
- They assist you in establishing business credit. A term loan can be a terrific strategy to develop your small business credit if you make your monthly payments on schedule.

Cons

- They are relatively difficult to obtain. Term loans are typically more difficult to qualify for than other types of loans due to their advantageous interest rates and repayment durations. You must have an outstanding credit history and present your lender with accurate financial details.
- Some lenders will insist on collateral. If your lender views your company as a financial risk, they may want you to put up collateral. This is referred to as a secured loan, and if you are unable to repay it, your personal or business assets would be in danger.
- They may levy additional charges. For term loans, some lenders charge additional fees, such as origination fees. Depending on the lender, you may even be charged a prepayment penalty if you pay off the loan early.

How to Obtain a Term Loan

The following are the actions you must take when applying for a term loan:

1. Organize your paperwork.

Before applying for the loan, you should organize your financial information. The specific requirements differ by lender, but here's a summary of what you should anticipate to provide:

Identification number for the employer (EIN)

Personal and commercial credit history

Returns on business taxes

Account statements

Statement of Profit and Loss

Profit and loss statement

2. Apply to several lenders.

When applying for a term loan, keep the overall cost of the loan in mind at all times. If the interest rates are very high and you do not create a lot of extra cash from your investment, you may find yourself in debt. Applying with numerous lenders allows you to compare interest rates and payback conditions to discover the most inexpensive loan for your business. Many lenders will pre approve you for a loan with simply a light credit inquiry, so you don't have to worry about your credit score being harmed. You can also use a loan marketplace to apply and obtain various offers with just one application.

3. Evaluate your options.

Once you've received offers from numerous lenders, weigh them all. It may be tempting to choose the lender with the greatest loan amount, but there are a few additional factors to consider.

Keep an eye out for the annual percentage rate (APR), which will tell you how much it will cost you to borrow the money. You should also consider the repayment conditions, as they will have a substantial impact on your capacity to repay the loan.

It is also critical to pay special attention to any costs charged by the lender. It's easy to overlook fees if the loan has a low interest rate and flexible repayment periods, but they can add thousands of dollars to the cost over the life of the loan. Here are some significant fees to be aware of:

Origination fees: These are the fees you will pay the lender up front to process the loan. These costs range between 1% and 5% of the loan amount.

Prepayment penalty: Because the lender loses out on future interest payments if you pay off the loan early, some lenders charge a penalty fee.

Late fee: As with other monthly fees, you will be charged a late fee if you make your monthly payment late.

A processing fee is charged to cover the expense of underwriting the loan.

4. Complete the loan.

You're ready to close on the loan and receive the funds once you've picked a lender and agreed to the terms. You may receive the monies within a day or two of the closing, depending on the lender.

7.13 UNIT END QUESTIONS

A. Descriptive Questions

Short Questions

1. What is the process for calculating financial projections?
2. How do you calculate working capital?
3. Explain the structure of a term loan.
4. Define "Revenue."
5. What is a Debenture?

Long Questions

1. What is the significance of financial projections?
2. Provide a detailed explanation of the types of Debentures.
3. Elaborate on the Means of Finance in detail.
4. Define Term Loan and describe various types of Term Loans, along with their advantages and disadvantages.
5. How are financial projections calculated?

B. Multiple Choice Questions

1. Which report gives a review on the profitability of a business?

   a. Statement of changes in equity
   b. Cash flow statement
   c. Balance sheet
   d. Income statement

2.When assets are subtracted from liabilities it will be equal to?

   a. Capital
   b. Net income
   c. Working capital
   d. Goodwill

3. Which of the following options is not recorded in the Balance sheet?

   a. Cash
   b. Rent expenses

c. Building

d. Goodwill

4. Current assets are also known as:

a. Cash

b. Assets

c. Working capital

d. Invested capital

5. The main operation expenses of a business are termed as:

a. Operating expenses

b. Non-administration expense

c. Selling expenses

d. Administration expense

Answers:

1-d, 2-a, 3-b, 4-c, 5-a

7.14 REFERENCES

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