

ART OF BECOMING A HIGH-PERFORMING PROJECT MANAGER

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Dedicate to

This book is dedicated with love and gratitude to my father, the late Shri Vijay Singh, and my mother, Smt. Sureshna Devi. Your wisdom has guided me throughout my life. You showed me that the best way to live is by working together with others instead of competing against them.

About the Author

Shashikant Ravi is a seasoned telecom professional with over two decades of experience in managing and delivering complex, large-scale projects across India and abroad. A native of Haridwar, Uttarakhand, India, he earned his bachelor's degree in Electronics and Communication Engineering from the Moradabad Institute of Technology, Uttar Pradesh, in 2001. His professional journey gained a breakthrough with the BSNL Phase-3 Rollout Project in Gujarat in 2002. Before that, he worked with small companies, even selling postpaid SIM cards to survive in the initial time when he came to Delhi to kickstart his professional career.

Since then, he has built an impressive track record with leading organisations, including Hutchison Essar, Aircom International, Nokia India, Ceragon, Huawei, and Nera Telecommunications.

His international exposure includes managing key projects in Tanzania for Vodacom South Africa and driving pre-sales across Southeast Asia, including Singapore, Malaysia, and Indonesia, while working with Nera Telecommunications. He currently serves as a Customer Project Manager at Ericsson India Pvt. Ltd, Leading RAN and MW rollouts in telecom circles such as Delhi, Punjab, Haryana, Himachal Pradesh, and Jammu & Kashmir for Vodafone Idea Limited.

Driven by a passion for mentorship and knowledge sharing, Shashikant has written this book to inspire young aspirants to consider project management as a fulfilling and rewarding career. Drawing from real-life experiences and practical lessons, his goal is to equip the next generation with the insights and confidence to succeed. Beyond work, he enjoys travelling, singing, and cooking for friends and family.

About the Book

The Art of Becoming a High-Performing Project Manager:

A Real-World Perspective is a valuable and insightful resource for new professionals and aspiring project managers who seek to understand what it truly takes to excel in this rapidly evolving field. Based on more than twenty years of practical knowledge, the author,

Shashikant Ravi shares his path from being a technical engineer to becoming an experienced project management leader in the worldwide telecom sector.

This book offers practical teachings, real-life scenarios, and a comprehensive overview of the project life cycle—from inception to completion. Readers will learn essential project management skills, including team management, project scope, scheduling, communication, cost management, procurement, risk management, resource allocation, quality assurance, stakeholder engagement, and the importance of accountability and leadership in delivering projects.

Whether you are just beginning your career or considering a move into project management, this book serves as a mentor, created to inspire, educate, and prepare you for the challenges and opportunities that come with managing successful projects. Examples specific to telecom enrich the content, yet the concepts discussed are relevant and valuable in various fields.

Gratitude

I am grateful for the motivating mentors in my life who consistently encourage me to bring out the best in myself. Their guidance has enabled me to achieve what I have and gain recognition in my job and within the industry. I appreciate my coworkers and teammates who have supported me and always stood by my side during project deliveries. No matter the situation, my team was always there for me.

I want to express my gratitude to my wife, Manju, and our children, Srajan and Shaswat, for consistently providing me with extra motivation and helping me feel happy and fulfilled as a family.

I'm also thankful for all my friends from both my personal and work life who do not judge me by my titles and achievements; they always see me as a friend.

Why this book

I was employed by Nokia India Private Limited in 2009, and my job involved planning the transmission network in six telecom circles in India that Nokia Siemens Network (NSN) had secured from Tata Docomo. I was happy in my position and dedicated myself entirely to it.

One day, my manager called to inform me that I needed to go to Hyderabad the next morning, which was a Saturday. I asked if I could leave on Monday instead, but he insisted that I travel right away since it was urgent support, and Mr Venkat wanted to meet with me the following morning at the Nokia office.

The next day, I took an early flight and headed straight to the Nokia office. I met Mr. Venkat N. Ramani,

He held the position of Head of Customer Projects for the rollout of 2G and 3G services in India for Tata Docomo.

A highly energetic Project Leader, he previously served as a Major in the Indian Army before transitioning to the Telecom Industry in 2005.

He was a genuine leader, skilled at coordinating tasks with various teams to ensure they were completed on time.

His strengths lay in thorough planning from start to finish, perfect execution, and precise monitoring and control. He had a strong understanding of business transformation. He focused on operational excellence, engaging stakeholders, and Risk management and was always there for his team.

Mr Venkat requested that I develop a solution for the customer's network, ideally providing at least two options for them to consider. I asked for some time to think and later presented him with three options that offered better clarity and a solid approach for network optimization.

Mr. Venkat was impressed with my creative thinking and my focus on customer satisfaction. As a result, he brought me onto his core team. Wherever he travelled, I accompanied him to various locations, including Noida, Chandigarh, Lucknow, Bangalore, and Ambala, covering regions such as UP West, UP East, Punjab, Haryana, Andhra Pradesh, and Karnataka.

I was greatly influenced by Mr. Venkat's careful planning and outstanding execution of the entire project. Although my responsibility was mainly to plan the transmission network,

I became deeply involved in project management and learned fundamental project management skills from Mr. Venkat himself. My experience was so inspiring that I decided to change my career path from a technical focus to project management.

He motivated me to pursue a PMP certification in 2009. But I managed to obtain my PMP certification in year 2020.

In 2018, I met Mr. Sanjay Narain Mathur, who was my reporting manager but eventually I assumed he is my mentor, I learnt a lot from him

He is a renowned personality in the telecom sector, recognised for his Passion, Wisdom, and Epitome of energy for all his colleagues and teammates. He possesses a gentle yet self-assured demeanour. He held various leadership roles in the telecom field across different regions, both nationally and internationally. He was the Head of Sales and Delivery for a key client in India at Ericsson India Private.

He left a significant mark on my professional and personal life; his ability to manage client relationships was exceptional. I witnessed that regardless of the challenges we faced, he consistently found better solutions to every issue we encountered.

He had an incredible talent for being accessible to anyone and everyone. Even if you worked with him for a brief time, he would learn About your skills, hobbies, family, and everything related to you.

His memory was impressive; even after a few months, if you spoke to him, he would recall their previous conversations.

He always provided an environment where not just I but others could flourish and do what was best. We just had to present our ideas to him, and if he saw potential in them, he would swiftly approve them and encourage their implementation in other areas as well.

He is one of the finest mentors I have had the pleasure of working with. He continuously motivated us to improve ourselves, and thanks to his support, not only I but 13 of my colleagues achieved the PMP certification in September 2020. I attribute my PMP certification to him.

After spending over twenty years in the corporate world, I felt compelled to document everything I had learned about project management.

I believe there are many young individuals interested in building a career in project management, and this book aims to provide insights into the fundamentals they need to enter this exciting field. Some information in this book may resemble PMP preparation guides, but I do not claim it to be one of those. There may be better books and coaches to help you prepare for the PMP certification.

This book is not intended to serve as a study guide for passing the PMP certification. Instead, it serves as a self-help book that covers essential skills required in project management, along with a brief overview of the project life cycle and how projects in various fields can thrive from start to finish. It also touches on the individuals who provide the necessary budget, resources, and approvals for your work.

You will notice that some examples I include in this book come from the telecommunications sector.

My extensive experience in project management has been solely focused on this industry, allowing me to develop a deep understanding of its unique challenges and opportunities.

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PART-1

Introduction

What is Project?

"A temporary endeavour undertaken to create a unique product, service, or result."

What does it mean when we say something is temporary? Are projects temporary as well? The answer is yes; every project is temporary, meaning each project has a clear beginning and a clear end.

Just as we are born and come into the world, we grow up, receive an education, start our careers, get married, have families, raise children, and then pass on the same journey to them. We also care for our grandchildren, and eventually, we say farewell to life.

For me, being born on this planet is like starting a project because both life and a project share a similarity: they are both temporary. The only difference is that they last for different amounts of time. A person might have a longer life by connecting several other projects.

As we grow, we make mistakes and learn from them. Throughout our lives, we learn many lessons and take on various roles. There are no strict guidelines for living a successful life; each person faces unique challenges and follows their karmic path. No one can honestly say they had an easy life without difficulties. Whether you are born into a wealthy family or an average one, you must forge your path while living your life.

Let's understand the project most simply,

All projects are supposed to start with one thing in mind: what will be the result of this project once it gets completed? It may be a product, some specific service, or the results of some subsequent activities. Look around. Whatever you can see is the final out of any project.

Whatever you want to manufacture must go through all the stages of the project, which we will cover later in this book.

Step out of your home. What do you see? Around you see buildings, roads, cars, Buses, and other vehicles running on roads. Buildings may be commercial, residential, corporate, or part of a whole transport system, including railway tracks, highways, etc.

What is your opinion? Is this result a successful initiative accomplished by a group of skilled individuals directed by various Project Managers from different fields? Indeed, all these projects were undertaken and completed by one project manager or another.

A Project Manager is someone who understands the strengths of each team member so well that they always utilize everyone's skills based on their competence. It's like a Grand Master of a large musical band with various musicians playing different instruments. This Grand Master knows how to choose which instrument to use, when to play it, how long to play it, and whether to use high or low notes. This expertise is why a talented music director can consistently create beautiful songs.

All these lovely songs provide enjoyment for the audience, so to put it simply,

The right resource at the right place and at the right time is called project management, and the person who possesses this skill is known as a good Project manager.

Project Management has always intrigued me since I was young. I constantly notice what's going on around me, whether it's new buildings being constructed or other activities happening nearby. I have always been eager to learn more about these developments.

Project management is a talent that many people already possess. Some individuals refine this talent over time, elevating it to a higher level as they complete various projects for their organizations, communities, nations, families, and beyond.

Observe your parents as they navigate various situations to provide a good life for you. They manage their finances, home needs, lifestyle, and social interactions—everything that could influence your growth. To your parents, raising you or helping you become a good member of society is one of the most significant projects they undertake without expecting any personal gain.

I'm sure every one of us who belongs to India has attended a traditional arranged marriage, and we must have observed that every arranged marriage has some local rituals based on geography, Religion, Status of the family in society, caste, etc.

However, the most common thing I have observed is that the Start and completion of a marriage are the same. It starts with formal communication, where two families meet or some of their common friends bring them together, and they begin exploring the compatibilities within both families.

It's like same when Two Company (One which own the project and another who execute the project for the first company both the company want some efficient competent experienced company work for them to execute & complete the project.

When they met first time, they share the expectations who is responsible for what, who will do what, who will give the budget for completion of the Project, who will be the main beneficiary from the output of the project.

Like in arrange marriage both families want their boy or girl live a happy married life.

Chapter 1:

Role of Project Manager

Who is the Project Manager:

A Project Manager is an individual responsible for completing a project on schedule and within the approved budget.

This person may start getting involved with the project from the very beginning or when the project work officially begins, depending on the organisation. The sooner the project manager gets involved, the better they can understand their role and what needs to be delivered.

This individual plays a key role in connecting two companies and ensures that essential reviews about the project are conducted with the main parties involved.

They are responsible for obtaining resources from other departments as needed to complete specific tasks and will return those resources once the tasks are completed.

This person also takes on the responsibility of organising training, whether technical or related to soft skills, for their team to promote effective teamwork in a supportive setting.

If there is a need for extra funding for any activity due to budget shortfalls, it is the project manager who seeks approval from the change control board or project sponsor.

They act like a music director managing a large orchestra, which can have 100 members or more. While each musician knows how to play their instrument, the director decides when to play each instrument, what to play, and how fast or slow the rhythm should be, ensuring everyone's talents are utilised to create a melodious piece of music.

They resemble grandparents in a family, as they are familiar with everyone's strengths and weaknesses, allowing them to assign tasks based on individual abilities, especially when teaching essential lessons.

When they first meet, they discuss their expectations, clarify responsibilities, outline who will undertake specific tasks, determine the budget needed to complete the project and identify who will benefit the most from the project's results.

It is like arranged marriages, where both families wish for their child to have a joyful married life.

I recall when I was in fifth or sixth grade, and during our trips to our ancestral villages, my grandfather would take us on nature excursions. On these trips, he assigned us various tasks, with about ten to fifteen kids my age from the same family, showing just how large our family was.

He would ask me to help organise things, specifically to create a list of items we would need for our nature trip. Our main goal was to have lunch in the forest, which we had to prepare ourselves. We would walk 2-3 kilometres through the woods to find a nice spot by a river where we could relax.

My cousin would catch fish from the river, and we would roast them, enjoying a great meal together.

My cousin's sister would make spices on a stone she picked up from the woods, grinding basic ingredients like green chillies, garlic, ginger, salt, turmeric, and red chillies that we brought from home.

After finishing lunch, we played various games, all focused on teamwork. My grandfather organised various team activities by dividing the kids into two groups, and it was a truly joyful time back then. Those memories are truly special.

Once the challenge was assigned to both groups participating in the **Treasure Hunt**, we were instructed to gather five specific items within half an hour. Here are the five items we needed to find:

1. A living fly
2. A living butterfly
3. A live frog
4. A fruit from the Tendu tree (a specific fruit found in this jungle, which requires climbing the tree to access)
5. A herb called Kharantii, which is present in the jungle. I'm not sure if you're familiar with this herb, but it can be beneficial in treating acne.

Many might think that locating these items in just 30 minutes is impossible and would give up before even attempting it, considering the capability of their team.

This task fundamentally tests the concept of Intent versus Mechanism. If we possess a strong desire to accomplish something that seems unreasonable or significant, the methods will align with our determination. Our minds begin to devise alternative solutions for achieving the task. Trust me; this is true, and I have witnessed it numerous times throughout my life.

As a project manager, I often encounter ambitious goals with tight deadlines. In these situations, if I hadn't aimed high, I would have certainly missed those goals. I engage in this dance of Intent versus Mechanism and have uncovered a crucial secret. Once I start to envision a goal in my mind and believe that I will achieve it on schedule, I begin to receive support from every team member to reach that objective. I have accomplished these many times in my career.

Chapter 2:

Skills of Project Manager

A Project Manager should embody the traits of a versatile individual, much like an all-rounder in cricket. An all-rounder excels at batting, showcases impressive bowling skills, and is also a phenomenal fielder.

There are several essential characteristics that a PM must have; the more qualities a PM possesses, the more advantageous it is for the project and its team.

I want to elaborate on some of these qualities.

- **Technical Knowledge of Project**
- **Leadership**
- **Visionary**
- **Communication**
- **Negotiation**
- **Collaborative**
- **Respect & Empathy**
- **Strategic & Business acumen ship**

Technical Knowledge:

In Every project or field requires a unique set of abilities. A Project Manager in a software company needs a distinct skill set compared to one in manufacturing or services. Regardless of where a Project Manager operates, they require a fundamental understanding of the tools and techniques relevant to that industry or domain. These skills are invaluable in their day-to-day activities, especially in the following ways.

It enables a Project Manager to make informed daily decisions.

A Project Manager must frequently choose options that are best for the team or the project's overall success.

- It aids a Project Manager in comprehending various challenges encountered during project execution. If they lack technical expertise, they might struggle to identify who can assist in resolving problems.

A Project Manager isn't expected to solve all issues personally; they have support teams that handle such complex situations.

- It also fosters improved relationships among different departments within a company. While minor issues can be tackled independently, larger issues will still require collaboration with a support team.
- A Project Manager's critical thinking skills can become sharper with technical knowledge related to the project.
- Risks can certainly be reduced or managed more effectively when a Project Manager is aware of the kinds of challenges they may encounter during technical implementations.

When I commenced my career in the telecommunications sector in early 2001, I began my path as a project engineer. My goal was to understand how a telecom site is set up from the ground up, including the necessary prerequisites before work starts on-site, and identify the essential stakeholders to contact for assistance. Over time, I learned all of this.

At the very first site, there was a technician named Rakesh Kumar, who whispered to another teammate that Sonu and Monu had arrived, referring to my colleague, who joined the organization around the same time.

We approached him and said, "Yes, Guru Ji, Sonu and Monu are here to learn from you; please teach us to be good project engineers." Hearing such kind words made him quite shy, and he apologized for his initial attitude. He was the individual who instructed me on all the necessary steps to ensure effective site work execution. Rakesh taught us how to create cable connectors, a task that was quite challenging

back then and remains so today. One piece of advice from him remains with me to this day.

You should acquire knowledge about even the most minor tasks; don't be embarrassed to learn them during your apprenticeship journey. The more you know, the better it will be for your future as you lay the groundwork for your career. Therefore, don't hold back from learning and don't feel reluctant to ask the most basic questions.

Every piece of advice he provided was instrumental; because of him, I gained valuable insights into everything on the site, and I realised the significance of becoming a rigger before pursuing a career as an engineer.

We have maintained a strong friendship for over twenty years since we first connected, and I still refer to him as GURU JI.

Leadership Skills

Leadership is a vast topic to discuss but to understand it from a Project Manager's perspective; it is essential to know the basic skills a Project Manager must possess.

Leadership is a quality that influences others to achieve a common goal. It's a leader who uses interpersonal skills to bring people together and create a conducive environment where everyone can feel secure, challenged, involved, and engaged in all aspects to achieve a common goal or project.

It's a long process that depicts the different shades of a single man or woman as a project manager; similarly, sometimes you play the role of Son to your parent's brother, your brother or sisters, father to your kids, friend to your friends etc., in every role you play a different role with help different shades of your inherent qualities in your character.

How soon can you influence your stakeholders, management, colleagues, and teammates to become the better Project Manager you are?

Leadership quality is very critical for any person who wants to play a Project Manager role because of your leadership traits; people remember you and never leave you as a manager.

The environment or culture of any team depends on its

There are several well-known styles of leadership.

1. Autocratic

In this style, the leader takes unilateral decisions and expects his team to follow them without asking for any explanations or concerns. This approach is beneficial in situations where a strict rule is necessary, and the leader bears the responsibility for the project's success and failure. In such scenarios, the leader's decisions are final, and no one else is expected to give suggestions or alter the original decision.

A leader doesn't consult a large group. He does whatever he feels is right, mainly in the armed forces or situations where quick decisions are required. This leadership style is best suited.

Former Indian Prime Minister Mrs. Indira Gandhi is known as an autocratic leader due to her centralised control and decision-making during her tenure, especially during the **Emergency period** (1975-1977) when civil liberties were suspended and media was censored. She was very bold in making such decisions in her tenure.

2. Democratic

As the name suggests, in this leadership style, a leader actively seeks suggestions and feedback from the core team. This style fosters a collaborative approach, ensuring that everyone is involved in the decision-making process.

It is beneficial for technical projects that require multiple perspectives to design or deliver a solution for a single task or project.

For companies that are involved in marketing, where fresh ideas create magic for their brands, or where innovation is more critical than conventional methods, this style of leadership is most suited.

Arvind Kejriwal, Ex-Chief Minister of DELHI NCT,

has given a new dimension to governance by inviting the local Public to decision-making regarding the policies that are directly going to impact the local Public. The Mohalla Sabha is a notable example of this style.

Former Indian Prime Minister Mr Manmohan Singh, also known for his leadership style, used to consult with his cabinet before taking any major decision on a strategic policy.

3. Transformational

A transformational leadership style motivates and inspires people to achieve more than they thought possible. It emphasises growth and overall transformation, with a focus on long-term development in the future.

This style of leadership is typically best suited for companies involved in social empowerment projects, which directly impact human beings worldwide.

Dr B. R. Ambedkar was a truly transformational leader who transformed a significant part of society, which was living a marginalised life. He initiated numerous initiatives aimed at promoting social justice and equality, combating caste discrimination, advancing women's rights, and promoting gender equality.

Jeff Bezos transformed Amazon from an online bookstore into one of the world's largest tech and e-commerce giants. His long-term vision for Amazon is a perfect example of transformational leadership.

4. Transactional

This style is based on mutually agreed transactions. If an employee outperforms, they will receive the predetermined incentive; if they don't, the reverse is also possible. This approach ensures that everyone is rewarded fairly for their performance.

This style is often seen in sales teams, where managers can announce certain perks or incentives for outstanding performers.

A large manufacturing plant where a structure is approached to ensure production. This style of leadership followed.

My father used to work at the BHEL Haridwar (Uttarakhand) Plant, and we consistently observed that the entire factory workforce would offer overtime after their regular 8-hour shift. Those who worked extra hours would receive an additional payout in addition to their regular salary.

An employee of the month or a Star Performer, where such titles are given to employees in organisations, this style of leadership is best suited.

Bill Gates was known for focusing on results In the early years of Microsoft, setting clear expectations, and rewarding high performance. He used a more transactional approach to push Microsoft's growth.

5. Situational

Situational leadership style depends on the urgency of the situation; sometimes, you must make quick decisions to resolve the issues. Situational style may be a combination of Autocratic & democratic. There may be some decisions you need to make on your own, but at the same time, for confident choices that may impact many people or for decisions that require a more collaborative approach, you must consult with certain people.

We require such a leadership style manager in handling the difficult situation like some riots, **Kumbh Mela**,

The Kumbh Mela is a festival that takes place every 12 years in Prayag Raj, Haridwar, Nashik, and Ujjain. The exact date of the Kumbh Mela is determined by the position of the sun, moon, and planet Jupiter in the Hindu lunar calendar.

The Kumbh Mela is one of the world's largest peaceful gatherings and is considered the "world's largest congregation of religious pilgrims".

The festival is known for its large number of religious ascetics, or sadhus, who are brought from remote locations. The construction of a large, tented township with cottages, huts, and platforms also marks the festival.

It was Ardh Kumbh Mela in Prayag Raj in 2007 when I was working in the planning department in Lucknow (UP East) for Vodafone; I was assigned a task to survey the Mela Area and propose a cell site of Vodafone so that we could provide the coverage to all attendees of Mela, they should feel connected to their loved one when they come to holy Kumbh Mela.

After conducting the extensive survey, we identified four places where we need to build temporary cell sites, known as COWs (Coverage on Wheels). However, before starting these four sites, we need to obtain an NOC certificate from the Mela Officer and the fire department.

I recall that the Mela officer didn't permit us to visit the two proposed sites near Hanuman Mandir, stating that there would be many people visiting during peak hours. If anything happens to your equipment and it catches fire. A big disaster could happen, a stampede could occur, and many people could die unnecessarily due to that fire; we tried a lot to convince them, but he didn't agree to install even a temporary site near

Hanuman Mandir for the two, which we proposed in stall area he approved and given NOC to us.

This example, I remember, is a classic example of situational leadership.

I remember **that Former Prime Minister Lal Bahadur Shastri ji** was also a phenomenal situational leader. During the 1965 war with Pakistan, he gave one slogan, knowing the essence of patriotism: "**JAI JAWAN JAI KISAAN.**"

This one slogan transforms the emotions of all Indians towards two key aspects: respect and regard for our soldiers and food security through self-reliance as a Nation.

6. Bureaucratic

Bureaucracy is a style that focuses on prewritten policies and procedures, where compliance is the supreme agenda. In manufacturing units and some corporations, you can't bypass any policy; therefore, you must adopt the bureaucratic style of leadership.

You need to follow guidelines, procedures, and rules. It is the leadership style you have to learn and adopt.

T. N. Seshan is the classic example of a bureaucratic leader's ship who used all protocols and policies during the general elections that occurred during his tenure in India.

He made a significant contribution to Indian democracy by implementing specific policies related to the Indian General Election.

He served as the Chief Election Commissioner of India from 1990 to 1996. His initiatives remain practical and relevant when it comes to conducting General Elections in India.

7. Coaching

The coaching style is most suitable for work environments where personal development is the focus of organisations, such as many sports-related

In the armed forces, where managers work more like mentors or coaches than just managers, this style is best suited.

Corporate organisations, such as Ericsson, Google, and Microsoft, also have dedicated departments to ensure that every employee gets a fair chance to learn new skills for their career advancement.

This culture not only inspires employees to learn different skills but also opens opportunities to work in cross-domain areas. If you acquire additional skills and qualify for the internal interview, hiring from within the organisation is also a cost-effective option for the HR department.

Sanjay Narain Mathur

He is one of the leaders at Ericsson. I encountered him, and he consistently encouraged his team to acquire new skills and gain a competitive edge within the company. He is a highly accomplished manager at Ericsson, having held various positions within the company. He is often recalled for his steady and collected demeanour in challenging circumstances.

8. Laissez-Faire

It is my favourite leadership style, where you have a highly skilled team, each one of whom knows their roles and responsibilities very well.

You don't need to micromanage; instead, you allow your teammates to make independent decisions and take ownership of the responsibility for them as well.

I always believe that responsibility and empowerment should be given together; responsibility doesn't work without empowerment. It's not effective. Instead, you hold someone responsible for any mistake; if you had given them enough empowerment, they would have taken responsibility and completed the work.

A leader only comes into the picture when the team needs his support and resources. This is a primary task in leadership: you are accountable for providing sufficient support, whether it be material resources or motivational support, that your team needs from you.

Ratan Novel Tata (1937 -2024) is always known for his Laissez-Faire style of leadership; he always gives freedom and empowerment to make tough decisions in the interest of the business, keeping ethical practices in mind, giving his senior executives autonomy to run different companies while focusing on the group's overall vision and ethical standards.

9. Servant Leadership

Servant leadership emphasises collaboration, empathy, and the growth and wellbeing of team members. Robert K. Greenleaf first popularised this approach in his 1970 essay "The Servant as Leader."

Servant leadership in Project management fosters collaboration and trust among the teams. As a PM, you need to ensure that you provide a cohesive environment for your team where each team member feels secure, motivated, and happy to deliver the assigned tasks.

When you aim to serve your people, then you don't discriminate against them based on their caste colour or creed; you serve them equally, and they all learn from your wisdom and become duplicates of you.

I learnt one thing in my early days: **Value always flows from the top down**. I mean that if the head of the family is sorted in all aspects of life, then all family members will eventually learn this value automatically and become a replica of the head of family.

As human beings, we must always show empathy and humanity towards our colleagues and those around us.

Mother Teresa is considered a true example of a servant leader. Her life and work align closely with the core principles of servant leadership, particularly the emphasis on serving others selflessly, empowering those in need, and leading with empathy, compassion, and humility for the benefit of humanity.

10. Charismatic Leadership

Charismatic leaders utilise their energy levels, communication skills, confidence, and appearance to inspire and motivate others; they are highly sought-after leaders in every walk of life. They know how to get their work done for others, and they possess beautiful personalities that easily influence their followers.

They are born leaders. They are very disciplined in their routine, which is why they are always in demand.

Narendra Damodar Das Modi, Prime Minister of India, proved himself on many occasions that he is a true example of Charismatic leadership; he uses his communication skills very well, he has nationalistic approaches, and his appeal is compelling, not in India, but all across wherever he travelled in the world he has influenced other countries people too in many ways, may it be an investment in India or setting their business or industries in India.

Visionary:

A Project Manager is like a Sailor of the ship. A PM must be well-versed in seeing the unseen, where other team members fail to envisage something happening shortly. A PM should sense it before it happens so that they can prepare a plan to mitigate that risk or seize the opportunity that is about to come.

Throughout my career, I have observed that many project managers secure additional business from customers who initially received a purchase order. I have also done it many times in my project conversations with customers.

This act not only helps you improve your image in the management panel but also enables you to explore cross-domain opportunities for growth.

I know many of my friends started their careers as Project managers, but they were so effective in bringing in business that they later moved to the sales department and earned lots of perks based on the deals they closed.

I instantly remember one name when we talk about a visionary person.

I hope every one of us knows about the 11th President of India **A P J Abdul Kalam**; even though his humble beginning in a small village in Rameshwaram in Kerela, he reached the pinnacle of success from his basic education to higher education then DRDO, Missile Man of India he finally served as President of the India democratic.

He was truly a visionary Leader; he saw what other dignitaries couldn't see, and as India's self-reliant country, he is a beacon to the whole world.

When India conducted its nuclear tests in 1998, **Mr Kalam** was the man behind its success. Kalam's vision wasn't just

technological best but also empowering India as a nation that must know itself as a Country with Nuclear Power.

As a visionary leader, you must face criticism, but ultimately, you will prevail, and people will applaud your success.

Communication Skill:

80% of success in any project depends on the quality of communication among the stakeholders, so a Project manager must be evident and confident while doing any communication, verbal or written, formal or informal; he should never communicate casual communication in any of the forums, Quality of communication decide bonding with different stakeholders.

How many times have we observed that a person who is always well-dressed, well-groomed, and talks very firmly and confidently whenever he speaks? People get influenced by his dressing sense, his physical attire, and the way he carries himself in all scenarios; the way he presents himself matters the most.

Negotiation Skill:

A Project manager often finds himself in situations where he must prove that his understanding is more accurate and feasible, given the specific scenario. This skill is practical when we accept the target. Suppose the target is too aggressive or not possible to achieve in a given scenario.

In that case, the PM must negotiate with the customer to reach a mutually agreed-upon point where both parties can agree on an updated target.

Collaborative:

This is a crucial skill to acquire, as it enables you to complete your work efficiently. As a PM, you must deal with many people; some are directly responsible for your success, while

others are responsible indirectly. However, you have maintained a balance among all these stakeholders. When you follow this collaborative approach, people feel safe and secure in working with you. You allow them to work in an environment that creates equal opportunities.

Respect & Empathy with team:

A Project Manager must consistently show respect to every team member, regardless of the role each individual is performing within the team. When a leader in the team respects everyone, then each team members respect each other automatically. Additionally, if one can remember the names of their team members, then it's like icing on the cake, and it gives additional respect to everyone's heart.

If a PM handles a small team, then it's very easy to maintain this kind of relationship. It's even more critical when a PM leads a large team, and numerous stakeholders communicate with them.

I learnt this very early in my professional career, and this is my personal experience. I used to remember three to four things about an employee,

- I would always ask about the health of their parents.
- What does his spouse do? Is she working or a homemaker
- What about his kids? What are their names, in which standard they are studying, if they belong to this age group?

It gave me an additional edge in the hearts and minds of my team members; they always rely on me and are loyal to me. Whenever I assign a task to them, they complete it very diligently.

One essential thing to remember is that if you are calling your teammate on holiday, you must always ask them if you can talk.

They may still deny your call, but by asking, you are showing them special consideration for their space and time.

Suppose you call someone, and they are having lunch or dinner; then always give them enough to complete their meal. It's essential to maintain a healthy relationship between an employee and their manager.

Always wish them well on special occasions and send them personalised messages for their wellbeing if they are not well.

I remember a very heart-touching incident that happened with one of my teammates; there was an employee in my team who was a good team player and always available for any help,

the year when I joined an ongoing project in one of the regions in India there, I found the team members were not supporting each other, working in their world, and no one was showing any respect or concern to anyone, no matter whether you were senior or junior in the team,

I was shocked by the team's behaviour. Initially, I observed for 2 to 3 days. When I couldn't bear this kind of culture, I called all the team members and addressed them, asking only one thing: from tomorrow onwards, the whole team would have lunch together. No one is allowed to have lunch at a different time. We decided on a time for lunch, and everyone had to be present at the lunch table. There will be no phone calls for 20 minutes during lunch, regardless of the emergency, unless it is a life-threatening situation.

The next day, I was not expecting all team members to join me, but to my surprise, everyone turned up at the exact time we had decided the day before. We had lunch together, and we also maintained the discipline of not attending calls during lunchtime. Over the next 2-4 days, it became a ritual that nobody was allowed to talk on the phone during lunchtime if the whole team was present at the lunch table.

By promoting this act, they become closer to each other; they become friends and start supporting each other.

Like our elders used to say, "**The family eats together and stay together**". It once again became true. This team has done wonders in the later phase of the product and exceeded their monthly target many times.

This is my small contribution based on real-life experience.

Business Acumen Ship:

A Project Manager must be proficient with numbers, as they are supposed to carry out various activities within an approved budget (plan the project's cost). They must conduct a financial review at regular intervals to ensure all financial parameters are up to standard as the project progresses. In companies, there is another profile called Business Cost Controller, who essentially works to monitor all types of project expenses and identify any deviations. PM and Cost Controller work together to ensure the project is completed profitably.

Uniform Behaviour & Conflict Resolver:

This happens in the case of large teams. People have different perspectives on executing the same thing, and they have different opinions, so they sometimes become unsupportive of each other; in such a scenario, a PM must listen to everyone with the same Intent and never show favouritism to anyone; intent should be to resolve the issue and get the work done asap from the same team.

This is particularly common when managing a large team. People will have different opinions, so as a head of the family, he listens to everyone. When we, as kids, used to quarrel over any issue in our childhood in the same fashion, the PM needs to play this role. We will learn more about this conflict-resolution technique in the later part of this book.

Strategic Thinker:

A Project Manager must be a thinking tank about his domain. In his industry, he must be aware of the latest updates in the industry, the company, and His Team. He should be making decisions to get the task done through his Team or stakeholders who may or may not report to the PM daily, so he should be intelligent enough to know how to get his work done.

Sometimes, a PM must think strategically about their team members and their optimal performance, as well as which Team is more efficient in a particular role.

Patient & Active listener:

A PM is not just a title; it's a responsibility for the whole team. He drives day in and day out, from their professional well-being to their work-life balance, managing everything he should.

He should always maintain harmony within the Team and have empathy for every team member, especially in today's era where targets are very steep, and work is highly demanding. This delivery schedule impacts everyone, so a PM must always listen to their teammates to understand their actual problems and try to address them as much as possible.

He shouldn't lose his temper in any adverse condition, which is obvious these days.

I used to organise a team dinner with prior approval from management. On many occasions, it also happened that we couldn't get approval from management. In such cases, we would organise this team dinner on our own by making contributions. Such a break gives you fresh energy to start with full potential and utilise everybody's potential to 100%, which is very crucial for better results.

As a team, we have many memories like this, and this kind of activity always fosters extra bonding among teammates. As a

leader, when you listen to everyone, this also gives them confidence that you are never left alone for anything.

A PM should always be calm and composed. He shouldn't be unnecessarily aggressive or lose his temper with someone over any issue. He must have so much gravity that he can analyse the situation and then give a response, not a reaction, to the problem.

Whenever you are angry at someone, nobody is asking you to express your anger; you need to hold on for a moment and then address the issue. If you start speaking or reacting in anger, you may also make the same mistake. The situation may get worse than it is improving.

I have done it many times; I hold on to my anger and don't react to the situation or the person in front of me. Believe me, by practising this,

I have saved many people in my life, both professionally and personally. When you react immediately to situations or people, you may win the argument, but you will surely lose the person. Always remember this: if you are leading a team as a PM, people may be hesitant to open up or speak in front of you. If they are talking negatively, then you should understand that this condition is not being nurtured properly. So, as the head of the family or Team, you should always be patient in your head. Don't lose your temper because of some stupid things or people.

As a human, it's very natural to become irritable and angry. It's all a play of emotions. I'm not a stone. Emotions will also impact me.

First and foremost, I accept that I may also become angry, but I'm not allowed to react in such conditions. And if you scold someone in your Team and realise that you made a mistake, the next step for you is to call the person and say sorry. Accepting

your own mistakes eliminates much of the guilt we carry in our minds for no proper reason.

That's the best way to manage situations in difficult times, I believe, and I follow religiously.

Stakeholder Management: A project manager (PM) must be skilled at collaborating with various individuals, whether they are team members or representatives from external organizations such as government agencies, law enforcement, or political entities. It's essential for a PM to employ effective strategies to engage and impress people in other offices, acting as a catalyst to drive project progress. Government officials often play a vital role in providing approvals necessary for project compliance. However, it is not uncommon for these officials to delay processes without a clear justification, which can hinder the project's timeline. In addition, when importing hardware from other countries, obtaining customs clearance can be a complex process involving considerable paperwork. Although most companies have dedicated departments to manage such interactions, developing efficiency in navigating these organizations can significantly enhance one's professional profile.

Chapter 3:

Certification for Project Manager

It's challenging to assert that possessing a certification in project management is a requirement if you aspire to be acknowledged as a competent project manager.

I've observed numerous project managers who excel in their roles when handling various projects, yet their expertise often stems from hands-on experience rather than formal project management certifications.

This does not imply that certifications are unimportant or should be avoided; they offer distinct advantages, and many sectors prefer project managers who hold relevant industry certifications.

Throughout my career, I have engaged in diverse projects and gained valuable insights under the guidance of my supervisors and leaders despite not pursuing any certifications early in my professional journey. Eventually, I reached a stage in my career where I sought to learn new techniques, leading me to consider obtaining a PMP certification, which is widely recognised across all sectors. I credit much of this motivation to my reporting manager from 2020, who urged me persistently to pass the examination for this certification.

Here are some of the major certifications which are popularly known in the field of project management.

- **PMP Certification:**

PMP Certification is very popular in the field of Project management, as it offers a comprehensive course on all methodologies across various industries and domains. It provides an additional advantage every single time if you follow the PMI framework in your day-to-day activities.

A PMP-certified project manager will always be preferred over a non-certified project manager. It has been personally experienced that whenever we invited applications for additional PMs in our team, we always made it very clear that we prefer PMI-certified PMs over non-certified ones.

How to obtain a PMP Certificate

PMP certification is for experienced Project Managers. You can't appear in the exam just after clearing your graduation diploma; you must meet one of the following sets of requirements:

- **Option A**

Have a high school or secondary school diploma, at least 60 months of project management experience, and 35 hours of project management education or training.

- **Option B**

Have a bachelor's degree or higher, at least 36 months of project management experience, and 35 hours of project management education or training.

Many training institutions provide the prerequisites for the PMP exams, including the basic required knowledge and project management classroom training. They also provide study materials that help you clear the most awarding certification.

- **Certified associate in project management (CAPM)**

An entry-level certification that's a good choice for beginners or those looking to transition into a new industry.

- **Program Management Professional (PgMP)**

A certification for senior-level professionals who manage complex projects across organizations, functions, or regions.

- **Portfolio Management Professional (PfMP)**

A certification that recognizes the skills needed for effective portfolio management and organizational strategy execution.

- **PMI Agile Certified Practitioner (PMI-ACP)**

A popular certification for Agile project management that recognizes the importance of agile principles and skills.

- **Certified ScrumMaster (CSM)**

A widely accepted agile certification for project managers.

- **Associate in project management (APM)**

An entry-level certification for undergraduates or those interested in a career in project management.

Chapter 4:

Type of Projects

Being born a human is a significant undertaking.

As a child, you experience growth and discover new things every day.

You start school and learn different subjects from various teachers.

You then select your favourite subjects and choose one to pursue as a career.

Later, you get married and have children, raising them.

Every stage of life is like an exciting project, and all the significant moments are perfect examples of projects.

There are various kinds of projects, and some of them are mentioned for your understanding.

Type of projects

Constructions Based

This kind of Project is widespread, as you can observe wherever you look across the city. Some construction is underway on roads, while others are in progress, and several stadiums are being built. Therefore, it is very easy to spot this kind of Project related to construction.

After my graduation (B.E), when I first time came to Delhi, I used to stay in a place called Raja Garden (a locality part of West Delhi). My office was situated in South Extension Part 2, and people who have been in Delhi since 2000 or before perhaps before must know how daunting it was to travel from Blue Line buses at that time to reach South Extension from Raja Garden. Being stuck in a traffic jam is awful. Unlike before,

there is no red signal from Raja Garden to South Extension Part 2.

In 2001, there was massive traffic on the roads; when I used to go to the office, I had to start 10 minutes before because I knew if I became late, I would face massive traffic at the Mayapuri traffic light and then Dhaula Kuwa & after this it was AIIMS,

Now, your traffic is signal-free, and you can never feel how bad it was until these flyovers and loops were constructed.

All thanks to the Government of NCT Delhi, which has constructed these flyovers across Delhi, making traffic smoother.

Technology based.

1. There have been numerous technology-based projects in India recently. Still, I want to mention one of the most significant projects I have seen: Aadhaar, which is the world's largest biometric Project. The Indian government initiated a program to provide a unique identification number to all residents of India based on their Biometric Profile, allowing them to access various facilities through a single identity card, known as the Aadhaar card.
2. I'm sure that every one of us holds an updated Aadhaar Card, which is necessary if you want to benefit from any Government scheme or plan; it can also be used as an ID card on various occasions. If you stay in a hotel, they also ask you to provide a government-issued ID so you can give them a copy of your Aadhaar card.
3. The system's reliance on biometrics necessitates updates every ten years. Another significant technology-based project in India is the Government e-Marketplace (GeM). GeM is a digital marketplace

entirely owned by the Government of India, designed to facilitate the procurement of various goods that are not typically acquired through traditional methods.

4. This portal is designed for all government organizations and public sector entities. The Government e-marketplace (GeM) has revolutionized the procurement process, making it incredibly transparent, efficient, fast, cost-effective, and streamlined.
5. Once your firm registers with the GeM portal, you will receive regular updates on current requirements. This provides vital support to MSMEs, which have historically struggled to find customers.
6. The opportunities are boundless, as India is shining brighter than ever before.

The list is endless since India is shining like never before.

- ✓ UPI – Unified Payment system
- ✓ Digilocker
- ✓ India stack
- ✓ Smart Cities
- ✓ Mangalyaan
- ✓ Cowin Platform
- ✓ eNAM (National Agriculture Market)

Software Based.

- i) All digital projects are based on software; none can be completed without the assistance of software. India has evolved into a hub for software development from inception to implementation. One notable place Nehru Place in Delhi, which serves as a centre for affordable and diverse IT products, software, electronics, and repair services. Over time, it has also become popular for: -

- Tech startups and services -
- Wholesale markets for electronics and computer hardware -
- Photography and videography equipment -
- Mobile accessories and gadgets

Social reforms Based

- i. India is a vast country with a diverse culture, people, and traditions, and it has a long history of social reforms throughout its time. Social reform is a significant segment wherein we see all our people enjoy the same freedom irrespective of their caste, religion, or colour, so most social reform projects are initiated by the or its departments—some of the significant Projects that I remember.
- ii. Hum Do Hamare Do: It was a project aimed at controlling India's population. In India, we are a growing economy with limited resources, so we must enjoy these resources for a long time. We must control our population. It was initiated in 1952 to encourage married couples to have only two children.
- iii. Pulse Polio: It was initiated in 1995 to achieve 100% coverage for all infants across all districts. This massive Project is still ongoing and has been very successful, as evidenced by the fact that the last polio case was reported in 2011.
- iv. Digital India: It was initiated in 2015 to transform all Indians digitally empowered in all aspects of life, and we are observing this very well, like each one of us enjoying shopping from our favourite e-commerce platform may be Amazon, Flipkart, Mesho, Myntra etc. by using UPI payment, booking our movie ticket, train and airlines ticket through websites only.

Exercise: List down the Project you must have observed in your surrounding on daily basis in every day.

Chapter 5:

Life Cycle of Project(Summary)

Every project must pass through five stages during its life cycle. Regardless of whether the project is large or small, they all share this commonality, as each project has a clear beginning and end. Between these two points, there are specific stages where similar routine tasks are carried out across the various phases of the project.



Regardless of whether you are constructing a small room or the Burj Khalifa, every project must go through these five stages.

It is essential to carry out the same tasks in each phase, which are as follows:

1. Initiation
2. Planning
3. Execution
4. Monitoring and controlling
5. Closing.

1. Initiation.

"A journey of a thousand miles starts with a single step. a Chinese Proverb."

Let's explore this with the situation of an arranged marriage in an Indian Hindu family. The very first step in an arranged marriage is when one family visits the potential bride's family to learn about their

social standing, the suitability of the marriage, and what the families expect.

They want to know about the groom's qualifications, his job or career, whether he works in business or holds a regular job, and what his preferences and qualities are. They also look at his family background, including caste and gotra. In some regions of India, it is essential to match Kundli, and many of us are familiar with what Kundli matching involves.

One representative is chosen from each side to handle the critical task of Kundli matching. The Kundli contains details about both the boy and the girl, and based on specific calculations, a Pandit ji determines how compatible they are. There is a certain acceptable level of GUN MILAAN; if the score is low, it suggests that the marriage may not lead to a successful life together, compared to a higher score. However, exceptions do exist, some couples lead happy lives even without Kundli matching, having married through a legal process recognized by the government.

Kundli Matching is just like preparing a Project Charter. A project charter is the result of the initiation process and outlines all the key details of the project at a high level, including the project's feasibility, the main stakeholders involved, expected outcomes, and the project sponsor. Similarly, in a marriage proposal, we receive a letter or a Kundli or a marriage proposal. From my experience in India, every family, especially the groom's family, usually prefers a girl from a similar social background. They want the girl to come from a respectable family and be well-educated so that she can manage the home after marriage.

This is how we can connect the concept of initiation to the beginning stage of any project.

Exercise: Write down the Project Charter for any personal or professional project you have completed.

2. Planning

"Achieving success comes from being well-prepared, working hard, and learning from mistakes."

— Ratan Tata.

Now that we have our project charter filled with important information, it's time to focus on thorough planning to ensure that we complete our project on schedule, within budget, and make a profit. Our main goal should be to create a detailed Project Management Plan which covers all aspects of the project, such as:

- Requirements for each milestone and who will assist in completing the tasks.
- Breakdown of the project deliverables by stages, detailing the most minor tasks or milestones.
- Schedule for when deliverables are due.
- Overall budget for the project.
- Allocation of resources for various project tasks.
- Assessment of risks and plans to reduce them.
- Ensuring quality in every delivery, whether it's a service or a product.
- A communication strategy, reporting structure, responsibility guide, and escalation plan for each team.
- A training plan for the team members.
- Health and safety policies, along with work practices for all, impact the project outcome.
- A recognition and rewards plan for all those who contribute.
- Documenting lessons learned from the project activities.

In our wedding preparations, both families engage in this kind of detailed planning to ensure everything goes smoothly.

For a more precise understanding, I'll share an example from when we organised my younger sister's wedding in 2003, detailing the steps we took during the planning process.

First, we secured the venue, catering, and tents. Back then, we worked with different vendors, who often recommended others in the process. For instance, when we chose a caterer, they guided us on where to buy essentials like rice, milk, yoghurt, paneer, cream, Khoya, spices, and so on. We also assigned someone we trusted to get fresh vegetables early from the market, and we enjoyed the task of peeling peas.

The second task involves determining the number of guests expected to attend the event, including relatives, friends, coworkers, and other individuals in our social circles. This can be quite a challenging job. Relatives on my mother's side are different from those on my father's side. Special arrangements need to be made for essential family members. You might be thinking of my uncle, who often gets upset over little things during significant family events, but that's not the case with my uncle; he has taken on many responsibilities for my sister's wedding. You can compare this to the various people involved in a project; some play major roles while others have smaller contributions, but everyone matters.

- Shopping for the wedding is a significant issue, especially figuring out who will wear what. This is a million-dollar question, especially for women, as everyone wants to look their best, and each outfit should be memorable for the family. Buying gold, silver, and other jewellery is also a big concern, which can be linked to gathering materials needed for a project.
- Next is deciding who will handle what tasks. The key family members assume the most significant responsibilities for the events, while others provide support. This work gets shared among trustworthy close friends, as they have proven themselves worthy.
- Some essential tasks during the wedding days include gathering all necessary ingredients, such as milk, curd, and khoya, since

all the sweets are made from these items, as well as obtaining fresh vegetables and flowers.

- Analysing potential risks and creating a plan to address them is crucial. For example, if you invited 500 guests but 800 showed up, how would you manage to welcome them in the same way you planned for 500, especially regarding their food and drinks?
- Many other arrangements need careful planning and should be done well ahead of time, such as:
- How to welcome the Baraat, and what the process will look like.
- Are there specific food items requested by the groom's family, such as certain dishes or sweets? This can become complicated, as weddings often feature a variety of main dishes and snacks.
- There will always be special guests from the groom's side, and it's essential to plan how to welcome and treat them during the event.
- There are several rituals where the bride's family gives gifts or Shagun to the groom's family. The amount and details of this gift need to be discussed and agreed upon to ensure everything is organized for the main day.
- If anything doesn't go as planned, who will communicate the issue? This is like an escalation plan in a communication strategy.

Exercise: Write down the tasks you planned for your family's event and compare them to see how similar they are. Project management principles are applicable everywhere.

3. Execution

"An idea, no matter how amazing, remains just an idea. What truly matters is how it is carried out." – Steve Jobs.

From the early stage of the life cycle, we learned to create detailed plans and prepare a document called the Project Management Plan. Now, it's time to put that plan into action. This stage involves taking

significant steps and transforming all plans into tasks, coordinating every type of activity, regardless of its size or scope.

The primary objective of this phase is to integrate various tasks that must be completed sequentially. Examples include:

- Managing resources
- Communicating with key stakeholders
- Making sure all tasks are done on schedule
- Ensuring the budget is used efficiently
- Making sure everything is completed according to the set scope
- Maintaining quality and following all the other details outlined in the Project Management Plan
- Paying close attention to risk and change management, both of which are crucial during this execution phase.

At our weddings, this day is the main event, so a lot of action is required. There are many stakeholders to coordinate, and surprises may arise regarding staffing or missing items that require careful attention.

A common issue I notice is during dinner invitations at weddings. I've seen situations where there isn't enough food while guests are serving themselves. Arrangements must be made to handle this discreetly so that guests remain unaware of any problems and how they were resolved.

In such special instances, detailed planning for risk management enables the project manager to run the project smoothly.

4. Monitor & control –

Monitoring and controlling are essential parts of the execution process. Without these actions, executing tasks holds no significance. It is necessary to monitor all activities to ensure they align with the initial scope, budget, and timeline, as various tasks depend on one another.

Identifying any differences, whether minor or significant, that require urgent attention and correction is crucial. Suppose some differences significantly deviate from the original plan and require a considerable budget adjustment. In that case, it is necessary to involve key decision-makers who can promptly make corrections and approve the required funding.

In this phase, reviewing the overall project's progress is a primary responsibility. Performance evaluations should happen regularly, either weekly or monthly, including input from all relevant parties.

Specific tasks should be reviewed weekly, which is very beneficial, as this allows us to make corrections based on performance assessments alongside all stakeholders. This phase involves the highest level of resource allocation, making it crucial to closely monitor all activities for even the slightest deviations from the initial project management plan.

The following aspects require careful and frequent oversight. Resource monitoring and controlling are essential because there may be times when earlier tasks are not finished, leading to resource downtime that could negatively impact the budget and reduce profits. In such situations, we should look for opportunities to share resources and compensate them based on actual usage. However, this is not always feasible, so careful planning is necessary for every task to avoid wasting resources and to monitor activities that could slow down the project or cause other unnecessary losses.

Accepting the completed work during the execution phase is a key part of monitoring and controlling. This is particularly important for long-term projects, as obtaining approvals and managing invoicing helps maintain a stable cash flow.

When working in larger companies, partnerships with vendors will likely arise, who will handle various aspects of the work. Maintaining a fair balance requires regularly approving the work they provide to your company.

Consistent reviews of the vendors supplying materials for our project are also critical. They should be conducted regularly to ensure compliance checks can be performed and invoicing for goods is completed on time.

Early detection of any problems related to project delivery is the primary objective of the monitoring and controlling phase.

5. Closing of Project –

This phase marks the formal announcement that all deliveries have been completed by the scope agreed upon at the project's inception. All invoicing has been finalized, and a formal handover has been provided to the customer. Additionally, the project work has been accepted, and all stakeholders are satisfied with the project's completion.

After completing the project, a celebration is necessary. This celebration fosters bonding among various stakeholders, and formal recognition should be given to all outstanding contributors.

The delivery of the project can't happen because of a single personal project manager; it's his team that does the hard work to complete the project deliverables on time and within the budget that has been sanctioned to the Project manager.

The following document should be prepared once your project is formally closed.

- Completion of all administrative work, including invoicing, book updates, and tool updates, must be completed once the project is finished.
- Final handover documents must be agreed upon and signed by the customer and should be kept in office archives.
- All sorts of material reconciliation must be completed, agreed upon, and signed by the customer and should be kept in the office archives.
- This reconciliation must also be done on a regular period. It will help with better inventory management and keep all

stakeholders updated on how much hardware has been consumed against the ordered hardware.

- Lesson Learns document, which should contain the critical event where we faced challenges, and we defeated the challenges and completed the project successfully; this document is essential and can help in future if we get a similar kind of project again, with the help of this project future PM can take some idea about the risk/challenges/stakeholder/solution supposed to give to customer/ no of resources deployed in the project / Budget/ enterprise environmental factors/organisation process assets.

Releasing the resource is a very critical part of closing the project; people often mislead projects with operational work. Just for clarity, once again, let me share with you the basic definition of “Project has a definite start and definite end”, which means every resource associated with your project has to go once the project is completed, so if you have to release the resources from your project after completion of the project then don’t worry take it on a lighter note.

Some PMs have become so emotional when their resources are released from the project.

Let me share my experience from a project we completed in Assam, Northeast, for Vodafone Idea Limited. As the project neared completion, I began compiling a document called "Lessons Learned." I reached out to every engineer involved in the project, whether they were field engineers working behind the scenes or coordinating in the office. I requested that each person summarize their experiences in three main areas.

- What was your role & responsibilities in the project?
- What was the most formidable challenge you encountered?
- Who was the person that you believe supported you the most during the project?
- What memorable moment or lesson will you cherish forever?

Initially, many were hesitant about creating this document, but with some encouragement, they eventually shared their experiences with me. After I gathered all the feedback, it turned into an excellent document.

When I presented this document to both my internal team and the customer's team, I expressed my gratitude to everyone who assisted me, either directly or indirectly, throughout the project.

ü Everyone was delighted to see their names listed in the thank-you section. It truly is a special feeling when individuals express gratitude for your efforts, especially when you do not expect anything in return.

The CTO was very pleased with our overall performance and the smooth execution of the project, with no customer issues raised.

Nowadays, saying thank you is uncommon; we often forget to appreciate one another. However, the more grateful we are to others, the more support we receive in our work.

Activity: Think of one project from your personal life, such as celebrating your birthday, wedding, parents' anniversary, a social event, or any festival, and explain how you successfully organized it.

Chapter 6:

Tools & Techniques Used in Project Management:

There are various methods to address a problem, meaning that some challenges may be complex for a project manager while others may seem simple. Many tools and techniques exist to manage obstacles that arise during each stage of a project, and some methods are applied repeatedly depending on the circumstances.

There are mainly seven groups of tools and techniques to address the diverse issues that arise during a project's lifecycle. Here are the seven main categories.

1. Data Collection
2. Data Analysis
3. Data Representation
4. Making Decisions
5. Communicating
6. Interpersonal and Team Skills
7. Meetings

Data Collection

To obtain details from people involved, written materials, or earlier initiatives to aid in making choices.

Here are some examples:

- Interviews
- Brainstorming
- Focus groups
- Surveys and questionnaires
- Checklists

1. Interviews

Interviews are conversations held either one-on-one or in groups with relevant parties, experts, or team members to collect detailed information related to a project. They are often utilized during the process of gathering requirements, identifying risks, and reviewing lessons learned. The interview format may be structured, semi-structured, or unstructured. They facilitate a deeper investigation of ideas, clarify expectations, and help to recognize any underlying issues. For instance, a project leader in telecommunications might talk with a network engineer to grasp what equipment is necessary or what regulations must be followed. Interviews are beneficial because they provide tailored insights and can be adjusted to fit the knowledge of the person being interviewed. Nonetheless, they can consume a significant amount of time and require skilled moderators to prevent biases or misunderstandings.

2. Brainstorming

Brainstorming is a method that enables team members or stakeholders to freely share ideas to address an issue, identify risks, specify requirements, or pinpoint areas for improvement. This technique is frequently used in the early stages of planning to consider all the possible solutions or challenges without any criticism. For example,

during a rollout in telecommunications, a brainstorming session may identify various risks associated with acquiring sites. Once ideas are collected, the team can sort and rank them. This approach enhances engagement, promotes teamwork, and may lead to innovative solutions. However, it requires proficient facilitation to ensure that everyone participates, and that more vocal individuals don't dominate the conversation.

3. Focus Groups

Focus groups consist of a guided conversation among participants who have been chosen because they share similar roles, interests, or experiences relevant to the project. A facilitator steers the discussion to gather thoughts, expectations, or feedback. These groups are beneficial for conducting market research, developing products, or analysing stakeholders. In a telecommunications project, a focus group of users might share their experiences regarding the usability of a mobile app or the quality of the service. Focus groups enhance communication and provide valuable insights drawn from interaction within the group. The challenge is to ensure the group accurately represents the population and that discussions remain focused. An experienced moderator is crucial for gathering diverse feedback and balancing the voices of those who tend to dominate.

4. Surveys and Questionnaires

Surveys and questionnaires are organized techniques for rapidly and effectively collecting information from many stakeholders. They include a series of either multiple-choice or open-ended questions and can be delivered online, in person, or via email. These tools are especially valuable for obtaining feedback during stakeholder analysis or managing quality. In telecommunications, a questionnaire may be used to gather data on user satisfaction after launching a new service. Surveys produce measurable results and can highlight patterns or common issues. However, they should be thoughtfully crafted to avoid unclear or biased questions and may not provide as much detail as interviews or focus groups.

5. Checklists

Checklists are pre-arranged lists of tasks, steps, or criteria used to guarantee uniformity and thoroughness in project operations. They play a crucial role in ensuring quality, identifying risks, and managing procurement tasks. In telecom projects, checklists can help confirm installation procedures for a tower or validate paperwork before a site review. They ensure that crucial tasks are completed and help standardize practices across teams. Checklists can be

reused in similar projects, enhancing productivity. However, it is essential to update them regularly to keep them current and relevant.

Data Analysis

Data analysis enables project managers to identify problems early, evaluate alternatives, and optimise resources, helping them make informed decisions during any phase of the project life cycle.

Here are some examples of Data analysis.

1. Root Cause Analysis
2. SWOT Analysis
3. Cost-Benefit Analysis
4. Earned Value Analysis
5. Risk Probability & Impact Matrix

1. Root Cause Analysis

Root Cause Analysis (RCA) is a method that identifies the fundamental reason behind a problem or failure. Rather than merely addressing surface issues, RCA aims to determine the root cause of a problem so it can be permanently resolved.

This method is commonly used in quality management, risk analysis, and project reviews after completion. Techniques such as the "5 Whys" and Fishbone diagrams (also known as Ishikawa diagrams) help identify the underlying causes of issues in a step-by-step manner. For instance, if a network outage occurs, a root cause analysis (RCA) may reveal that the actual problem was an outdated firmware update rather

than just an equipment failure. By addressing the root cause, the likelihood of recurring issues decreases, resulting in improved outcomes over time.

The 5 Whys Technique

This is a simple but powerful method that involves asking “**Why?**” five times (or as many times as needed) to move from symptom to cause. Each answer forms the basis of the next question.

Example:

- Problem: The network is down.
- Why? → The BTS stopped working.
- Why? → It overheated.
- Why? → The cooling fan failed.
- Why? → It was clogged with dust.
- Why? → Preventive maintenance was not performed.

Root Cause: Lack of maintenance schedule for critical hardware.

Fishbone Diagram (Ishikawa)

Also known as the **Cause-and-Effect Diagram**, this tool helps visualise all potential causes of a problem, grouped into categories such as **People, Processes, Equipment, Materials, Environment, and Management**.

It encourages brainstorming and detailed analysis, ensuring no potential factor is overlooked.

2. SWOT Analysis

SWOT Analysis looks at a project’s internal Strengths and Weaknesses, as well as external Opportunities and Threats. This organised review is crucial for planning strategies, identifying risks, and initiating projects.

It helps project managers align their strategies with the resources they have and the market situation. In the telecom sector, a project’s

strength might include good relationships with vendors, while a threat could involve changes in regulations.

A SWOT Analysis provides a comprehensive view of a project's validity and readiness, enabling more informed decisions and effective prioritisation. It is particularly beneficial for predicting potential issues early and leveraging available strengths.

3. Cost-Benefit Analysis

Cost-benefit analysis (CBA) is a financial tool that compares the costs and benefits expected from a project or decision. It is often used when picking projects or deciding between different options.

The analysis examines both direct and indirect costs, as well as both clear and unclear benefits. For example, in a telecom project for upgrading, the cost of new Fibre optics needs to be balanced against the expected customer satisfaction and lower maintenance costs. A favourable CBA (meaning benefits exceed costs) allows for project approval.

This analysis enables the optimal utilisation of resources, supports risk justification, and fosters trust among stakeholders.

4. Earned Value Analysis

Earned Value Analysis (EVA) is a performance measurement tool that combines project scope, cost, and schedule to evaluate progress objectively. Important figures include Planned Value (PV), Earned Value (EV), and Actual Cost (AC).

From these numbers, variances and performance indicators, such as the Cost Performance Index (CPI) and the Schedule Performance Index (SPI), can be calculated.

For example, if a project has a CPI of 0.8, it means that costs are higher than planned. EVA aids project managers in predicting results and proactively managing costs. It increases transparency, supports informed decision-making, and enables timely corrective actions.

5. Risk Probability & Impact Matrix

The Risk Probability and Impact Matrix is an essential visual tool for prioritizing project risks based on their likelihood of occurrence and their potential impact on project objectives. Each identified risk is strategically plotted on a chart, categorizing it as low, medium, or high priority. This systematic approach ensures that mitigation strategies target the most significant threats effectively. In a telecom tower construction project, for instance, equipment delays and the necessity for regulatory approval are identified as high-priority risks. In contrast, minor shipping delays are classified as low priority. By utilizing this matrix, we can develop robust and effective responses to risks, ensuring that our resources are focused on addressing the most critical challenges head-on.

Data Representation

Your ability to present information effectively gives you a significant edge, whether it's regarding your data or yourself. When you can showcase your work correctly, you become highly sought after because many project managers struggle with data presentation. They might excel in project execution, but when it comes to presenting their work to clients or their management, they often fall short.

Here are some examples

- Gantt Charts
- Histograms
- Flowcharts
- Scatter Diagrams
- RACI Charts (Responsibility Assignment Matrix)

Gantt Charts

Gantt Charts are graphic tools that show the timeline of a project. They outline tasks or activities on a timescale, indicating when they start and finish, their connections to each other, and their progression. Gantt Charts are vital for managing time in projects, as they make it easier to see if tasks are on track.

For example, in telecom projects, Gantt Charts can track the progress of site acquisitions, equipment setups, and testing.

Their visual format helps quickly spot any delays or overlaps and improves communication between everyone involved. Although they are handy for planning, Gantt Charts can become complicated in large projects and must be updated frequently to stay correct.

Histograms

Histograms are bar graphs that show how numerical data is spread out. In managing projects, they are typically used to manage quality and resources, illustrating how often data points or workloads

appear across various resources. For example, in a telecom project, a histogram can show the number of faults at different sites, which helps identify areas that require more review.

They offer a clearer view of trends, patterns, and unusual data points, making them helpful for analysing performance and predicting outcomes. Histograms are straightforward to understand and serve as a basic visual tool, particularly for data-driven decisions.

Flowcharts

Flowcharts represent processes or workflows using standard symbols and arrows that illustrate the sequence of steps. They are used to improve processes, manage risks, and ensure quality, showing how different tasks are interconnected.

For instance, a telecom team may design a flowchart to illustrate the process for handling network outages.

Flowcharts help identify inefficiencies, unnecessary steps, or potential delays. By clearly outlining steps and decision points, they improve understanding and communication within teams. They are invaluable during training and when creating documents.

Scatter Diagrams

Scatter Diagrams, also known as scatter plots, help show relationships or connections between two factors. In quality management, they assist in determining if one variable influence another.

For instance, a scatter diagram in a telecom project might show a link between delays in installation and the time vendors deliver equipment. Each point on the diagram represents a specific data point, and the resulting patterns indicate the strength and direction of the relationships between them.

These diagrams aid in understanding root causes and are key for making evidence-based choices.

RACI Charts (Responsibility Assignment Matrix)

RACI charts are essential tools that provide clear definitions of project responsibilities and accountabilities. RACI stands for Responsible, Accountable, Consulted, and Informed. By clearly aligning each task or deliverable with specific project roles, RACI charts eliminate confusion and ensure everyone knows their responsibilities. For instance, in a telecom infrastructure project, a RACI chart effectively designates the project engineer as Responsible for conducting site surveys, while the project manager holds Accountability for overall execution.

The legal team plays a crucial Consultative role, and senior management is kept informed of progress and outcomes. Implementing these charts not only enhances Accountability but also eliminates overlapping responsibilities and optimizes communication. They are particularly powerful in complex teams, where clearly defined roles are critical to driving project success.

Making Decision

Decision-making is a crucial part of a project manager's role. They are required to make multiple decisions daily, and not every decision will be correct or benefit the project.

It's essential to base decisions on the available information and data, as well as your instincts. Various methods can impact the decisions you make.

Voting (Majority, Unanimity, etc.)

Voting is a method for making decisions collectively as a group. Majority voting means that more than half of the people must agree, while unanimity implies that everyone must agree.

This method is commonly used in managing organizations, controlling changes, or deciding priorities in workshops.

It allows everyone to participate in decision-making but needs clear rules and guidance to prevent bias and disagreements.

Multicriteria Decision Analysis (MCDA)

Multicriteria Decision Analysis is a method for assessing and ranking different options based on various important factors, such as cost, time, quality, risk, and stakeholder satisfaction. This is especially helpful when decisions involve making trade-offs. In telecom projects, MCDA can assist in selecting a network technology update by analyzing performance, cost, vendor dependability, and installation time.

It provides a straightforward method for making fair, open, and objective decisions, particularly in complex situations with conflicting priorities.

Decision Trees

Decision Trees are visual tools that display different decision options and their potential results, including risks and advantages. Each branch

shows a choice or an event that could happen, and the outcomes are examined quantitatively, often using probabilities and costs. In telecom, a decision tree can help determine the best choice between fibre or microwave backhaul by outlining the costs, installation times, and reliability of each option.

This method facilitates a clear and logical analysis, supporting informed decisions that consider risks.

Prioritization Techniques

Prioritisation techniques help in ranking tasks, problems, or risks based on their significance, urgency, or alignment with strategy. Standard methods include MoSCoW (Must have, should have, could have, Won't have),

These techniques enable teams to utilise resources effectively, concentrate their efforts on the most critical issues, and ensure that project actions align with business objectives.

Communication

Communication isn't just about speaking without considering how the other person receives your words. It is a vital component of any system, and without clear communication, no goals can be achieved. Making sure that information is shared effectively is what we refer to as communication.

Here are some examples.

- Active Listening
- Feedback Techniques
- Presentations
- Negotiation

Active Listening

A mentor of mine always emphasises that I shouldn't just hear but listen to what is being said. This is a powerful idea; it's not enough to hear. When you actively listen, you absorb information to comprehend, grasp, and learn rather than respond without thought.

Active listening is an essential communication skill that requires giving your full attention to the person speaking, understanding their message, and responding in a careful manner.

Unlike just hearing, active listening involves maintaining eye contact, nodding to show agreement, repeating back what you heard for clarity, and asking relevant follow-up questions afterwards.

In project management, this ability builds trust and ensures that everyone involved feels acknowledged and valued.

For example, in a project meeting, a project manager might actively listen to team members' concerns about resource distribution, which can lead to better solutions and increased cooperation.

Active listening helps reduce misunderstandings, improves relationships, and fosters a positive team atmosphere

Feedback Techniques

Using effective feedback methods enables clear and helpful communication that supports team members in growing and aligning with project objectives.

Feedback can be given in formal ways, such as performance reviews, or informal ways, like quick remarks during daily meetings.

Techniques include the "sandwich" approach, which involves starting with something positive, then offering constructive feedback, and concluding with another positive comment. This approach stands out for its clarity and timeliness, effectively emphasising actions rather than personal traits, which drives better results.

In telecom projects, timely feedback on installation methods or safety procedures can enhance efficiency and prevent repeated mistakes. Two-way feedback, where both the person giving and receiving feedback share their views, encourages ongoing improvement, reduces tension, and fosters a sense of respect within the team.

Presentations

Presentations are organized ways of sharing information, updates, or ideas with stakeholders. They often use visual tools, such as slides, graphs, or dashboards, to make data more easily understandable.

In project scenarios, presentations are commonly done during project start meetings, status updates, or briefings with stakeholders. For instance, a project manager could present updates on 5G installation to top executives, highlighting essential milestones, risks, and budget details.

Presentations need to be clear, concise, and tailored to the audience's interests. They help promote transparency, gain support, and ensure everyone is aligned with the project's goals.

Negotiation

Negotiation is the process of reaching an agreement between parties with differing needs, goals, or interests. It is a crucial skill in procurement, conflict resolution, and stakeholder management. Good negotiation involves being prepared, actively listening, communicating persuasively, and finding common ground.

In a telecom project, negotiation may occur while finalising vendor contracts or resolving issues among teams.

Successful negotiation leads to outcomes that benefit everyone, strengthens partnerships, and keeps the project moving forward. It also builds trust and ensures that decisions reflect both the organization's and stakeholders' priorities. Effective negotiators know how to be firm yet flexible to reach agreements that are favourable and sustainable.

Interpersonal and Team Skills

Interpersonal and Team Skills are essential abilities that project managers use to create trust, promote teamwork, and guide groups successfully.

They assist in handling what stakeholders expect, fixing problems, and ensuring the team stays focused on project objectives.

By utilising these abilities, project managers can enhance team collaboration, foster involvement, and cultivate a supportive work environment—ultimately leading to successful project outcomes.

These skills are utilised in multiple areas, including team management, stakeholder involvement, and the implementation of communication strategies.

Here are some of the examples.

Leadership

Conflict resolutions

Team Building

Influencing

Coaching

Leadership

In project management, leadership involves directing, inspiring, and supporting the project team in achieving goals and creating value.

A capable leader establishes clear goals, communicates effectively, solves problems, and fosters a culture of teamwork.

In any project environment, where teams from different areas often face tight deadlines and technical challenges, strong leadership is crucial for maintaining focus and morale.

The styles of leadership can differ—from transformational to servant leadership—depending on the circumstances and the

group dynamics. Good leaders adjust their methods, motivate commitment, and foster a feeling of ownership among their team members

Conflict Resolution

Conflict Resolution is about recognizing, addressing, and resolving disputes or misunderstandings that may happen between stakeholders or team members.

Disagreements can arise from different priorities, unclear communication, or limited resources. Methods such as collaboration, finding a middle ground, and mediation are often employed to resolve disputes.

In telecom rollouts, conflicts may arise between site engineers and vendors regarding delays or the interpretation of work scope.

Addressing conflicts early helps prevent them from escalating, keeps the team united, and ensures that the project runs smoothly.

Project managers should be adept at identifying the underlying issues and promoting open discussions to arrive at solutions that benefit everyone involved.

Team Building

Team Building involves activities and plans designed to enhance relationships, trust, and teamwork within the project group.

This may include workshops, social gatherings, group problem-solving tasks, or daily meetings. Strong team relationships lead to improved communication, shared responsibility, and better performance. In the demanding field of telecom projects, well-connected teams are better equipped to handle emergencies and achieve results more quickly.

Team building should be a continuous effort, especially for remote or diverse teams, to maintain high spirits and steady productivity throughout the project's duration.

Influencing

Influencing is the skill of altering the actions, attitudes, or choices of others without having direct authority over them.

This becomes especially important in matrix environments where the project manager lacks formal control over all resources. Influencing depends on building trust, demonstrating reliability, understanding what motivates stakeholders, and employing persuasion rather than pressure.

In telecom projects, a project manager might influence the securing of executive support for a change or encourage subcontractors to meet deadlines.

This skill fosters alignment and cooperation across various levels within the organization.

Coaching

Coaching within a project context focuses on helping individuals or teams reach their full potential and enhance their performance. It includes active listening, asking open-ended questions, and offering support rather than giving direct orders.

Project managers may coach less experienced team members, guiding them to develop into leaders or enhance their technical skills.

In the telecom industry, coaching may involve mentoring engineers in managing customer complaints or transitioning to project coordination roles.

Coaching develops skills, boosts confidence, and fosters a culture of learning that promotes long-term success for both the project and the organisation.

Meetings and Facilitation Methods

Meetings and facilitation methods are essential for bringing teams together, addressing issues, and reaching collective decisions. Successful meetings feature clear topics to discuss, set timeframes, and establish rules for ensuring everyone's involvement.

The facilitation method of brainstorming helps promote active involvement and ensures that everyone can participate.

Here are some examples

- Kick-off Meetings
- Workshops
- Planning Sessions
- Problem-solving Meetings

Kick-off Meetings

Kick-off meetings mark the beginning of a project, where key stakeholders, sponsors, and team members gather to set shared goals and expectations.

These meetings provide an overview of the project's scope, timeline, roles, and responsibilities. They help create excitement, foster teamwork and outline future steps. In telecom launches, a kick-off meeting can influence the deployment plan, verify on-site readiness, and clarify communication channels for issues.

These meetings make sure everyone starts with a shared understanding and common goals.

Workshops

Workshops are group sessions designed to address specific issues, gather requirements, or make informed decisions.

These typically include experts, stakeholders, and team members and utilize methods such as brainstorming or SWOT analysis.

In telecom projects, workshops can help spot challenges with site acquisition or improve purchasing strategies.

Unlike standard meetings, workshops emphasize interaction, creativity, and reaching agreements. They boost comprehension and often yield faster, thorough results compared to solo efforts.

Planning Sessions

Planning sessions are conducted to develop project plans, clarify deliverables, and allocate resources. These sessions typically involve the primary project team, product owners, and functional managers. In telecom projects, planning sessions may focus on establishing timelines for tower upgrades, managing equipment logistics, or finalizing rollout schedules. These meetings promote collaboration by identifying risks and creating strategies to address them, ensuring that the plans are both realistic and achievable. Effective planning makes certain that everyone understands their roles, interdependencies, and deadlines.

Problem-solving Meetings

Problem-solving meetings are focused gatherings that aim to identify the root causes of problems and find practical solutions.

They employ analytical methods, such as root cause analysis or fishbone diagrams, to dissect issues. In telecom projects, these meetings might arise due to network delays, equipment breakdowns, or vendor coordination problems.

The purpose is not merely to address the current issue but also to avoid future occurrences. These meetings help regain momentum, enhance processes, and maintain stakeholder trust in project completion.

PART -2

Chapter 7:

Life Cycle of a Project(Explained)

Every project starts with a distinct concept—whether it’s a recognized requirement, a business prospect, or a defined objective. The Initiation Phase is where this concept evolves into an organized project. This stage involves clarifying the project's purpose, its intended outcomes, and the individuals participating. Essentially, it lays the groundwork for all ensuing tasks.

In the telecommunications sector, where projects often involve substantial financial commitments, complex systems, and rigorous regulatory scrutiny, the Initiation Phase is particularly crucial.



Project Life Cycle

Initiation Phase

Introduction:

The Initiation Phase is not just a formality—it's the phase that determines whether a project starts with the right vision, the right team, and the proper backing. In fast-evolving industries like telecom, failing to invest time and energy into adequate initiation can lead to massive cost, time, and reputational damage later.

By developing a strong business case, involving stakeholders early, and crafting a clear and concise project charter, project managers position themselves for success in all subsequent phases.

Purpose of the Initiation Phase

The primary objective of this phase is to authorise the project formally. This includes:

- Defining the Business Case
- Performing feasibility assessments
- Recognizing key stakeholders
- Creating the Project Charter
- Designating the Project Manager

Without undertaking these actions, a project may commence without proper guidance, alignment among stakeholders, or sufficient resources, resulting in inefficiencies and potential failure.

Key Components of the Initiation Phase

- Business Case
- A business case that clearly defines the necessity for the project. It also addresses:
 - The Problem statement or opportunity
 - Strategic objectives
 - Expected Results

- High-Level costs and risks involved
- Feasibility Study

During this stage, organizations evaluate if the project is viable in terms of technical, financial, and operational perspectives.

In telecommunications Projects, this could mean:

Technical feasibility:

Is the necessary infrastructure (such as new 5G towers or other inventory accessories) already in place, or can it be built?

- Regulatory feasibility:
 - Are regulatory authorities expected to approve the rollout of new tower installations?
- Financial feasibility:
 - Is the projected return on investment (ROI) acceptable?
- Stakeholder Identification
 - Conducting an early analysis of stakeholder's aids in outlining:
 - Decision-makers (such as telecommunications regulators)
 - End users (including rural areas during a broadband rollout)
 - Partners (like infrastructure providers)

Understanding their influence and priorities helps to prevent unexpected issues later.

Project Charter

This is the cornerstone document of the Initiation Phase. It formally authorizes the project and names the project manager. It includes:

The project aims and objectives

- High-level scope of work
- Significant milestones
- Key stakeholders
- Budgetary and timeline projections
- Identified risks

- Criteria for success
- Best Practices
- Engage the Right Individuals Early
- Involve legal, regulatory, and technical specialists from the early stage.
- Create a Robust Business Case
- Connect the project to strategic goals, such as market growth or enhanced digital access.

The Planning Phase

Introduction

After a project receives the green light, the next crucial step is to determine how it will be delivered.

This phase is crucial in project management, focusing on developing a clear plan that outlines everything needed to guide the team from conception to completion.

In the telecommunications sector, where it's essential to coordinate across various areas, including sales, technical solutions, site engineering, sourcing, legal matters, finance, purchasing, regulatory bodies, and suppliers, careful planning is vital for achieving timely, on-scope, and budget-friendly results.

Purpose of the Planning Phase

The Planning Phase makes sure that both the project team and stakeholders agree on the following:

- What will be accomplished (scope)
- When it will be completed (schedule)
- What it will cost (budget)
- What resources are required (resources)
- How risks will be handled (risk management)
- How communication will happen (communication plan)

In this phase, all assumptions made during the project's start are checked and transformed into specific plans.

Key Components of the Planning Phase

Scope Management Plan

Clarifies which tasks will be included and, importantly, which will not.

It covers:

- Work Breakdown Structure (WBS)
- Deliverables
- Limits and exclusions
- Processes for verifying scope

In telecommunications, defining the scope might state: “Install 800 km of optical fibre between City A and City B, not counting last-mile connections.”

Schedule Management Plan

- Employs tools such as Gantt charts, Critical Path Method (CPM), or PERT to organize tasks
- Estimate how long each will take
- Assign tasks to people
- Monitor key milestones

For instance, a plan for erecting telecom towers might schedule civil work, tower setup, power connections, and the installation of radio units in separate tracks with dependencies.

Cost Management Plan

Specifies how project expenses will be estimated, budgeted, and monitored.

It includes:

- Labour costs (for in-house and partner teams)
- Equipment and materials
- Emergency funds
- An example from telecom: Allocating ₹10 crore for a fibre-laying job which covers digging, splicing machines, and OTDR testing tools.

Resource Management Plan

Describes how people, equipment, and materials will be acquired and managed.

In telecommunications, specific resources include:

- Field engineers
- Equipment like routers and BTS units
- Temporary workers for digging and pole installations

Risk Management Plan

Identifies possible risks, assesses them (both qualitative and quantitative), and creates strategies to deal with them.

- Common risks in telecom:
- Delays in getting government approvals
- Problems with equipment delivery
- Rainy seasons interfering with digging
- Any natural disasters, like earthquakes or storms

Communication Plan

Makes sure that the right information reaches the right people at the right times.

For telecom:

- Daily meetings for contractor coordination
- Weekly updates on project progress for leadership
- An emergency protocol for outages

Procurement Plan

- Explains how products and services will be sourced, including:
- Criteria for choosing vendors
- Types of contracts (fixed-price, cost-reimbursable)
- Timelines for delivery

For example, leasing transmission bandwidth from an outside ISP rather than creating your own link.

Quality Management Plan

Details how quality standards will be achieved and checked.

For example:

- Conducting OTDR tests after fibre splicing
- Verifying signal strength for 4G towers
- Using vendors that are ISO-certified for hardware
- Implementation of Urban 5G Network

Situation:

A telecom firm plans to introduce 5G technology in a city area.

Deliverables During Planning Phase:

Scope: Set up 500 small 5G cells in commercial regions.

Schedule: A plan lasting six months divided by different zones in the town.

Cost: ₹10 Crore, which includes ₹1 Crore for unexpected expenses.

Risks:

- Delay in getting road permits from municipal authorities.
- Trained installation & commissioning team scarcity
- Manpower shortage as per the original requirement
- 5G radio units & other accessories might not be received at schedule dates due to some or other reasons from international suppliers.

Communication:

- Meetings with the city government every two weeks.
- Live updates on the digging work available on a mobile app.

Procurement:

- Vendor A will supply the equipment.
- Vendor B will handle digging and construction work.

This planning document serves as the main guide for carrying out the project.

- Issues During the Planning Phase
- Issue: Impact Specific to Telecom
- Inaccurate Time Estimates: Underestimating the time needed for getting tower approvals.
- Ignoring Regulatory Dependencies: Overlooking the licensing steps for using spectrum.
- Poor Risk Planning: Lacking a backup plan for fiber theft or cable breakage.
- Misalignment with Stakeholders: Vendors are unclear about timelines or what is expected.

Tools and Techniques used in planning phase

- Microsoft Project – used for planning the schedule.
- Risk Matrix – utilized for analysing risks.
- Earned Value Management (EVM) – helps with control and predicting costs.
- Special GIS tools for telecom – assist in planning routes and mapping assets.

Recommended Practices

- Engage Experts Early stage of the project.
- Involve SME-subject matter experts from every domain at the planning stage to prevent oversights.
- Establish Clear Baselines
- Set the standards for scope, schedule, and cost that will be the reference for tracking progress.
- Prepare for Risks and Contingencies
- Keep alternative vendors or routes planned as backups.
- Utilize Agile Methods When Necessary

The deployment or testing of telecom software might improve with flexible planning.

- Gain Support from Stakeholders
- Make sure clients, sponsors, and teams comprehend and agree to the plan.

The Planning Phase changes vague goals into an organized approach. It is when the “what” shifts to the “how.” In a telecom project, this phase can determine whether the rollout across the country goes smoothly or results in expensive, messy delays.

- A well-structured plan:
- Brings stakeholders together.
- Prepares the team for challenges.
- Offers a standard for executing and monitoring the project.

Without effective planning, even a potentially successful project with a clear business justification may struggle. The more time and effort put into this phase, the easier the path forward will be.

The Execution Phase

Introduction

With all approvals secured and plans set, it's time to begin. The Execution Phase marks the commencement of actual actions. This phase involves utilising resources, organising teams, constructing necessary infrastructure, and developing relevant outputs.

In the telecommunications industry, this phase typically involves the actual expansion of the network through the addition of new hardware or equipment. It may also include the introduction of new technology via hardware upgrades or software enhancements.

During this stage, installing new infrastructure demands significant attention, as it requires coordination among multiple teams, individuals, and stakeholders.

Deadlines are supposed to be met, and costs increase as vendor invoices arrive. At this stage, you are allocating resources to ensure you deliver your best work.

This is a challenging phase to manage; as you start working with people or stakeholders, you don't know much about their behaviour, and you need to build an incredible bond that you can foster in the later phases of the project.

Purpose of the Execution Phase

The objective is to carry out the project plan and fulfil the established scope within the designated time and budget.

Focus areas are:

Coordinating individuals and resources is the most important task during this phase.

Meeting stakeholder expectations for internal as well as external stakeholders

- Monitoring project progress
- Maintaining quality assurance
- Providing outputs and services

Activities in the Execution Phase

Team Management and Mobilisation:

This step ensures bringing together all individuals working on the project, including the internal team and external teams, as well as all project stakeholders. Associate with Partners and vendors for all regular activities to ensure the project progresses in a smooth manner.

Vendor Management

Associate Partners usually perform essential functions in telecommunications. All the fieldwork may it be the installation of new equipment and towers, conducting network optimisation, commissioning new equipment and laying optical cables, or augmentation of new network layers in the existing Network

The project manager ensures:

- Plan and assign the activities to concerned teams
- Set up the quality benchmark to ensure every team is working
- Regular meetings with all stakeholders to check their progress
- Clearing the partner's payment so that the partners' teams have a focused approach to completing the assigned task.
- Communications and Stakeholder Updates
- Communication becomes more active during execution:
- Weekly updates to leadership
- Notification of any delays, budget issues, or risks

For telecom projects that involve public infrastructure, consistent updates to local officials are also essential.

Scope Execution

- Deliverables are created in accordance with the scope:
- Building towers or installing fibre
- Setting up antennas or telecom equipment
- Configuring routers and switches
- Carrying out acceptance testing on-site
- Changes to the scope at this point can significantly affect costs or schedules, so any requests need to go through formal change control procedures.

Quality Assurance (QA)

Examples of QA in telecommunications involves

- Conducting drive tests to check mobile signal quality
- Using OTDR tests to assure fibre integrity
- Performing stress tests on network parts before they go live
- Quality assurance guarantees that deliverables meet the criteria established during the planning stage.

Risk Response Execution

The risk management plan goes into action:

- Utilizing backup teams in case of personnel absence
- Changing vendors if there are delivery hold-ups
- Activating standby power supplies if there are delays in grid access

Risk Management:

In response to significant rainfall, horizontal boring techniques were utilized in delicate locations instead of traditional trenching.

Quality Assurance:

Random installations in households are subjected to OTDR evaluation prior to going live.

Challenges Faced During Execution

- Challenge Telecom-Specific Consequence
- Miscommunication Contractors mistakenly dig an incorrect path due to an outdated site diagram
- Delayed Equipment Deliveries Network rollout is pushed back due to customs setbacks
- Scope Creep Incorporation of additional service regions without proper change management
- Poor Documentation Payment deadlines are missed because of incomplete authorization
- Safety Hazards Injuries occur during climbing towers or digging trenches

Best Practices

- Daily Field Coordination
- Conduct brief daily meetings with all active site teams and leaders.
- Use Checklists
- Ensure the standardized implementation of installations and testing procedures.
- Maintain Real-Time Visibility
- Utilize dashboards or digital tools for immediate updates.
- Document Everything
- All sign-offs, transitions, and approvals should be digitally archived and time-stamped.
- Stay Aligned with the Plan
- Steer clear of “improvisation” unless official change requests are granted.

The Project Manager acts as an active leader—removing obstacles, facilitating resources, resolving conflicts, and ensuring that the execution remains on course. The PM should maintain a balance of:

Guiding the team

- Tracking project progress
- Engaging with stakeholders
- Addressing issues promptly
- Assessing Execution Progress
- Key performance indicators (KPIs) enable tracking of advancement:

KPI Description

% of Scope Completed work done installed, towers raised, etc.

Schedule Variance Are we ahead or behind schedule?

- Cost Variance Are we keeping within budget?
- Quality Metrics Signal strength, testing success rate
- Customer Readiness Premises prepared and connected

The phase of execution is an actual test of whether your planning was done carefully. If anything was overlooked during the planning stage, you can address it now, as this entire part is about taking action. If you forget to do something, you can put in extra effort to improve the quality of the task.

I learned something important from a manager who often said the words PLAN – DO – CHECK – ACT. Ever since I first heard from him, I have been reminded of this idea. I consistently follow the PDCA cycle.

Planning and carrying out tasks go hand in hand. If something was missed in the planning phase, it can be corrected while executing the plan.

The saying "**The more you sweat in peace, the less you bleed in war**" suggests that thorough preparation and training during calm

times can mitigate the adverse effects of challenging situations, such as war. It emphasizes that hard work and careful planning will yield better results when facing challenges.

Please understand this example. If your planning is thorough, then the execution will likely go well. However, if this is not the case, it could extend the delivery time, require additional resources, and impact the budget, ultimately affecting the project's profit.

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Monitoring and Controlling

Introduction

As a project moves into the execution stage, work is actively taking place. However, how can you ensure that everything remains on track, within the established guidelines, and stays within budget?

This task falls under the Monitoring and Controlling Phase.

This phase occurs concurrently with the project's execution. It involves observing, measuring, adjusting, and confirming that the actual outcomes match the plan.

In telecom projects, where significant funds, strict timelines, and technical uncertainties overlap, it is essential to have control methods in place to prevent failure.

Purpose of the Monitoring and Controlling Phase

The goal is to:

- Monitor, assess, and manage the progress of the project
- Spot variance from the project plan
- Carry out corrective or preventive measures
- Handle changes and risks
- Keep consistency with scope, time, cost, and quality standards

This phase ensures that the plan is being followed and adjusted as needed.

Performance Monitoring

Projects utilise Key Performance Indicators (KPIs) and project baseline data to assess how actual progress aligns with planned goals.

This includes:

Schedule Performance Index (SPI)

$$SPI = EV / PV$$

Where:

- **EV (Earned Value):** The value of work *completed* so far (in terms of budget).
- **PV (Planned Value):** The value of work planned to be completed by now.

If $SPI = 1$, it means the project is on time

$SPI > 1$ means the project is ahead of schedule

$SPI < 1$ means the project is behind the schedule

Let's say you're managing a project. The total project budget is ₹10,00,000 and is supposed to be completed in 10 weeks.

By **Week 5**, you planned to complete 50% of the work → **PV = ₹5,00,000**

But you've only completed 40% → **EV = ₹4,00,000**

Now calculate SPI:

$$SPI = EV / PV = ₹4,00,000 / ₹5,00,000 = 0.8$$

Interpretation: You're only achieving **80% of the scheduled work**, meaning you are **behind schedule**.

Cost Performance Index (CPI)

$$CPI = EV / AC$$

Where:

EV (Earned Value): The value of the work completed (in currency).

AC (Actual Cost): The amount of money spent to complete that work.

If $CPI = 1$ On a budget

$CPI > 1$ Under Budget

$CPI < 1$ Over Budget

You're managing a project & the budgeted cost for five completed towers is ₹50,00,000 (₹10 lakh each).

- You've completed 5 towers → $EV = ₹50,00,000$
- But you spent ₹60,00,000 → $AC = ₹60,00,000$

Now calculate:

$$CPI = EV / AC = ₹50,00,000 / ₹60,00,000 = 0.83$$

You're only getting **₹0.83 worth of value for every ₹1 spent** — this means you're **over budget**.

In a project for 4G expansion, the project manager checks how much work has been done against what was planned & this review used to happen every week since reviewing progress week after week gives the real check for any deviation to the monthly target we had decided to achieve & this is not only in terms of the volume of the work done but also all aspect of the project like, expenditure on the project, resources utilization etc.

Despite all this, changes will likely happen; however, they need to be controlled. To control this, we must have integrated change control in place in every company.

The Integrated Change Control process makes sure that:

- Every change request is recorded
- Impact analysis (cost, time, quality) is carried out
- Approved changes are put into action in an organized way

Example: If there is a request to add 10 additional tasks, it must go through change control to evaluate the extra cost in terms of resources and revise timelines to complete the tasks.

Monitoring and Reducing Risks

Risks noted during the planning stage are continually watched:

- New risks are entered into the log
- Status of existing risks is updated
- Risk management actions are applied

Checking and Validating Scope

Items to be delivered are examined and confirmed before they are given to the client:

- Physical checks
- Reviewing test results
- Checking documentation

Reporting to Stakeholders

Regular and clear updates help build trust:

- Status updates/ Daily Progress report - DPR
- Dashboards
- Meetings and escalations

Conducting weekly project review inviting all stakeholders and sharing the daily progress report to all leadership team which should consist of all achievement, deviations, potential risk, with their mitigation plan should be the ideal practice for a Project Manager in this monitoring and controlling phase of the project.

The Closing Phase

Introduction

Like every project has a start date, similarly, every project has a completion date too.

The closing phase of a project signifies when all project tasks are completed, your client formally accepts the results, and stakeholders officially receive their due in terms of the amount exchanged for the services they rendered to complete the project.

Closing is more than just "ending work" — it is a systematic approach to verify that the project has completed the assigned task, achieved its goals, and is appropriately documented.

The main objectives of the closing stage include:

- Official acceptance of the project outputs by the client

- Finalization of all contracts and purchasing tasks
- Release of resources used for the project
- Preparing the document lesson learned during the project
- Safekeeping of project documents for future reference.

This stage guarantees that both the organization and the client can proceed confidently, having a documented and accepted outcome.

The most critical step is formally transferring the completed deliverables to the client or operations team.

This includes:

- Technical documentation
- Test results (e.g., performance reports, agreed KPI for the equipment used in the network, reports, network performance data)
- User manuals
- As-built site layouts or GIS maps

Stakeholder Acceptance

A formal sign-off from the client or key stakeholders confirms that the project met its objectives.

This could include:

- Acceptance Certificates
- Performance test validations
- Go-live confirmation emails
- Closure meetings with client leadership
- Contract Closure
- All vendor and supplier contracts must be:
- Audited for completeness
- Final payments processed
- Warranty or service-level agreements (SLAs) activated
- Disputes or claims resolved

Releasing Resources

This is an essential exercise. Once your project work gets completed, all the resources involved are released to the central pool or assigned to another project

All hardware and other components, except for consumable items (such as cables, connectors, tape, and ties), must be reconciled after the completion of every phase of the project.

Lessons Learned and Documentation

One of the most valuable outputs of this phase is organizational learning.

A lessons-learned session typically covers:

- What went well (best practices)
- What could have been done better
- Unanticipated issues and how they were resolved
- Recommendations for future projects
- Project documents are filed in the organization's knowledge base.

These may consist of:

- Contracts and invoices
- Work breakdown structures
- Testing and quality assurance reports
- Requests for changes
- Risk logs
- Closure report

PART-3

Chapter 8:

Foundation stone of your successful Project:

As we often mention, the stronger the foundation of a building, the sturdier the building will be. The durability of a structure relies on its foundational stones, a concept understood over many generations. Similarly, effective and reliable project management also hinges on certain foundational elements, as these core principles support project management across various sectors.

Foundation stones are responsible for supporting the entire weight of the building. You might have noticed that the taller a building is, the deeper its foundation needs to be to ensure stability. If any of these stones are out of place, the structure's alignment can be compromised. Similarly, project management can become misaligned if we incorrectly place or misunderstand any of its foundational elements.

Think of any grand building you've seen, like the Taj Mahal, prominent temples, shopping malls, or corporate offices. While these structures are visually stunning, what often goes unnoticed is the crucial role played by their foundations.

There are 10 foundation skills that you need to know to become a successful project manager. A mentor once told me that while I can't promise you success if you learn these 10 foundation skills, I can assure you that if you skip any of them, you will fail, since then, I have made it a habit to review these 10 skills continually.

Practising any skill enhances your confidence and refreshes your understanding, and over time, this becomes part of your daily routine. No matter what you do, you won't overlook any of these fundamental aspects.

Every project may lead to different results, but to reach those results, you must depend on and apply all 10 foundation skills. It's like using all 10 fingers to get the most out of your hands at any time.

Like we used to remember the periodic table, most of us have our very own way of remembering complex by converting them into acronyms. I also prepared an acronym to remember all 10 basic skills a high-performing Project Manager should have.

Here are the acronyms for 10 foundation skills

1. India --- Integration Management / Holistic approach of the project.
2. Super -- Scope Management
3. Sonic -- Schedule Management
4. Country -- Cost Management
5. Q-ki -- Quality Management
6. Responsible -- Resource Management
7. Citizen -- Communication Management
8. Respect -- Risk Management
9. Patriotism -- Procurement Management
10. Soldiers -- Stakeholder Managements

1. Integration Management.

Project Integration Management encompasses the series of tasks and actions necessary to recognize, specify, merge, align, and manage the diverse processes and project management tasks within the Project Management framework.

In project management, integration encompasses various aspects, including unity, amalgamation, dialogue, and interdependencies among different activities.

These elements must be implemented throughout the entire project, from its initial phase to its completion.

Project Integration is like seeing the whole project from a holistic view and envisaging all challenges in any phase of the project; it may be internal or external, as well as what a PM response to

Those uncertainties or unseen risks and how he is going to manage the situations are known as integration management planning.

It's a comprehensive plan having every relevant information from the organization you are working for or may it be related to some government policy, anything

Project Integration Management involves making decisions regarding:

Making strategies for different phases of the project

Resource distribution, how it is going to be allocated as per complexity or volume of the work

Balancing conflicting priorities and managing teams from diverse backgrounds or verticals is a tedious task for any project manager,

Customizing processes to achieve project goals and overseeing the dependencies between the various Project Management activities

The following is the primary task that is intended to be completed during project integration.

Prepare Project Charter

A Project Charter is more than just a document; it is a powerful tool that legitimises a project's existence and authorises the project manager to utilise company resources for project-related tasks. This process instils a sense of trust and responsibility.

Typically developed by the project sponsor or initiator, the charter must receive formal approval before the project can commence.

The charter outlines the project's goals, broad scope, key stakeholders, estimated budget, and potential risks, ensuring that all parties involved are aware of and prepared for any challenges that may arise.

This document is created during the initial stages of a project and serves as the primary reference for resolving any ambiguity regarding the project's deliverables.

This document is a comprehensive document that contains all relevant information, although the high-level overview is not detailed. The Project Charter is the document that authorises the project manager for all further activities. The project manager may or may not be involved in preparing the project charter, but their participation in the early stages of the project is crucial for its success.

Develop a High-level Project Plan

Preparing a high-level project Plan is an essential part of ensuring a project's success.

This document is an essential and definitive guide for executing, tracking, managing, and successfully completing the project, providing clarity and direction. With this plan in place, we can confidently navigate potential challenges and ensure that the project stays on track, avoiding misunderstandings, unclear responsibilities, uncontrolled changes, and poorly managed risks.

Starting a project without a detailed project plan means working without a clear objective, which is essentially just exerting effort

without direction. If a project manager rushes into action without a plan, they are likely setting the project up for failure.

Before launching any project, it is essential to hold a Kick-Off meeting.

This is a gathering where all key stakeholders come together to share their thoughts or strategies on how they will help the project succeed.

Typically, someone from the Sales team leads this meeting, inviting colleagues from various areas who will contribute to the project's success through their teams or individually.

I had participated in many of these Kick Off meetings to explain how my team and I plan to reach important milestones in the project.

To create this high-level plan, I need to clearly understand several key requirements, such as whether the infrastructure is ready if we have all the necessary materials, and if any supporting installation materials need to be sourced from different suppliers. I need to outline specific dates in my plan for when everything will be ready to start the hands-on work. Additionally, I must consider what support the backend team will provide, whether any system upgrades are necessary before we begin, and if everything fits with our goals. Lastly, I need to assess how potential delays affect our ability to deliver.

The High-level Project Management Plan connects all the dots to create a cohesive string, encompassing scope, timeline, budget, quality, communication, risk, and procurement plans into a single, unified document.

This connection ensures that all aspects of the project are in sync and heading in the same direction. It clarifies who will look after what, which tools and methods will be used, and how decisions will be made during the project.

Another significant advantage is that the plan serves as a guideline for monitoring progress. It assists the project manager in identifying differences and taking steps to resolve issues before they escalate.

Moreover, the plan outlines the change control process, ensuring that any modifications to the scope, budget, or schedule are appropriately reviewed and approved.

Preparing the High-end Project Management Plan lays the groundwork for effective project management, alignment among stakeholders, and successful outcomes.

It transforms a vague concept into a clear, manageable, and measurable project structure, making it one of the most crucial activities in project integration management.

Execution, Monitor and Control Project Work.

This phase is one of the most crucial in any project, as it involves considerable effort. During this stage, planning is implemented to achieve the desired results that were initially set. It requires significant collaboration among the various participants, regular progress checks on productivity, and thorough comparisons of planned versus actual outcomes for each activity.

This applies not only to the work completed but also to time and expenses. It is one of the most dynamic and noticeable aspects of project management, occurring throughout the entire project timeline.

Handling both visible and hidden challenges also affects this stage. For instance, events like rain, snow, storms, protests, or road blockages, especially in hilly areas, can occur and significantly delay your project. The project manager must determine how to adjust the schedule without extending the final deadline. This demands quick decision-making and strong leadership.

The work must be carried out according to the plan, but it should also allow for changes when necessary.

The project manager ensures that resources are utilised efficiently, risks are effectively managed, and stakeholders' expectations are consistently met throughout the process.

The primary objectives of this procedure are to:

Carry out tasks for the project based on the accepted plans.

Deliver outputs that align with the project's goals.

Adequate supervision of all resources, equipment, and supplies.

Manage and drive all day-to-day challenges and potential risks.

Implement approved changes and corrective actions.

Perform Integrated Change Control

In numerous projects, a formal Change Control Board is formed. This group comprises key stakeholders and experts in their respective fields who assess and analyse requests for changes. The supreme decision of the Change Control Board—whether to approve, deny, postpone, or ask for additional details—is recorded and shared with all parties involved.

The primary purpose of the change control board is to ensure that changes are beneficial, align with project goals, and do not negatively impact the project's budget, timeline, quality, or scope through a thorough assessment. It assists in preserving the project's baseline metrics—scope, timeline, and budget—by examining the effects of proposed changes and deciding whether they should be accepted or turned down.

This procedure guarantees that every modification to the project is thoroughly evaluated and sanctioned before being implemented to prevent uncontrolled changes, which are also referred to as scope creep.

I recall a notable instance from a recent project when everything was at its busiest. Our partner companies, who were supposed to provide a team for our installation work, were unable to supply the necessary number of teams. As a solution, our procurement manager suggested hiring skilled teams through pre-approved agencies with which we had previously worked.

We referred to these teams as in-house teams. They received all the necessary support to assist the partners' team in the field, aiming to boost efficiency.

In some situations, we utilized these teams for correction tasks where the partner team failed to complete the work.

The costs for these in-house teams were not budgeted for in the project budget, which meant that any expenses related to hiring them or providing bonuses for better performance than the partner team were additional costs. We also offered warm jackets since it was a cold winter, to show our support for them and ensure they were comfortable while working outside. Therefore, the procurement head requested approval from the Change Control Board to proceed with this strategy, which would help manage the difficulties during this challenging time.

Close Project or Phase

The primary goal of this process is to conclude the project or a specific phase with certainty formally. It ensures that all planned tasks have been completed, the results accepted, and the objectives fully achieved.

Furthermore, it includes recording what was learned, releasing resources, and properly handing results over to operations or clients.

Completing a project properly is as crucial as carrying it out. If a project doesn't have a formal ending, unresolved problems may stay, team members might not know their next tasks, and important information could be lost.

A well-organized closing ensures that everything is passed on smoothly, stakeholders are satisfied, and improvements can be made for future projects.

Closing a project or Phase is a careful process that verifies a project's completion, ensures all contracts and paperwork are settled, and retains knowledge within the organization. It is the last step in providing value and reflecting on the experience.

2. Scope Management

This exercise is quite detailed, considering all but not limited

- Assumptions,
- Limitations,
- Checks,
- Deliverables,
- Project acceptance criteria that will be established.

Several tasks are being carried out to ensure that we don't overlook anything that could cause significant changes in deliverables or the project's scope. If the scope changes, it will affect your project's resources, timeline, and budget.

We are undertaking the following tasks to ensure this is done.

To understand the true scope of the work, refer to the original document where it all began. Whenever a contract is signed for the exchange of services or goods between two companies, it typically follows numerous discussions and evaluations of the bidders interested in this opportunity.

To clarify, let's say Vodafone Idea Limited wants to upgrade its mobile network from 4G to 5G technology; they would need to announce a

Request for Proposal (RFP) in major media outlets, such as newspapers or online platforms, to invite all eligible telecom equipment providers, including Ericsson, Nokia, Samsung, etc. Once the RFP is released, each telecom vendor reviews it thoroughly to determine how many of its requirements their equipment meets or doesn't meet. This process is very detailed, examining even the smallest aspects to determine if the vendor can meet the needed criteria.

This document serves as a comprehensive reference for reviewing the overall scope, outlining everything, including who is responsible for what and the responsibilities of supporting team members.

Another important document to review the scope is the Project Charter, which we discussed in the initial stages of the project. This document provides a summary of the key deliverables and a responsibility chart.

Understanding Prerequisites:

Knowing your prerequisites is like checking the temperature of a swimming pool before getting in; you wouldn't just jump into the pool without knowing the depth and temperature.

Similarly, before starting any task in a large project, we must ensure that all our prerequisites are ready, so we don't waste time or resources later due to missing items or tasks.

For example, suppose you are working on a project for a commercial building, to ensure the project runs smoothly. In that case, you must get the necessary No Objection Certificates (NOC) from all relevant government departments. You will also need to have the layout approved, obtain specific NOCs from fire safety officials, and ensure there is an emergency exit available in case of any crisis, etc.

For instance, if I want to brew a cup of tea or coffee for myself, I need to gather the following items before entering the kitchen and starting to make the tea.

- Tea leaves/coffee
- Sugar
- Milk
- Water
- Pot (the container I will use to prepare the tea)
- Gas supply
- Matches or a lighter to ignite the gas stove.
- Additional ingredients like ginger, cinnamon, or cardamom, etc

Preparing tea can also be seen as a project. Take a moment to think about that.

To understand the Scope in detail, you must break it down into the smallest possible activities and plan to execute them with other relevant resources.

The following steps can help you better understand it.

Define the Scope in detail.

It is essential to thoroughly explain the scope, as a project often involves multiple people, making it challenging to identify who is responsible for each task. This is why discussing every detail about the project scope is essential; to meet the expectations of everyone involved, you need to know all the specifics. Each milestone requires your attention.

Exploring the three aspects—Assumptions, Risk, and Constraints—thoroughly is crucial.

This will help you understand what you need to do and what you should not do.

Another vital aspect is reaching a mutual agreement on the acceptance criteria once the product or service is ready according to the defined scope. It needs to be accepted, and billing should follow accordingly.

Validating the acceptance criteria is vital for generating the billing. If you have worked hard to satisfy your client and find out at the end that it does not meet the acceptance criteria, it could result in a setback for both you and your company.

Work Breakdown Structure

Splitting larger tasks into smaller ones is very beneficial during implementation. If you can break down an enormous task into smaller segments, you will achieve certain benefits.

You will clearly understand what needs to be done to finish the task.

You can optimise how you use your resources; in some companies, you can borrow resources from other departments until the project is done.

Knowing exactly what effort is needed for the tasks will help you hire resources more effectively based on the work needed.

You will identify the minor tasks that your team needs to complete, which are practical and manageable, thus determining where to assign resources.

Control Scope

According to the original agreement, managing scope is vital and needs to be overseen for as long as possible.

To understand scope control, it is essential to be familiar with scope creep.

This refers to a situation where, while working on an agreed project, the client requests extra services for a service-oriented project or additional features for a developing product.

Sometimes, these changes can be managed; however, at other times, they must be integrated into the original scope, which requires additional resources and may lead to delays and budget increases.

When Scope Creep occurs in your project, everything gets adjusted.

To raise the budget and resources, you must formally seek approval from the project sponsor, providing valid reasons for the changes.

I recall my mother sharing many ideas for the kitchen during the construction of our home after the local development authority had already approved the layout.

Our contractor frequently experienced stress whenever my mother visited the construction site. Every time she presented a new task, the expenses for labour and materials would rise until that job was completed.

Occasionally, our contractor used the same supplies, but other times, he needed extra time, money, and materials to finish the project.

My mother never considered it acceptable to request something and for it not to be accomplished.

There is no fixed expense for Indian weddings. Numerous activities occur throughout the celebrations, resulting in scope creep.

That is why we often claim that marriage and constructing a house are two significant experiences that offer valuable life lessons. These events help you comprehend how things operate around you and how the individuals in your community act as stakeholders involved in your project.

When we planned my younger sister's wedding, I gained a lot of knowledge. Although I had assisted with my cousins' weddings before, I typically focused on coordinating the guests, rather than handling the finances.

But for my sister's wedding, I took the lead in managing all the costs. I supervised each transaction and gave my consent. By implementing checks at different stages, we organised the wedding somewhat better than we initially anticipated.

All the credit goes to my father for ensuring this wedding was successful. He was a remarkable negotiator who effectively managed the interests of all stakeholders. He was well-respected in his social circles, so everyone who knew him was accommodating. All the participants put in their utmost effort, understanding it was the wedding of Vijay Singh's eldest daughter.

He was the finest task manager I have ever seen. He possessed unique talents for organising social events, which is why he was highly sought after for both small and large gatherings in our community.

We held several discussions with the groom's family to find out their expectations, including how they envisioned the wedding unfolding, and which essential guests or family members required special consideration.

We also discussed the Sagun amounts to be given during various rituals. By frequently meeting and obtaining their confirmations, we

gained a better understanding of our objectives through these conversations and a few phone calls.

Even after all these confirmations, scope creep still occurred in our marriage.

For your awareness, I want to bring to your attention.

The estimated number of attendees for the wedding increased from 200 to 300. Still, we successfully coordinated all the details on schedule thanks to some close relatives and essential friends who assisted with the planning.

I remember it was in January, and it was chilly at that time, so we assumed that each guest would use a single mattress and quilt provided for the wedding. However, due to the cold, most guests ended up taking more than one quilt, and some prominent attendees stayed up late socialising and playing cards.

Despite a few slight complications, the main wedding events went off without a hitch, and everyone praised us for our family.

As this was the first wedding among all the siblings in our family, all the invitees were excited and looking forward to being involved. Fortunately, with God's grace, all our guests were pleased to see the groom, his relatives, and our arrangements.

3. Schedule Management

In project management, it is essential to clearly define all the tasks that you and your team need to do to successfully finish your project.

The first important step we need to take is to look at the scope of the project. After grasping the scope, we must figure out how much time these tasks will require. Understanding this clearly means that you have accomplished a significant part of your work.

You will understand how long each task will take, and with that information, you can manage your resources effectively. If you need to obtain resources from other departments, you can estimate their costs and how they will be incurred. We will go into further details, but first, let's identify the key aspects we need to grasp regarding time management.

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Time Management Plan

The time management plan outlines how we will identify, implement, track, and oversee various activities. This plan indicates when the project will deliver the product or service as outlined in the scope

planning document. It also acts as a communication tool for different stakeholders, helping manage their expectations and providing a method for reporting ongoing progress.

Several factors are important for a project manager when scheduling activities related to the project's overall timeline. Expert judgment and data analysis are vital techniques for creating a schedule for any tasks. Sometimes, we consult with subject matter experts, or SMEs, who can offer insights into how long a task is likely to take based on their past experiences with similar projects.

Data analysis consistently proves to be invaluable. If someone on your team has worked on a similar project previously, you can look through archived files for reference.

Meetings play a crucial role in the success of any project. Engaging in meaningful conversations and brainstorming can help you develop a better plan. You will notice continuous improvements in your execution if you consider the insights gained from these discussions.

You can organize multiple meetings to create and refine your time management plan by gathering input from all your experts and SMEs.

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Define Activities:

This is a method for breaking down a large task into smaller, manageable parts that can be carried out, observed, and controlled effectively. Smaller tasks are simpler to handle, which reduces the chance of errors. If mistakes do occur, they can be fixed at a lower level, helping to prevent losses in our projects.

This process continues throughout the entire project. Clearly defining activities each time helps to enhance understanding of how they will be carried out.

In project management, it is essential to clearly define all the tasks that you and your team need to perform to deliver your project successfully.

The first important step is to examine the project's scope. After grasping the scope, we must determine the time these tasks will require. Understanding this means that you have accomplished a significant part of your work.

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In project management, it is essential to clearly define all the tasks that you and your team need to complete to finish your project successfully.

The first important step is to examine the project's scope. After grasping the scope, we must determine the time these tasks will require. Understanding this means that you have accomplished a significant part of your work.

You will gain an understanding of how long each task will take, enabling you to manage your resources effectively. If you need to acquire resources from other departments, you can estimate their costs and determine how those costs will be incurred. We will explore this in further detail, but first, let's identify the key aspects of time management that we need to understand.

Time Management Plan

The time management plan outlines how we will identify, implement, track, and oversee various activities. This plan indicates when the project will deliver the product or service as outlined in the scope planning document. It also serves as a communication tool for various stakeholders, helping to manage their expectations and providing a method for reporting ongoing progress.

Several factors are essential for a project manager when scheduling activities related to the project's overall timeline. Expert judgment and data analysis are vital techniques for creating a schedule for any tasks. Sometimes, we consult with subject matter experts, or SMEs, who can offer insights into how long a task is likely to take based on their past experiences with similar projects.

Data analysis consistently proves to be invaluable. If someone on your team has previously worked on a similar project, you can review archived files for reference.

Meetings play a crucial role in the success of any project. Engaging in meaningful conversations and brainstorming sessions can help you develop a more effective plan. If you consider the insights gained from these discussions, you will notice continuous improvements in your execution.

Gathering input from all your experts and SMES can help you organise multiple meetings and create and refine your time management plan.

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Define Activities:

This is a method for breaking down an enormous task into smaller, manageable parts that can be carried out, observed, and controlled effectively. Smaller tasks are more straightforward to handle, which reduces the chance of errors. If mistakes do occur, they can be fixed at a lower level, helping to prevent losses in our projects.

This process continues throughout the entire project. Clearly defining activities each time helps to enhance understanding of how they will be carried out.

To identify various tasks, it is essential to seek expert advice by holding regular meetings.

Rolling wave planning:

This is a planning strategy where detailed planning occurs as the project moves forward. The concept is to achieve smaller goals or tasks at the start and prepare to take on larger tasks later during the execution phase.

This approach is beneficial when there is uncertainty or when requirements change frequently.

It allows team members to be flexible and adapt as the project develops.

Throughout the project's progress, all team members gain different levels of experience, so each stakeholder can provide suggestions to improve the process for the project's benefit.

It typically begins at a broad level, but over time, the team investigates various areas for improvement, which is why it is considered an iterative planning method.

This technique is highly effective in environments that are uncertain and constantly changing.

I can share a real-life example: We have assigned one swap project (replacing the existing telecom vendor and installing our equipment in the telecom circle of a specific communication service provider) in the telecom industry.

In an initial meeting, we discussed different strategies for proceeding to swap the existing equipment and install the new one without impacting the customer experience at all.

We mutually agree to survey the existing site to collect the inventory reports what is installed, what is specifications, what is number and other relevant details, to our surprise on primarily site we get the same inventory which was given to us from the database, there were some discrepancies as well which we corrected along the way when we conducted the survey, when we completed these survey we were very much clear what solution to propose in which scenario and what will be estimate time to complete every scenario & it was highly praised by our customer as well.

Conducting this survey saved project costs, resources, and multiple visits, enabling us to plan more effectively.

Once you define all your activities well, you will have a list of comprehensive activities you need to perform and clarity about

resource requirements, constraints, predecessors, and successor activities.

List of all significant essential milestones of the project & by tracking all these predefined milestones, you can manage your project in a much better way.

Sequence Activity

After clearly outlining and understanding the tasks at hand, the next crucial step is to arrange them in the correct order for execution strategically. This requires identifying the relationships and logical connections between the activities.

Many tasks depend on one another; some must be completed before others can begin, while certain functions can be completed simultaneously. When managing a large project, you will confidently tackle numerous tasks each day.

If you are managing a large project, you will have numerous tasks to handle every day.

Let's look at the types of dependencies:

Finish-to-Start (FS):

The first task must be completed before the next one can begin.

In our telecom project, your role is integral. Upon the arrival of new hardware at the telecom site, the unpacking process must occur first, followed by the physical installation of the equipment. After the installation is complete, the equipment must be powered on before proceeding with the software upload and applying the necessary licenses. This sequence is essential; software and licenses cannot be uploaded without first turning on the equipment, and the equipment cannot be powered on unless the physical installation is finished. Your contribution is essential to the project's success.

This is a very relevant example.

Here's the revised text, delivered with a confident tone that reflects our expertise and experience in project management:

A website is truly ready for launch only after it has been fully developed, rigorously tested, and all bugs and errors have been effectively resolved. This readiness is a testament to the thoroughness of the development and testing process.

An event management company sends out invitations to attendees only once the venue is successfully booked and prepared for the event.

To construct a structure, you must first design its blueprint and secure approval from the relevant authorities. This approval is not just a formality; it's a crucial step that ensures you can confidently begin construction according to the approved plans, adhering to all necessary regulations.

Start-to-Start (SS):

The first task must begin before the next one can start.

These two tasks are related in that the next task can only begin after the first task has started, but they do not have to be completed simultaneously.

Let's understand with the help of an example of Start-to-Start activities:

Predecessor: Writing code for a new feature

Successor: Testing that feature

The testing process can begin as soon as the first part of the code is written, even while the rest of the coding is ongoing.

In the context of Indian weddings, many tasks and activities happen simultaneously, making it a perfect example for illustrating Start-to-Start (SS) dependencies.

Predecessor: Wedding venue decoration starts

Successor: Setting up the catering area starts

As soon as the decorators begin setting up the venue, the caterers can start arranging their area for food service. Both activities can happen simultaneously in different parts of the venue.

Predecessor: Sangeet (musical night) practice starts for the bride's family

Successor: Groom's family starts their sangeet rehearsals

Both families can start their sangeet practice in parallel, even though their performances are separate, to ensure there's enough time for preparation.

These examples highlight how Start-to-Start activities allow various wedding tasks to progress simultaneously, ensuring that everything comes together smoothly and efficiently in the fast-paced and complex environment of an Indian wedding.

Finish-to-Finish (FF):

A logical relationship in which a successor activity cannot finish until a predecessor activity has finished.

Here are some examples:

Predecessor: Dance rehearsals for the sangeet finish

Successor: Stage setup and lighting for the sangeet finish

The practice for dance performances should finish at the same time as the stage setup and lighting, so that performers can immediately take the stage when ready.

Predecessor: Wedding vows finish

Successor: Priest's chanting and rituals finish

The couple's wedding vows should conclude alongside the priest's chanting and final rituals so that both the spiritual and legal parts of the ceremony complete together.

These **Finish-to-Finish** dependencies in Indian weddings ensure that various activities are synchronized and conclude together, maintaining the smooth flow of events throughout the day.

Start-to-Finish (SF):

The predecessor must start before the successor can finish (less common).

In a **Start-to-Finish** scenario the timing of the successor activity's completion is tied directly to when the predecessor activity starts, making it a less common but still useful dependency in certain structured workflows.

Predecessor: New financial year starts

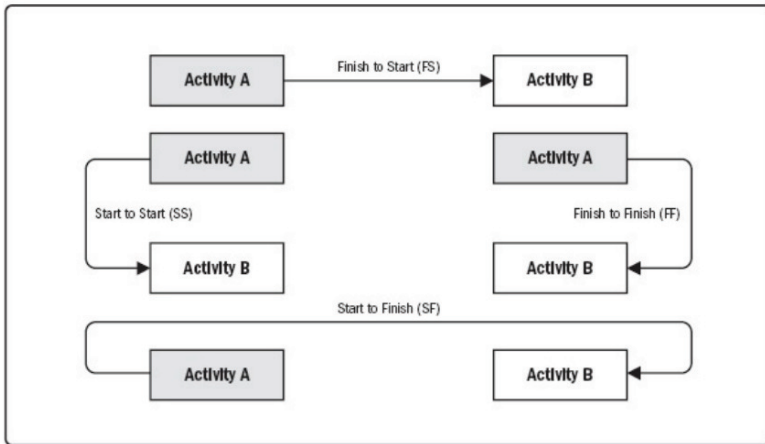
Successor: Closing of previous year's financial accounts finishes

The closing of accounts for the previous financial year is completed when the new financial year begins, as the process involves transitioning between the two.

Predecessor: Bride's entry into the mandap starts

Successor: Groom's Baraat ceremony finishes

The groom's baraat ceremony officially concludes when the bride begins her entry into the wedding mandap, signalling that the next part of the wedding is about to begin.



○ **Leads & Lag:**

Lead and lag are also significant to know when you are responsible for executing multiple activities, especially in larger projects. Interdependencies are very often observed and understood; these concepts help a project manager effectively manage their project.

These concepts enable a project manager to refine the sequence of multiple activities more accurately.

A **lead** is an advancement of the start of a successor activity over its predecessor. It allows the successor activity to begin before the predecessor activity has fully completed.

This creates an overlap between the two activities, helping to accelerate the project timeline by starting the next task earlier.

Instead of waiting for the predecessor task to finish, you begin the successor task partway through the first task's duration.

It is often used to reduce project duration and take advantage of parallel task execution when there is no need for the predecessor to be fully completed before the successor can start.

However, it can introduce risks if starting too early leads to errors or rework.

Here are some examples of Lead.

Predecessor: Finalizing the guest list

Successor: Printing the wedding invitations (with lead time)

Even if the guest list isn't 100% finalized, the printing of wedding invitations can begin with a lead time.

For example, invitations can be printed for close family and confirmed guests first, while the final names are being added to the list.

Predecessor: Catering team preparing the main course

Successor: Serving starters to guests (with lead time)

While the catering team is still preparing the main course, the starters can be served to guests with a lead, ensuring the dining experience starts without delay.

This is a typical activity in the context of an Indian marriage. You must have also observed that some senior members from our family are always involved in the life of our caterer, as they don't want any mismanagement due to mistakes in preparing the food for all the guests invited to the marriage function.

Lag

A lag is a delay or waiting period between the completion of the predecessor activity and the start of the successor activity.

It is the amount of time that must pass after the predecessor has finished before the successor can begin.

The successor activity will not start immediately after the predecessor's completion, but after a specified delay.

Lags are used when there is a mandatory or natural delay between two activities. For instance, some tasks may need to wait for specific resources, approvals, or conditions to be ready before they can begin.

Lags are typical in construction, manufacturing, or process-based industries.

Feature	Lead	Lag
Definition	Allows the successor activity to start before the predecessor activity finishes (overlap).	Introduces a delay between the completion of the predecessor activity and the start of the successor activity.
Purpose	To accelerate the project timeline by starting tasks earlier.	To account for natural, mandatory, or resource-based delays between tasks.
Effect on Schedule	Shortens the total project duration by overlapping tasks.	Extends the total project duration by adding waiting periods between tasks.
Risk	Increased risk of rework or errors if the successor starts too early.	Generally safer but increases the overall project time.

Practical Considerations:

Lead: Be cautious when applying lead to activities, especially in complex projects. Starting an activity too early may result in the need for rework if the predecessor isn't sufficiently completed. Lead is best used when there is confidence that starting early won't cause errors or disrupt the overall workflow.

Lag: Lags are generally less risky because they account for natural delays between activities. However, they increase the overall project duration,

so they should be minimised where possible. You can use techniques such as resource levelling or fast-tracking to mitigate the impact of lag on the schedule.

You would learn as you progress in the execution of the project

Activity Duration Estimation:

Estimating how long activities will take involves determining the hours of work required to complete specific tasks using predicted resources.

The primary advantage of this method is that it indicates the estimated time required to complete each task.

Typically, as a Project Manager, you must obtain resources from various departments, and these resources become part of your project. Once they complete their duties, they can leave the project.

Some companies retain one or two key employees as permanent staff, while outsourcing the rest of the work to capable partners who supply both resources and services based on purchase orders.

Therefore, this step is crucial in deciding how many resources we need to hire from other departments to accomplish various tasks during project execution.

This process continues throughout the entire project.

There are several methods for estimating the time required for activities, which are listed below:

Analogous Estimating:

This method is used when we have completed similar projects in the past, allowing us to review previous data on the time taken, costs incurred, and resources used for successful completion. We can refer to these records while planning another similar project. The only downside of this method is that it tends to be less precise compared to other techniques.

I recall that when we hosted my second sister's wedding, we considered all the ceremonies that typically take place in a traditional Indian wedding. For instance, the Mehndi function took 5 hours for my first sister's wedding, while it took about 8 hours for my second sister's wedding. We had to adjust the rental fees for the venue in response to this change. Those extra 3 hours affected our expenses significantly.

Parametric Estimating:

In Parametric estimating, a mathematical approach is used to estimate the time required for tasks. This technique can be exact if the data and parameters used are trustworthy.

Estimate the time needed for activities based on established rates. For example, if applying Mehndi takes roughly 30 minutes per person and there are 100 guests, the overall time would be:

$$\text{Duration} = 30 \text{ minutes} \times 100 \text{ guests} = 3000 \text{ minutes} = 50 \text{ hours}$$

However, since it isn't practical to apply Mehndi to all guests at the same time, you can organise sessions and adjust the estimate as needed.

Three Point Estimation:

Three-Point Estimation involves making three different time estimates for each task:

Optimistic (O): The most favourable scenario estimate.

Pessimistic (P): The least favourable scenario estimate.

Most Likely (M): The most realistic duration estimate.

The formula to find the overall estimate, known as the Triangular Distribution, is:

$$\text{Duration} = O + M + P / 3$$

A more precise method, known as PERT (Program Evaluation Review Technique), calculates a weighted average:

$$\text{Duration} = O + 4 M + P / 6$$

PERT is beneficial when there is a lot of uncertainty, as it puts more emphasis on the most likely result.

During the wedding ceremony, various rituals are performed.

For any ritual, if we think about three scenarios:

Optimistic Estimate (O): If everything goes perfectly, the task may be completed in 2 hours.

Pessimistic Estimate (P): If problems arise or delays occur, the task may take up to 4 hours to complete.

Most Likely Estimate (M): It would take about 3 hours.

The estimated time can be calculated as:

$$\text{Duration} = O + M + P / 3$$

$$= 2 + 3 + 4 / 3$$

$$= 3 \text{ Hours}$$

In this way, you can estimate your timeline for completing various project activities.

Develop Schedule

Developing a Schedule for any task is crucial for the project and usually leads to better results if it is planned appropriately.

Developing a Schedule involves analysing the necessary resources, arranging the order of activities, identifying limitations, and understanding the prerequisites for the tasks to be carried out.

Making a timetable that your customer agrees to can often be difficult. Once you receive the purchase order, your client expects you to provide the service or product promptly, which isn't always achievable. Whether it's a service or product, everything demands careful planning concerning skilled resources that can deliver the anticipated outcome.

When dealing with products, we often encounter various challenges. Some raw materials may be readily available, but certain items will need to be purchased once your order is confirmed.

Developing an acceptable timetable is a process that requires adjustments and often involves making improvements based on client acceptance. Synchronising your timetable with baseline tracking progress is extremely important. This baseline tracking regarding expenses in your project indicates how well you are managing it.

Establishing a timetable necessitates validating the estimated duration and reviewing the resources. Key steps in creating a timetable include identifying project milestones, recognising limitations, sequencing tasks, and aligning resources effectively. Once the starting and finishing dates are confirmed, it becomes the responsibility of the functional head to assign the necessary resources to the project to guarantee smooth delivery. From my experiences in project execution, I've learned that you will face specific challenges, whether related to resource availability or other constraints, within your team, department, company, or external sources. You must address the situation, and based on current conditions, you will need to revise your plan accordingly. Therefore, always remember three essential principles:

Adopt

Quickly adapting to changes without wasting time or money analysing the situation is crucial. You can do a root cause analysis, but to deliver your services within the agreed timeframe, you must quickly adjust and plan new tasks.

Adjust

Adjusting according to what is needed at that moment shows intelligence. As a project manager, you must find a way to complete your work while adapting to the situation, ensuring the safety of your team, meeting compliance standards, and adhering to the work ethics essential for any project or organisation.

Accommodate

Accommodate changes into the current timetable and keep moving forward. As a project manager, you need to be collaborative and use all the tools and techniques you've learned from professional and personal experiences to ensure your project is completed on time and within the approved budget.

There are several effective methods for developing schedules for your projects, which include the following.

Critical Path Method

As the name suggests, it's the minimum time required to complete a task within the project or the entire project, which consists of multiple stages or activities involved in the project.

Finding the interdependencies of multiple activities with each other and estimating the best possible minimum time to complete all the activities is critical to the critical path method.

There may be some activities that are not dependent on each other at the initial level, but at a particular stage, they must be completed in a definite order.

Like in telecom rollout projects, dispatching material from the warehouse to sites and physical inspection/audit are two independent activity which can be carry our simultaneously, till the time material reach at site team must be ready with all basic hygiene check of the site, whether it is safe to work or not and as the material reaches at site necessary activity can be start without wasting much of the time.

Two essential terms are generally used to identify the CPM early start/Finish and late Start/finish.

Early Start /end: Earliest possible time to start the activity or end.

Late Start/end: The Latest time to start the activity without hampering any other dependent activity.

- ✓ Resources optimization
- ✓ Resource Levelling:

Resource levelling is a method to adjust project timelines according to resource constraints, ensuring that resources are not overbooked even if the project timeline is increased within a permissible range.

Practically speaking, I have rarely seen any underutilised resource, while overbooking is easily visible.

Suppose in a telecom project you are handling technology upgrade & to do that you need to add or install multiple equipment in the network and make them all in sync with whole network you have to get commission these node from a specific skilled engineer, this engineer has multiple sites to visit then will be doing visit the where he can do his work perfectly. If he doesn't feel well or experiences delays for any reason, the project timeline is adjusted according to his availability.

The opposite of this is called Resource Smoothing, where the project schedule is not delayed or impacted; instead, resources are adjusted according to the predefined target or timeline.

Below is the main difference between resource levelling and resource smoothing.

Pointers	Resource Levelling	Resource Smoothing
Objective	Resolve or address resource overallocation.	Optimize resource usage in the project
Schedule Impact	Project schedule can change as per resource constraints.	Project Schedule does not change as per resource constraints
when to use	When resources are limited.	When the schedule is fixed but resources need balancing.
Risk	May increase overall project duration.	Risk of underutilization of the resources

Schedule compression

Schedule compression is a method used to expedite the work process without compromising the project's scope or quality, to meet time goals or deadlines.

Crashing:

This method allows for reducing the length of the schedule at the lowest additional expense by allocating more resources. Instances of crashing can include approving overtime work, hire extra help, or paying more to expedite task delivery.

In telecom projects, each month there's a set amount you must provide to clients. If delays occur for any reason and time is running out to

reach your goals, you then allocate more resources to work on multiple sites simultaneously.

Fast Tracking:

This is a schedule reduction strategy where tasks or stages that usually occur one after another are carried out simultaneously for part of their duration.

For instance, you might build the foundation of a building before all the architectural plans are complete.

Fast-tracking can lead to redoing work and increased risks.

This method is effective only when tasks can be done simultaneously to reduce project time.

Imagine you oversee a telecom project to set up 5G networks, and a rival is about to offer their services in the same area. To stay ahead, if you want to launch your 5G service first and attract customers, you must apply scheduling shortening techniques using both methods.

Crashing:

You start giving rewards to the teams in the field who are directly involved in site installations, if all essential preparations are ready. If we speed up the installation process, we can have our 5G network ready sooner than initially planned. To accomplish this, we may need to hire additional staff, purchase more hardware, and enhance our site resources. Although this will increase costs, it will enable us to prepare our network more quickly.

Fast Tracking:

Usually, we send hardware to the site and then install it all at once. If we plan to use fast-tracking for this project, we will install the warehouse instead. We need to set up a test area in the warehouse to save time and resources.

This way, we can avoid the risk that some hardware may fail during testing or installation in the field, which would necessitate sending it

back to the warehouse for repair. By conducting installation tests at the warehouse, we can confirm that the hardware is ready to be sent to the field, thereby saving transportation time.

You can start testing the sites and optimising the network while final installations are still happening at other locations.

By employing these approaches, you can minimise the total schedule, meet market deadlines, and gain a competitive edge.

4. Cost Management

Cost Management involves outlining the approach for estimating, budgeting, supervising, tracking, and regulating project expenses.

The primary advantage of this approach is that it provides a clear roadmap for managing costs throughout the project.

This process is carried out once or at specific stages in the project.

The Project Manager is the person fully responsible for managing everything, which means they have numerous responsibilities to ensure any assigned project is completed successfully and profitably.

Each Project Manager must be careful with how the set budget is spent. If he notices any changes that might affect the project later, he should inform management and request additional funds, providing a genuine justification.

A project manager may or may not be part of the team that determines the project's profit margins or budget calculations, but once the budget is allocated to them, they take complete control of it from start to finish.

They are accountable for all the money spent on their project.

This covers costs related to services, expenses for resources, claims made, rental vehicles for team transport, and various other expenses that may affect the project's profit margin, either directly or indirectly.

Therefore, when we receive an order from a client, it may include various service elements, hardware, or software. Typically, the prices or profit margins for the hardware and software sold to clients are predetermined.

However, the delivery of services can often be uncertain. When we plan a budget at the beginning, it may change due to unexpected factors that were not thought of during the planning stage.

There could be unexpected events, such as a war breaking out, a pandemic occurring, or a natural disaster, which would require us to allocate additional resources to complete the project within the initially planned timeframe. All these costs must fit within the same budget, and the project manager must request additional funds from the organisation or project sponsor.

We can elaborate on this topic in several stages.

- Planning of Cost
- Estimation of cost
- Determine the Budget
- Monitoring & controlling of the given budget.

In our early days every one of us must have seen in our home specially whose parents were in job, they used to get pay check on 1st day of every month & even before the salary come, our mother used to have the list of necessary expense for household, school fees, general expenses, EMIs, for personal expenses and we used to get fix amount for everything.

Our parents used to play this role very effectively, and they would do all the planning, estimation, preparing the budget, and finally monitor and control all sorts of expenses.

In certain companies, a separate team may be assigned to oversee and track all project-related costs, whether direct or indirect. The primary duty of a project manager is to ensure that services are delivered, while the project finance manager oversees the financial resources for the project's expenses.

They regularly communicate with one another to assess all their costs as the project progresses, determining whether they are successfully providing their services and earning a profit, or if they are experiencing losses. These two managers work closely together to ensure the project runs smoothly.

Planning of Cost

Cost Planning strategy is a component of comprehensive project management, outlining how project expenses will be structured, planned, and monitored.

For example, the cost management strategy may indicate the following:

Level of precision.

This illustrates how estimated costs will be rounded, either upwards or downwards (for example, INR 99.89 could be rounded to INR 100), based on the project's goals and size.

Units of measure.

This specifies the standards that will be used for measuring (such as hours worked by employees, workdays, or timeframes in weeks; or units like meters, litres, tons, kilometres, or cubic yards for quantities; or a total amount in cash) for every resource.

Level of accuracy.

It explains the allowable difference (such as $\pm 3\%$) for realistic cost estimates, which might include an additional sum for unforeseen expenses.

Links to organisational procedures.

The work breakdown structure forms the foundation for the cost management strategy, ensuring that estimates, budgets, and cost monitoring are aligned and consistent.

Control thresholds.

Certain limits for tracking cost performance may be set to indicate the tolerable variation before any action is required. These thresholds are typically expressed as percentage variations from the original plan.

Performance measurement rules.

The guidelines for evaluating performance using Earned Value Management (EVM) have been determined.

As you attain some progress in your projects, you can fix up some of the milestones where you get paid, may it be in some fixed percentage of the total contract value, which can be agreed mutually with your client based on the work breakdown structure (WBS)

For instance, the cost management strategy might:

Specify the locations in the WBS where control account measurements will be performed.

Establish EVM techniques (such as weighted milestones, fixed formulas, per cent complete, etc.) that will be applied; And outline tracking methods and the formulas for EVM calculations to project the estimated total at completion (EAC) to ensure the EAC is precise.

Reporting formats.

It outlines the structure of various cost reports and the frequency of their creation.

Estimate of Costs

Estimation of cost refers to the method used to create an estimate of how much money is needed for the resources to complete project tasks. The main advantage of this method is that it identifies the funds necessary for the project. This process happens regularly throughout the project as required.

A cost estimate is a numerical evaluation of the expected expenses required to complete a task using the necessary resources. It is a forecast based on the information available at a specific time.

Cost estimates involve recognising and examining various costing options to initiate and complete the project effectively.

Essential factors, such as trade-offs and risks, must be considered, including whether to produce or purchase, to buy or lease, and how to allocate resources to obtain the best costs for the project.

Often, companies face the choice of constructing a brand-new office or renting a pre-existing building or floor. The selection of the best option for the company is dependent on the most advantageous circumstances.

Frequently, as a project manager, you may allocate specific resources because their expenses are meant to be split across two or more projects for cost efficiency. However, this should not compromise the overall delivery, as in such situations, resources are typically spread too thin across multiple tasks. Thus, this decision should be made with great caution.

Cost estimates should be regularly checked and updated throughout the project to incorporate new details as they emerge and as assumptions are verified.

The precision of a project estimate improves as the project progresses through its stages. For instance, a project in the starting phase might have a rough estimate with a range of about -10% to +25%.

Later, with more information available, precise estimates could reduce this range to -5% to +15%.

Some organisations have established rules for when these updates should occur and what level of accuracy is expected.

Costs are estimated for all resources that will be applied to the project. This includes not only time, materials, equipment, services, and facilities, but also special categories such as an inflation buffer, financing costs, and emergency costs.

Determine the Budget

The primary objective of this activity is to develop a comprehensive budget plan that authorises all approved expenses for the project.

This budget acts as a reference or baseline for evaluating how costs are performing, predicting upcoming expenses, managing financial needs, and identifying potential financial risks.

There are a few activities that include mainly

- Establish cost management strategies through an established cost baseline Align funds with project demands
- Facilitates forecasting and cash flow management
- Aids in building trust among stakeholders by offering a transparent financial outline
- Allows for performance assessment using Earned Value Management (EVM)
- When we receive a purchase order from a client, it specifies a fixed sum for all tasks based on the agreed-upon scope of the complete project or phase.

There may be several tasks within a phase, and each task incurs expenses associated with various activities.

- *Wages for staff members*
- *Travel costs for employees*
- *Travel for managers supporting project tasks.*
- *Hiring taxis for local transportation*
- *Fees for specialists who participate in the project on a temporary basis.*
- *Costs related to incentive programs during the project's execution.*
- *Team celebrations, rewards, and recognition for outstanding staff members.*
- *License fees or other administrative charges related to obtaining approvals from government agencies.*
- *Following company rules when giving gifts to clients.*
- *Participating in exhibitions or organising workshops for external parties.*
- *Spending on employee training*
- *Funds set aside for emergencies*
- *Budget set aside for management purposes.*

5. Quality Management

The importance of quality is paramount in every aspect of our lives. Each tool and piece of equipment we use daily plays a vital role in enhancing our existence. When we neglect to uphold the quality of our tools, they lose their effectiveness and fail to meet our needs.

We confidently prioritise quality and understand that investing additional resources is essential to ensuring that our work consistently meets the highest standards.

This principle applies universally; anyone investing in products or services seeks assurances of high quality or outstanding service.

We undertake various measures to uphold the quality of both our services and the product life cycle.

Quality standards can vary significantly between different products and services. For example, the quality standard for a software delivery project may differ from that for a service-based project. Nevertheless, in both scenarios, the project manager must ensure that all quality standards are upheld.

Quality should not be viewed as a one-off task; it is a continuous commitment. Enhancing quality at each project phase can lead to greater profits, rewards, and recognition.

However, failing to attend to quality standards can result in unnecessary expenditures, the need for rework to improve quality, and potentially the necessity of training staff to meet the expected quality levels.

Prevention is always better than a cure. We grew up listening to this, so it is more effective to build quality into what we deliver instead of discovering quality problems in a later phase.

The expenses associated with avoiding errors are typically lower than the costs incurred to rectify mistakes once they are discovered through inspection or in use.

According to the type of project and its industry, the project team might need to understand statistical control methods to assess the data in the Control Quality results

There are three main milestones in quality management

1. Quality Planning
2. Manage Quality
3. Monitor & Control Quality

1. Quality Planning

It involves identifying the quality requirements and/or standards for the project and its deliverables and documenting how the project will demonstrate compliance with these requirements and standards.

Key Activities:

Understanding Stakeholder Expectations:

Gathering requests from all critical stakeholders to make sure everyone agrees on how things will work, including how different team members or areas will support one another to ensure the project's success.

Defining Quality Standards:

Recognising the standards from the organisation, industry, or any specific area that must be met in the final delivery. An agreement outlines the quality standards that must be met as an acceptance report; if the final products don't match the stated requirements, they will not be accepted.

After completing the task, you prepare the acceptance report and give it to the client for their acknowledgement and agreement. If everything is within the agreed-upon limits

before starting the work, it is accepted. Based on this document, we can then issue an invoice to the client.

Creating Quality Metrics:

Determine how quality will be assessed (like tracking error rates and response times). This sets a limit for what is acceptable and what is not.

Telecom Example:

In a telecom project for installing a new 5G network for a provider such as VIL, planning quality means outlining acceptable signal strength, latency limits, and downtime restrictions. For example, network uptime should be at least 99.99%, and customer complaints should be resolved within 4 hours.

2. Quality Management (Quality Assurance)

This process converts the quality management plan into actionable steps that can be taken to achieve the quality goals. It includes proactive efforts to ensure that we follow quality procedures that we have prepared for the execution of the work.

The following are the key activities performed to ensure quality.

Process Analysis:

Review and continually improve project management to enhance efficiency and effectiveness.

In larger projects involving multiple stakeholders, it's essential to regularly check on progress, with a weekly review being the most effective approach.

This is why large companies conduct weekly performance assessments for all significant projects underway at that time. This practice not only improves the process but also encourages everyone involved in the project to take their responsibilities

seriously, ensuring they do their part reliably until the project is fully completed.

The project review can be organised based on stakeholders, such as having one for internal participants that includes only the domain head or different team leaders involved in the project, while a second can include

Conducting Quality Audits:

Conduct scheduled assessments to verify that the group is complying with quality standards. There exist established protocols for any team to follow, particularly for projects involving various types of construction such as buildings, complexes, residential communities, roads, bridges, and highways. Everyone is required to adhere to specified health, safety, and wellness protocols, which are the responsibility of the Project Manager.

To ensure compliance, every Project Manager performs quality assessments. These assessments can be predetermined or conducted without prior notice to confirm that the team is adhering to the quality protocols.

Each team leader overseeing field personnel must implement these assessments to refine the quality guidelines.

Project Managers also conduct Governance meetings where all matters related to quality work are discussed and a consensus is reached for a shared objective.

Continuous Improvement:

Numerous standards are recognised and embraced worldwide.

Utilise strategies such as Six Sigma, Lean, or Kaizen to foster continual improvements, elevate customer satisfaction, and guarantee high-quality outputs and deliveries.

As often stated, the most significant investment lies in your knowledge; the more you educate your team, the higher the quality of the work will be. Always include training that develops the expertise of your team members, as this undoubtedly helps you consistently achieve superior results.

It was my customary practice to perform at least two audits each month for every project I participated in. These audits provide valuable insights into the challenges faced in the field and help nurture relationships with team members who are engaged at the operational level. Establishing a strong connection with your on-ground team proves beneficial in the long run.

3. Quality Control

Control Quality refers to the process of assessing and reviewing project outputs to confirm they fulfil the established quality benchmarks and acceptance criteria.

It requires the detection of flaws, validation of results, and ensuring that every output conforms to the quality expectations detailed in the planning stages.

This method is predominantly focused on inspections and is commonly conducted during the execution stage. It incorporates instruments such as checklists, statistical sampling methods, control charts, and quality indicators to determine if the results align with the projected standards. Upon discovering any discrepancies, measures like reworking or repairing defects are employed.

In the context of telecommunications projects, for instance, while rolling out a fibre-optic infrastructure, Control Quality verifies that the fibres are installed at appropriate depths, adequately spliced, and assessed for acceptable levels of signal attenuation.

Technicians may utilise OTDR (Optical Time-Domain Reflectometer) testing to evaluate signal quality, ensuring compliance with the standards set by the service provider.

Control Quality

It is the process of monitoring and inspecting project deliverables to ensure they meet the defined quality standards and acceptance criteria.

It involves identifying defects, verifying outputs, and making sure that each deliverable aligns with the quality requirements outlined during planning.

This process is largely **inspection-driven** and typically occurs throughout the execution phase. It includes tools like **checklists**, **statistical sampling**, **control charts**, and **quality metrics** to evaluate whether outputs meet expectations. If deviations are found, corrective actions such as rework or defect repair are initiated.

Here is the list of activities you can perform to control the quality of the project.

1. Inspection and Testing

This process consists of examining or assessing project outputs to ensure they align with quality requirements and standards.

This guarantees that what has been created or set up operates correctly and is devoid of any flaws.

Single Cell Function Test

SCFT is performed to **validate the functionality of a single telecom site (cell site or base station)** before it is integrated into the larger network. It is usually done after the physical installation of equipment and before site acceptance or cluster-level tests.

Key Objectives of conducting SCFT

1. Verify Installation Quality

- Ensure that all hardware (antennas, RRUs, BBUs, cables, etc.) is correctly installed and powered on.
- Check if the site is constructed as per the design and engineering documents.

2. Test Basic Functionality

- Confirm that the base station is transmitting and receiving signals properly.
- Validate that alarms, GPS, synchronization, and transmission links are functioning.

3. Ensure Parameter Configuration

- Verify that the site has the correct configuration data (frequencies, PCI, TAC, cell ID, etc.).
- Ensure no conflict with neighbouring cells.

4. Check KPIs in Isolation

- Perform call tests (voice, video, data) to ensure basic services work.
- Analyse initial KPIs (e.g., SINR, RSCP, RSRP, RSRQ) to verify radio quality.

5. Baseline Performance Measurement

- Capture performance benchmarks to compare with later stages like cluster drive test or optimization.

Benefits of SCFT

- **Early problem detection** at a single site level.
- **Saves time and cost** by preventing faulty sites from impacting cluster/network performance.
- Ensures a **clean handover** from deployment to optimization teams.

Variance Analysis

This refers to the process of assessing actual performance or results against established standards, benchmarks, or quality indicators to spot inconsistencies.

This aids project leaders in determining if deliverables are diverging from anticipated quality standards and if corrective measures are necessary.

When a microwave hop is established between two telecom sites, the planning team creates a link budget report that details all the important factors for the working microwave link between the two sites.

Usually, if the planning team design a MW Link between two MW cell site and says that the receive level for this link is -35dB, then a range of plus or minus 3 dBm is allowed for client approval of this microwave hop. This is very normal phenomenon of variance analysis, there might be many instances where you must conduct this variance analysis just to control the quality work.

3. Defect Repair and Rework

When a fault is discovered during the performance of any equipment or physical inspections, it should be reported to the repair and maintenance team. This team is typically responsible for carefully examining broken equipment and either repairing it if possible or replacing it with a new one if it cannot be repaired. However, a signed contract is needed beforehand for this to occur.

Typically, all customers have an Annual Maintenance Contract included in their agreements, which helps save a significant amount of money if any unit fails while still under warranty. The equipment manufacturer must handle these defective units and offer solutions to their customers.

During the execution stage of a project, when everything is going well, some equipment may break down due to improper handling or other

issues. In such situations, it is essential to have backup equipment readily available to ensure the project continues to move forward. If we do not receive this replacement on time, delays are likely to occur.

To prevent such situations, every Purchase Order from clients should include some spare items in addition to the main inventory.

Acceptance Decisions

Following inspections and testing, the project team determines whether a deliverable fulfils all necessary criteria and is suitable for formal acceptance.

Only those deliverables that satisfy acceptance criteria can achieve approval, ensuring that the client receives a product that meets their expectations.

6. Resource management

The most important asset for any project manager is their team. You may have a detailed plan and project plan, as well as an adequate budget, but if you do not have the correct team in place and the necessary materials are not available at the right time, the work will certainly go off track.

Poor planning or management of resources often leads to delays, overspending, degraded quality, and team exhaustion, resulting in widespread dissatisfaction among the team.

Good management of these resources ensures they are utilized efficiently and effectively throughout the project's duration.

There is a difference between the abilities required for a project manager to manage team resources and physical resources.

Physical resources refer to items like equipment, materials, buildings, and infrastructure. Team resources or personnel mean the human resources involved. Team members can possess varying skill levels, work full-time or part-time, and may be added to or removed from the project team as the project progresses.

The project team comprises individuals with specific roles and tasks who work together to achieve a common project objective.

The project manager should focus on finding, managing, motivating, and empowering the team effectively. Although each team member has a designated role and responsibility, involving everyone in project planning and decision-making is beneficial. Involving team members in the planning process brings their knowledge and strengthens their dedication to the project.

The project manager must act as both a leader and a manager for the project team. Besides handling project management tasks such as initiating, planning, executing, monitoring, controlling, and closing

various project phases, the project manager is also responsible for building the team into a cohesive unit.

The project manager should consider various aspects that affect the team, such as:

- The team atmosphere,
- The locations of team members,
- Communication between stakeholders,
- Managing organisational changes,
- Cultural considerations and the uniqueness of the organisation, and other elements that impact project performance.

A project manager shouldn't have a belief in Caste, colour, creed, age, sex, nationality, or religion; all these are irrelevant when it comes to forming a project team.

As a leader, the project manager must also actively work on developing the team's skills while ensuring that team satisfaction and motivation are maintained and improved.

The project manager should recognise, follow, and promote professional and ethical standards, ensuring that all team members adhere to these principles.

This part is interesting. When assembling a project team, it's essential to select your members carefully. It's important to go the extra mile to establish trust, respect, and professionalism among them. Initially, take some time to understand what motivates each team member. Two people on the team might be motivated by different things; one might seek acknowledgement while the other looks for financial rewards. To inspire both, you need to create a work environment that keeps both employees engaged and motivated.

Spending casual time with your teammates can also help build that trust and respect. When you hang out in a relaxed setting, you learn more about what your team is good at and where they struggle, as well as their interests and what matters to them in life.

Remote working: I always support this method because if tasks are completed effectively, working from home is a fantastic choice. However, in situations where several stakeholders collaborate on a project, it's essential to be in the same place to achieve the desired results.

Remote working offers several advantages:

1. Enhanced Work-Life Balance

Flexible working hours help employees manage their personal and family commitments more effectively. With less time spent commuting, there is more opportunity for relaxation, hobbies, or family time; this is the most significant benefit I have recognized.

2. Savings on Time and Money

Not having to travel daily saves expenses on fuel, public transportation, and meals. When people do not go out for work, they can prepare home-cooked meals instead of relying on takeout, which is often necessary when living with paying guests.

3. Increased Productivity

When working from home, people tend to take fewer breaks for tea, resulting in less wasted time during working hours. This naturally leads to an increase in individual productivity. Employees can also plan their work hours around when they are most efficient.

4. Improved Health and Wellness

Less stress from commuting allows individuals to use that saved time for healthier activities, such as joining a gym or attending yoga classes, or other similar pursuits.

Bruce W Tuckman's Five stage of Team Development

You could have several skilled individuals in different areas who are meant to be involved in your project. However, as the project leader, it is your job to bring them together as a team. Forming a team doesn't happen immediately; it requires time to create a connection of trust and respect among members. As the project leader, you will often need to interact with various interested parties to establish a strong team where everyone cooperates and assists one another in reaching the specified goals.

As time progresses, you begin to understand one another better—what each member can offer, how to share tasks, and how to coordinate your activities. During this journey, you slowly evolve from a collection of individuals into a united team.

The Tuckman Model of Team Development is a widely recognised concept that describes the progression of teams as they develop. Introduced by Bruce Tuckman in 1965, it outlines five phases that groups often experience to reach a level of high performance and efficiency. These phases are:

1. Forming
2. Storming
3. Norming
4. Performing

Adjourning (which was added later in 1977)

1. Forming – Getting Acquainted

This is the first step when the group meets for the very first time. Members are polite, careful, and uncertain about what they should do. They depend a lot on the leader for guidance and organization.

Highlights of Forming stage:

- Members of the team are introduced to each other.
- Understanding of roles and tasks is still unclear.

- Everyone is acting their best; there's not much disagreement.
- There is a mix of curiosity and nervousness regarding the project and fellow members.

Your role as project manager:

- Clear sharing of goals to team and tell them what is expected.
- Setting an expectation from every individual
- Assigning their roles and responsibilities
- Strong guidance and leadership since this is the beginning of new project new journey for all team members

2. Storming – Disagreements and Rivalry

When individuals in a team start collaborating, variations in viewpoints, temperaments, and working methods become apparent. This phase tends to be the most chaotic in any project, requiring a great deal of patience, as you must manage all these tasks daily.

This will become your daily task. Conducting arbitration among team members is one of the most challenging tasks for any project manager.

Highlights of Forming stage:

- Disputes emerge concerning objectives, responsibilities, and leadership roles.
- Struggles for control and feelings of annoyance may arise.
- Team members might question authority or the plan for the project.

This is the time when smaller group start coming into existence from the boggler team like we say **your vibe attracts your tribe** every two team member of same temperament start coming to close each other they spend time together they work together

they take break together, as a project manager you must be very careful during this phase of team development.

Your role as project manager:

Resolving conflicts can sometimes seem difficult in such cases. What I used to do was sit both parties together and provide a platform for doing Confrontation. If you confront the issues, not the people, you will always have a better time with your colleagues & other team members as well.

Confronting issues before they arise is fundamental to having a strong bond with the people I work with. Sometimes, it happens that you don't share the same opinion as other people in your team. So, what? You both may be right; it's just a matter of perception of what we perceive on an issue.

I also heard that there is no right or wrong person in your vicinity; only your perception makes them apart.

Clear communication and active listening.

Listen more and speak less, this has been magical in almost every situation people talk more but never wanted to listen what other person what to say, if start listening other people more than 90% issues get address automatically so as project manager wherever you face this situation, please listen carefully both the parties and after that communicate with them.

We generally say

People only hear they don't listen

Specific directions and reminders of the objectives.

As a Project leader, you should function like a GPS for your group. There will be times when team members may not be clear on what is expected of them. As a project manager, it is your responsibility to remind them and provide clear tasks to finish.

Managing skilled individuals can be challenging at times. You cannot outperform them in their areas of expertise because they are very knowledgeable in their field. Therefore, you need to operate at a higher level and offer them something they may lack, and you possess that knowledge since you work with such individuals or team members regularly.

We are all striving towards a shared goal: to deliver the project successfully on time, within budget, and utilising available resources. Every task must be directed towards that aim. There should be no hard feelings among team members; only collaboration can help us achieve that.

3. Norming – Creating Structure and Unity

Team members begin to address their disagreements and build better connections. There is an increasing sense of togetherness, teamwork, and mutual responsibility. Every individual comes forward if any team member needs help. This is a phase when every individual has already established a bond of trust and respect with one another and understands each other.

Highlights of Forming stage:

Roles and expectations are clearly defined, and everyone has been working on their part for a considerable amount of time, so they understand what is expected of them in their role. When every individual starts delivering their piece of work on time, collectively, the team's productivity is automatically enhanced.

Confidence and regard start to increase.

Everyone recognises that they are working towards a common goal: successful project delivery, and nothing less. As a result, everyone works in that direction, starting to respect and have regard for their work.

Feedback is helpful, and communication improves as a result. Team members begin to assist one another by helping with their

daily routine tasks. If someone is not feeling well, another person will come forward and take on their colleague's task, making this a regular occurrence, and delivery doesn't get hampered at all.

Your role as project manager:

- Strengthening of rules and procedures.
- Chances to foster trust, such as team-building exercises.
- Motivation to share and accept feedback.

4. Performing – Excellent Performance and Independence

During this phase, the team operates at its peak performance. The group is cohesive, confident, and exceptionally efficient. Leadership becomes more collaborative and seamlessly adapts to the situation at hand.

This is the time when any friction transforms into strong bonds of friendship, fostering deep professional and personal relationships among colleagues. They respect and trust one another, standing unwaveringly by each other's side. As a project manager, this is your opportunity to step back from micromanaging every task. Your team understands the significance of their responsibilities and consistently delivers results that not only meet but exceed your expectations.

Highlights of Forming stage:

- Excellent teamwork and ability to solve problems, since they value each other's knowledge and appreciate each other's *modus operandi*
- Emphasis on reaching goals instead of just completing personal duties.
- Team members have faith in one another and demonstrate initiative.
- Leadership provides support without giving strict instructions.

Your role as Project Manager:

Little oversight.

Ongoing encouragement and appreciation can initiate a reward and recognition program that consistently boosts confidence and enthusiasm for delivering more than expected.

5. Adjourning – Ending and Splitting Up

This phase shows the team disintegrating after achieving its goals. There might be feelings of sadness or success, and specific team members could be worried about what will happen next.

This is obvious, though everyone knows that all projects are temporary, and every project team has to say goodbye to one another upon the completion of the project since everyone has come long way and made new contact in personal and their professional life to its tough to say goodbye to someone who is falling apart. But that's what it is; whether with a good or a sad gesture, we must be apart to deliver the next successful project.

Highlight of the project:

- Finishing project activities
- Appreciation for what team members did.
- Members move on to different jobs or projects.
- Emotional farewells and thinking back on experiences.

Your role as project manager:

- Acknowledgment of personal and team successes.
- Discussion of what was learned.

The five stages of team development hold significant meaning for me because I have recently experienced them in my current project. I joined the project halfway through, and the delivery was uncertain due to the chaos created by the project's complexity and how the activities and stakeholders were being managed.

Let me quickly share what occurred and how I turned the situation around, ultimately building one of the strongest teams I've had throughout my career.

On my first day with the project, I arrived at the office without any formal introduction to the customer or the team. I was only informed that I needed to meet with the deployment head to find out why there was so much confusion and why our team struggled to manage the workload and meet customer expectations.

After meeting the customer, I left without clear guidance, as they were preoccupied with several tasks and moved swiftly from one meeting to the next. When I returned to speak with my internal team, I noticed their forced smiles and excessive deference toward me.

The next morning, as I was heading to my office, I received a call from the client, who asked what had been accomplished the day before. I began to recall anything I could think of from my first day. The client expected a thorough report immediately and suddenly began raising their voice at me. I paused and said, "Hold on for a moment. Before you continue, please note that our entire team is responsible for meeting this month's targets. If you give me a moment, I can bring in the person responsible to provide you with all the details you need, or you can wait until I reach the office so we can discuss our path forward together." I spoke with firmness but kindness. The client picked up on my tone, and later that day, we created a plan for regular project progress reviews.

What happened here was that I clearly outlined what was expected of me, providing detailed explanations of where the client would assist me and how I would ensure delivery for them.

When I arrived at the office and joined my team, I noticed that they were pointing fingers at each other about everything. No one was taking responsibility for anything, and they were only pretending to work.

There was no respect or kindness shown to anyone. I found this situation very uncomfortable because I had never been part of such a disorganised team that didn't help each other.

I recall from my childhood a saying that families who eat together stay close. Before solving any customer problems, I realised it was essential to get my internal team aligned first.

I gathered everyone in the meeting room and made it clear that from that day forward, everyone would have lunch with me. We would take a 30-minute break for lunch, and no one was allowed to take calls without my approval, regardless of how urgent they seemed. A few team members pushed back, saying they didn't have their lunch boxes and preferred to eat out, but after a couple of days, they joined in.

While we were eating at the table, we were not permitted to discuss work tasks. Instead, I discussed their future goals, career growth, aspirations, role models, families, children's education, and many other topics, but not their daily work matters. It was a break from the job.

This strategy worked wonders and strengthened the bonding among team members. They began to recognise each other's strengths and learned how to support one another, marking the quick beginning of the Norming phase.

The team consisted of young individuals aged 25 to 30 years old. Every few months, we would go out for a team dinner, which served as a great way to relieve stress. We spent quality time discussing various topics, including life, philosophy, and general knowledge, during those dinners.

Sometimes, we would invite all family members and their children to festive dinners, which greatly contributed to building relationships within the team. These family dinners were filled with joy, and families that were once strangers grew close through these gatherings.

Once such strong bonds are formed among team members, you can expect nothing less than productivity and reliability in their work. You can trust their actions and commitments, making this a prime example of a high-performing team.

I always gave my team the freedom to make necessary decisions in my absence, and this worked in every stage of both my professional and personal life.

I am fortunate to have had managers who supported me during my work journey. One topic we consistently discussed was ways to boost team productivity. I believe that acknowledgement in the workplace is crucial for enhancing productivity. I suggested to my manager, and he approved a fixed budget to carry out a rewards program for all team members.

This was initially announced for field engineers working in harsh weather conditions, as it was a freezing winter with temperatures often dropping to 3-4 degrees.

I began recognising all field engineers who went above and beyond to ensure daily productivity, especially when it was challenging to meet goals. We rewarded them with SPOT AWARDS, which were essentially gift cards from Amazon, valued between Rs 3,000 and Rs 5,000.

In the first month of launching this program, everyone was very excited since it was something they had never experienced in their careers before. This created a positive impact, as everyone was putting forth their best effort daily and competing against their previous achievements. They were consistently surpassing their records, which helped the company meet its monthly targets ahead of schedule.

We invested several lakhs of rupees into this program, but it truly aided in finishing work faster and getting invoices out sooner. Overall, it was an excellent initiative that was also embraced by

other project managers in different parts of the country for the same client.

It was a fantastic example of effective performance.

When we completed the project, I would share job openings that suited my team members. I helped them prepare for their interviews and recommended them to any recruiters I was familiar with. We also completed other tasks, such as creating a lesson learned document that compiled our experiences from the project. We reflected on the challenges we encountered, who supported us in overcoming those challenges, and the most important lessons we gained while carrying out the project. I can confidently say that this was a great example of Adjourning according to Bruce W Tuckman.

7. Communication Management

The key aspect of managing a project is good communication. This is the first thing that needs to be defined or established, outlining how communication will occur throughout the project.

When a sender transmits a message to a receiver, the communication is not fully effective unless the receiver acknowledges receipt of the message.

Until the receiver confirms receipt, it's merely broadcasting without proper communication.

Research shows that a project manager dedicates 70 to 80 per cent of their time to formal or informal communication.

Organisations that excel in communication achieve 80 per cent of their projects, compared to only 52 per cent for those with poor communication practices.

According to some research, 57 per cent of projects fail because of communication issues. Ineffective communication is identified as a significant cause of project failures about one-third of the time and adversely influences project success more than half the time.

Poor communication can lead to significant expenses.

One estimate indicates that for every billion dollars spent on projects, \$ 75 million (56 per cent) is jeopardised due to ineffective communication.

All crucial information must be communicated to the project team and its stakeholders. Every person involved in the project must be kept informed, engaged, and included in all relevant communications.

Successful communication has two main components. The first component is to create a suitable communication approach that meets the project's requirements and those of its stakeholders. From this approach, a communications plan is prepared to ensure that the right

messages reach stakeholders in various formats and ways, as specified by the communication approach.

These messages make up the project's communications, which is the second component of effective communication.

Communications result from the planning phase, guided by the communications management plan that outlines how to collect, create, share, store, retrieve, manage, track, and handle these communication materials. Ultimately, the communication approach and management plan will serve as a basis for assessing the impact of the communication.

There are three phases of effective communication in the entire project.

Plan Communication.

A communication Plan is a crucial element of the entire project management strategy. It outlines the details of what information should be shared, who the audience is, when it should happen, how it will be communicated, and why it is necessary throughout the project. This strategy serves as a roadmap to guarantee that stakeholders get the appropriate information at the correct times.

Main Parts of the Plan Communication:

Stakeholder Evaluation:

Recognise all crucial people or groups impacted by the project, so you can understand their interests and what kind of communication they require. Anyone can be a stakeholder in your project's success; some individuals may not be directly visible to you, but they play a significant role in the project's success.

Real Incident

This happened to me during a recent project. We were at the customer's location, and all our partners who supplied workers came to meet us there. To enter the main office building, a process was in place. If you

wanted to invite someone for a meeting, you had to send an email stating their name and the meeting's purpose. One day, I forgot to send this email, and since the regular guard was off that day, our guest was not allowed to enter the building until I sent the email. This highlights the importance of keeping the security guard informed, as they play a crucial role in the success of our project.

Details to Share:

Clearly state the kinds of information to be communicated, including updates on progress, risk information, and performance data.

Indeed, you have made a confidential choice that you won't share with external stakeholders, nor with some internal stakeholders who don't need that information.

Target Audience for Each Message:

Customise messages for specific groups to ensure they are relevant and to avoid overwhelming them with too much information. This has become very easy these days by creating a separate WhatsApp group for different target groups. Every group has some relevance to its audience.

Methods of Communication:

Decide how to deliver the messages—whether through formal means like reports and emails or informal methods like meetings and phone calls—depending on the urgency and complexity of the information, all formal communication should be shared through a formal communication only verbal or telephonic information can't be reliable anything written is always re-producible for future reference.

Communication Frequency:

Establish how often updates will be communicated, such as daily briefings or monthly gatherings. Some information, such as project progress, needs to be shared frequently through real-time communication in a WhatsApp group. Meanwhile, other information

requires weekly review, while top management reviews the project progress every month.

Every target audience had a different purpose for the project's progress.

Accountability:

Designate who is responsible for each piece of communication to ensure accountability and responsibility are taken. Every piece of information going out should have some credibility. It might be shared by your MIS Executive or by yourself. Every piece of data or information that is shared must be thoroughly checked for its genuineness and authenticity.

Escalation Matrix:

Establish a process for escalating significant issues to senior management when necessary. Every organisation follows this hierarchy, and not everyone in senior management likes that for everything, they should be approached. Every organisation has different people with set KRA, and they know their role and responsibility.

Services based on SLAs require an escalation matrix in the first place, ensuring that if a solution to a specific task is not provided, it can be escalated to the next level for faster resolution.

Significance of a Plan Communication

An effective communication Plan improves the chances of a successful project by:

Bringing Stakeholders Together: Ensuring everyone understands the same information and minimising the likelihood of confusion.

Helping with Decisions: Providing timely information that enables informed and knowledgeable choices.

Creating Trust: Encouraging openness and teamwork among colleagues and stakeholders.

Setting Expectations: Providing consistent updates to prevent surprises about project scope, timeline, and budget.

Reducing Risks: Allowing for the quick identification and resolution of potential problems and risks.

Boosting Teamwork: Clear communication fosters a more united and effective team.

Lessening Disputes: Tackling possible misunderstandings before they arise.

"Managing Communications" is an integral part of project management that focuses on executing and refining the communication plan.

While "Planning Communications" details how information should be shared, "Managing Communications" aims to effectively implement this plan to satisfy the needs of stakeholders throughout the project.

Key tasks in this process include:

Generating and Sharing Information:

The project manager and team create various communications, such as progress updates regarding project progress, resource utilisation, or budget consumption, as well as any red flags in delivery or other factors that may directly or indirectly impact project progress, as outlined in the communication plan.

This information is distributed to stakeholders using agreed channels to ensure clarity and promptness.

Storing and Accessing Information:

Good communication depends on storing project information in an organised way and being able to access it easily using document management systems or collaboration tools. This reduces the chance of losing information and helps keep track of past activities.

We used to create a shared drive that is available to all ordinary team members. Everyone who needs to access this information can retrieve it from this drive.

Some drives contain historical information about previously delivered projects, such as the nature of the project, resources utilised, project margin, and any significant risks or challenges faced.

Overseeing Information Exchange:

It's important to actively support the exchange of information through regular meetings, conversations, and feedback. Selecting the proper communication methods based on urgency and the intended recipient improves effectiveness.

Overcoming Communication Obstacles:

The project manager needs to identify and address barriers, such as cultural differences or technical issues, by listening to feedback and adjusting strategies to enhance communication.

In a nation like India, there is immense cultural variety, and when large corporations undertake significant projects involving hundreds or even thousands of individuals, these cultural disparities become apparent. Specific festivals have particular importance in northern India but may not be as recognised in the southern regions. Therefore, if a team member from India's north is assigned to work in the south, they will need to take leave to celebrate their local festival, regardless of whether those in the south acknowledge the same occasion. As a project leader, you must be particularly mindful of managing these concerns.

"Managing Communications" is essential for achieving project success because it:

Ensures Timely Delivery of Information:

By providing crucial updates to the appropriate stakeholders at regular intervals, misunderstandings are minimised, promoting informed decision-making.

Keeps Stakeholders Engaged:

Regular communication keeps stakeholders informed and engaged, which is essential for practical support and resource allocation. It enables early detection of problems, allowing the team to work together to solve them efficiently.

Boosts Team Spirit:

Effective communication fosters a deeper understanding of everyone's roles and responsibilities, leading to improved teamwork and productivity.

Builds a Record for the Future:

Keeping a record of communications provides valuable insights for future projects and facilitates organisational learning.

Monitor Communication:

Monitoring Communications refers to the process of ensuring that the information needs of a project and its stakeholders are met.

The primary advantage of this process is the efficient flow of information, as outlined in the Communication Management Plan and the Stakeholder Engagement Plan.

This process is carried out throughout the entire project.

Monitor Communications ensures that the planned communication materials and actions have successfully increased or maintained stakeholder support for the project's outcomes and deliverables.

The effects and results of project communications must be carefully assessed and observed to ensure that the intended message, conveying the correct information (with the same meaning for both sender and receiver), reaches the correct audience, is transmitted through the proper channel, and is delivered at the appropriate time.

Monitoring Communications may involve various approaches, such as customer feedback surveys, gathering insights from past experiences,

observing the team's work, analysing data from the issue log, or assessing changes in the stakeholder engagement assessment matrix.

The Monitor Communications process can lead to revisions of the Plan Communications Management and/or Manage Communications practices to enhance the effectiveness of communication, potentially involving additional and revised communication plans and actions.

Setting up a Project War Room (Solution Room)

In nearly every large organisation, creating a Project War Room is a crucial step in ensuring that all key stakeholders are aligned regarding the project's progress.

This typically occurs when various stakeholders collaborate to contribute their efforts to the project's success.

All-important stakeholders ensure that their representatives are present in the war room at the designated times to address the issues assigned to them and offer solutions for any problems that arise.

Typically, a large whiteboard is located in the war room. First, a member of the project team writes down the plan for the day. Anyone who encounters difficulties in completing their tasks notes their issues on the board, and the relevant person for each issue then addresses it and finds a solution as quickly as possible.

The name should be changed from 'WAR ROOM' to 'Solution Room' or something similar that conveys a positive feeling and hope.

This way, if you voice your concerns in this space, not only will your issues be acknowledged, but you will also have a good chance of receiving a quicker resolution.

8. Risk Management

Risk Management involves a series of steps, including planning how to handle risks, identifying them, assessing their impact, developing responses, implementing those responses, and monitoring risks throughout a project.

The following are some key stepping stones in Risk Management:

Identify Risks

Identifying risks is essential for delivering projects successfully, as it helps teams anticipate and prepare for potential issues before they arise. By recognising risks early on, project managers can develop plans to mitigate their effects, prevent delays, and keep expenses under control.

This proactive approach prevents minor problems from escalating into major complications that could jeopardise the entire project.

Once risks are recognised, they can be examined and ranked based on how likely they are to happen and how severe their effects could be. This results in improved planning, better use of resources, and informed choices. For instance, being aware that obtaining regulatory approvals might lead to setbacks enables the team to initiate the permit process sooner or explore alternative solutions.

Identifying risks also boosts the confidence of stakeholders. It demonstrates that the project team is capable and ready for uncertainties. Additionally, it enables the development of backup plans and reserves, which help mitigate unforeseen occurrences without disrupting the project.

In sectors like telecommunications, where outside factors such as weather plays a significant role and specially in hilly terrain it become very considerable risk, raining, storming, cloud burst land slide are some risk which may occur any time and impact all field activities to a

substantial amount, required permissions from Govt department to initiate the installation of specific frequency equipment need license to radiate, etc or supplier issues, transporter issues which deliver the hardware to respective warehouse, Tax provider, who supposed to provide cab/taxi to in house teams or Engineers for field work are persistent,

Identifying these risks early ensures that the project can adjust swiftly. Ultimately, effective risk identification yields more stable outcomes, improved quality deliverables, and a higher likelihood of project success.

Plan Risk Responses

You must have heard the statement “where there is a will, there is a way” I believe that where there is a problem, there is an opportunity, likewise.

Every problem in this universe has a solution; it only depends on how you perceive the solution. Sometimes, a straightforward solution doesn’t come to mind.

A risk response plan is crucial for completing a project because it outlines how the project team will address identified risks, ensuring uncertainties are managed proactively rather than reactively. After identifying and examining risks, having a definite response plan helps mitigate adverse effects and capitalise on opportunities.

If there is no response plan, teams may be caught off guard when risks arise, resulting in delays, additional costs, or even project failure. An effective risk response plan clearly states who is in charge, outlines the necessary steps, and specifies when those steps should be taken.

This enables the team to respond quickly and efficiently, reducing interruptions.

For instance, if a telecommunications project faces the possibility of delays in equipment delivery, a response plan could suggest finding

backup suppliers in advance. This way, if the risk occurs, the project can keep going with minimal interruption.

Response plans also help boost confidence among stakeholders, as they demonstrate that the team is prepared and in control. Additionally, they help with better budgeting and scheduling by considering possible risk-related actions and backup plans.

In conclusion, a risk response plan is crucial for maintaining project stability, enhancing decision-making, and increasing the likelihood of completing the project on time, within budget, and to the expected quality.

Perform Qualitative Risk Analysis

Performing Qualitative Risk Analysis is the process of prioritising identified risks based on their probability of occurrence and potential impact on project objectives.

This process enables project managers to identify the most critical risks that require urgent attention or further investigation.

In this method, a risk matrix is used to categorize risks as low, medium, or high based on their likelihood of occurrence and the severity of their potential effects.

Additional aspects such as urgency, ease of detection, and connections among risks may also be considered.

Qualitative analysis is generally fast, budget-friendly, and depends on the expertise of individuals, past experiences, and contributions from the team.

It is particularly beneficial during the initial stages of a project, when there may be insufficient information for a comprehensive quantitative analysis.

The outcome of this process is a revised risk register that lists risks in order of priority along with suggested actions to address them, enabling

teams to distribute resources wisely and develop plans to ease the impact of significant risks.

A risk response strategy is the specific method or plan that a project team follows to manage identified risks. After recognising and analysing a risk in terms of its likelihood and potential effects, the project team must decide how to address it—whether to mitigate its harmful consequences or capitalise on its beneficial aspects.

There are various strategies based on whether the risk is seen as negative (threat) or positive (opportunity):

Strategies for Negative Risks (Threats)

Avoid

Eliminate the risk by changing the project plan.

Example: Prevent delays caused by bad weather by adjusting the schedule for outdoor tasks.

Mitigate

Lower the likelihood or effect of the risk.

Example: Utilise a different vendor to mitigate the impact of delayed equipment deliveries.

Transfer

Move the risk to someone else (often through contracts or insurance).

Example: Hire a local contractor to handle clearance for site access.

Accept

Do nothing ahead of time; keep an eye on it or handle it if it arises.

Example: Accept minor delays from taxis and manage them as they occur.

Strategies for Positive Risks (Opportunities)

Exploit

Make sure the opportunity is taken advantage of.

Example: Assign the top team to a specific location to reduce setup time.

Enhance

Boost the likelihood or the advantage of the opportunity.

Example: Upgrade to quicker equipment to enhance performance.

Share

Collaborate with others to gain the benefits together.

Example: Work with local Internet Service Providers to accelerate expansion in rural areas.

Accept

Seize the opportunity if it arises, but do not actively seek it out.

Example: Enjoy unexpected, good weather.

Why It Matters:

Having clear strategies for responding to risks ensures that the project team is prepared, proactive, and able to mitigate uncertainty, leading to improved project outcomes.

Let’s have a look at the risk response table with some of the persistent risks in the project rollout.

Risk Description	Probability	Impact	Risk Rating	Response Strategy
Field team not available	Medium	High	High	Mitigate: Maintain backup team roster or shift scheduling
Prerequisites not ready (e.g., power, infra etc)	High	High	High	Mitigate: Monitor dependencies closely; escalate delays early
Material delivery delayed	High	High	High	Mitigate: Track shipments; keep safety stock; pre-clear logistics
Software license not available	Medium	Medium	Medium	Avoid: Ensure license procurement is started early; track closely
Bad weather	Medium	High	High	Accept: Build weather buffers into schedule; monitor forecast
Public protest near site	Low	High	Medium	Transfer: Coordinate with local authorities, community engagement
Taxi services not available on time	Medium	Low	Low	Accept: Use alternate transport vendors or plan early dispatch

Perform Quantitative Risk Analysis

Quantitative Risk Analysis is the method of calculating how recognised risks affect overall project goals, particularly regarding cost and project delivery timelines.

It enhances qualitative analysis by incorporating information, models, and simulations to assess the overall impact of risks in a measurable manner.

This method involves determining the likelihood and projected financial costs or time effects associated with risks. Common approaches used are

- Monte Carlo simulation,
- Decision tree analysis,
- Expected Monetary Value (EMV).
- Monte Carlo Simulation

Monte Carlo Simulation is a method that applies random sampling and statistical techniques to calculate how risks can affect project goals, such as budget or timeline. Instead of providing just one estimate, it performs many simulations to display a variety of possible results and their likelihood.

How it works: You enter variables (like how long tasks will take or cost estimates) using probability distributions rather than exact figures.

Output: A probability curve that illustrates results (for instance, "There is a 70% likelihood the project will be completed within 120 days").

Example (Telecom): Simulating how delays in acquiring sites and materials influence the overall time required for rollout.

Decision Tree Analysis

A decision tree is a diagram that outlines different decision options and their potential results, considering risks, expenses, and benefits. Each branch represents a decision or chance occurrence, along with related probabilities and effects.

Use: Assists in selecting between different options when facing uncertainty.

Includes: Probabilities, outcomes, and expected values.

Example (Telecom): Deciding between two suppliers: one is costlier but trustworthy; the other is more economical but poses greater risks.

A decision tree can aid in finding the optimal choice by balancing risk and reward.

Expected Monetary Value (EMV)

EMV is a statistical process that figures out the average result when considering several possible future scenarios. It takes the probability of each outcome and multiplies it by its financial impact, then adds those results together.

Formula: $EMV = Probability \times Impact$

Use: Aids in estimating possible cost risk and determining how to respond to risks.

If there is a 10% likelihood of facing a ₹10,000 delay and a 90% chance of no problem:

$EMV = (0.1 \times ₹10,000) + (0.9 \times ₹0) = ₹1,000$ in anticipated risk costs.

These tools transform quantitative risk analysis into a data-driven and decision-oriented process, enhancing predictability and management of projects.

These techniques help predict the likelihood of the project succeeding, exceeding budget, or experiencing delays under various high-risk situations.

Quantitative analysis is particularly beneficial in large or complex projects, as minor risks can accumulate to become significant problems.

It provides a better understanding of potential outcomes and helps stakeholders make informed decisions about reserve plans, time cushions, and risk management strategies.

Quantitative risk analysis enhances decision-making by converting uncertainties into actionable information, facilitating improved planning and risk management.

Implement Risk Responses—In this step, the agreed-upon plans for responding to risks are implemented.

Monitor Risks—This step involves verifying the implementation of risk response plans, tracking known risks, identifying and analysing emerging risks, and assessing the effectiveness of the risk management process throughout the project.

Every project has its risks since it involves different tasks with varying difficulties that aim to deliver benefits. This occurs within a framework of constraints and beliefs, considering the desires of stakeholders, which can sometimes conflict with one another and evolve. Organisations must intentionally choose to carefully handle project risks to create value while balancing possible threats and rewards.

The purpose of Project Risk Management is to identify and address risks that other project management methods might overlook. If these risks are not managed effectively, they can lead to project deviations and impede the achievement of the project's goals. Consequently, the effectiveness of Project Risk Management is closely linked to the overall success of the project.

Risks can be identified at two levels within every project. Each project has unique risks that can hinder the achievement of its objectives. Additionally, it is essential to assess the overall risk of the project, which arises from the combination of these individual risks and other uncertainties. The processes of Project Risk Management address both categories of risks in projects, which are described as follows:

Individual project risk refers to an uncertain event or condition that can positively or negatively impact one or more project goals if it materialises.

Overall project risk refers to the impact of uncertainty on the entire project, encompassing all sources of unpredictability, including individual risks.

It illustrates how stakeholders are affected by variations in project outcomes, whether beneficial or detrimental.

Individual project risks may influence project goals in both advantageous and disadvantageous ways when they occur.

Risk Management aims to capitalise on positive risks (opportunities) while steering clear of or reducing negative risks (threats). Unmanaged threats can lead to complications or challenges, such as delays, cost overruns, subpar performance, or damage to reputation. Seizing opportunities can yield benefits such as shortened timelines, cost reductions, enhanced performance, or improved reputation.

Risks are bound to arise throughout the project's duration; hence, Project Risk Management processes should be cyclical.

Risks are first tackled during the planning phase by developing the project strategy. Furthermore, risks must be continuously monitored and managed as the project progresses to ensure it remains on course and emerging risks are addressed.

To effectively manage risk on a specific project, the project team must understand the tolerable level of risk exposure necessary to achieve the project's goals.

This is determined by measurable risk thresholds that reflect the risk tolerance of the organisation and project stakeholders. Risk thresholds define the limit of acceptable deviation from a project goal. These thresholds are clearly stated and communicated to the project team, and they are included in the definitions of risk impact levels for the project.

Since each project has its characteristics, it's essential to modify the application of Risk Management processes accordingly.

The following are some factors that need to be considered for customising risk management processes.

Project size.

For projects with substantial budgets, durations, scopes, or team sizes, implementing a robust risk management strategy is non-negotiable. In contrast, smaller projects can effectively use a more streamlined approach. Engaging all key stakeholders in a comprehensive

discussion of the risk assessment and response plan is vital, particularly for larger initiatives. Furthermore, establishing explicit approval and escalation levels for any significant risks that arise is essential, ensuring proactive management throughout the entire project's lifecycle.

Project complexity.

Does the project require a strong risk management strategy due to high levels of innovation, new technology, commercial arrangements, connections, or external factors that make the project more complex? Or is the project straightforward enough that a less intensive risk approach is enough?

Complex projects require special focus on certain milestones.
a PM must be cautious when handling a complex project.

Project importance.

How critical is this project from a strategic point of view? Does it involve higher risks because it aims to create significant opportunities, tackle major challenges for the organisation, or involve innovative product development?

Adjusting risk management techniques based on these factors is part of the planning process, and the results of these adjustments are documented in the risk management plan.

9. Procurement Management

Procurement Management is a vital area in project management that focuses on acquiring goods, services, or results from external sources.

It includes all the steps necessary to purchase or obtain products and services that the project requires but cannot create internally.

Effective procurement ensures the project receives what is necessary on schedule, within budget, and to the required standard.

This area is vital in larger and more complex projects where specialized tasks, raw materials, equipment, or expert knowledge need to be outsourced.

Procurement Management provides the framework and control necessary to work with external suppliers through formal contracts and streamlined procedures.

Why Is Procurement Management Important?

In numerous projects, you may not have all the necessary skills or resources within your team.

Alternatively, you may prefer not to hire people permanently when you can assign that part of the work to external experts who will join your project for a fixed and agreed-upon time and complete the tasks according to your specifications. This approach is often more cost-effective. Therefore, in larger and more complicated projects, procuring the right help becomes essential. Finding a skilled partner or agency can be a challenging task and bringing them on board can be even more difficult.

The Project Manager does not have to be a specialist in the details of procurement rules and standards, but the expectation from the Project Manager is that he must understand the procurement processes in detail so that he can make informed decision about choosing the right partners as per the requirement and the skill set that partner is having,

Procurement department supposed to make such competent partners through some contracts since a Project manager doesn't have necessary knowledge for making contract, proposals, etc.

The companies I have been employed with have had a separate team to handle all the purchasing needs. As a Project Manager, I had to inform the domain leader about my needs, such as the number of team I required and when I needed them to achieve the specific goal set by the client. These needs may be temporary or ongoing, spanning the entire project duration or only a particular stage of the project. Once that stage is completed, those individuals are expected to be released from the project.

In all my projects, I need to bring in partner teams that are responsible for performing the on-site tasks, which usually include setting up and starting the hardware we have installed in the network. These partner teams are engaged on an as-needed basis, according to the project's demands.

All these partners have been approved in advance by the relevant department, a process that involves detailed scrutiny by the legal or contract specialists of the companies. The size of the project strictly determines this need; sometimes it's a large project, and in that case, we may need to have over 100-200 field team members working every day to achieve the monthly goals we have agreed on with our clients.

Procurement Management procedures consist of these steps:

Plan Procurement Management

This involves documenting choices made about purchasing for the project, outlining the strategy, and identifying potential partners.

Procurement Management is the process of documenting project procurement decisions, specifying the approach and identifying potential partners. The key benefit of this process is that it determines whether to acquire goods and services from outside the project and, if so, what to acquire, as well as how and when to acquire them. Goods

and services may be procured from other parts of the performing organization or external sources. This process is performed once or at predefined points in the project.

Conduct Procurements

This is the step where responses from partners are received, a partner is chosen, and a contract is signed between both parties.

Once the strategy is prepared, the next step is to implement it.

This stage involves obtaining offers or suggestions from potential suppliers, selecting a vendor, and finalising a contract.

Main responsibilities involve:

- Promoting the purchasing opportunity.
- Organising meetings for bidders to address inquiries.
- Assessing supplier proposals using standards like price, expertise, and quality.
- Bargaining and granting the contract.
- The aim is to locate the most suitable vendor who can fulfil the project's requirements and establish a legal agreement.

Control Procurements

This step involves overseeing relationships with partners, monitoring the performance of contracts, making necessary adjustments, and ensuring contracts are completed.

The primary advantage of this method is that it ensures the actions of both the seller and the buyer align with the project's needs, as outlined in the legal contract. This method is applied during the project as necessary. This is why it is important.

10. Stakeholder management

Every Project has stakeholders who affect the Project's progress either positively or negatively.

Handling stakeholders is a crucial aspect of delivering a successful project.

It is as fundamental for a project manager as salt is for food. Without salt or proper mixing of it in your meals, you cannot fully enjoy the food.

Just as salt enhances and balances the flavours in a meal, proper stakeholder engagement ensures a project is well-rounded, supported, and ultimately successful. Without it, a project can fall flat, lacking the essential buy-in and direction needed to thrive.

Essential Ingredient: Managing stakeholders is not merely optional; it is a crucial and critical component of a project manager's skill set.

Taste/Outcome: The "pleasure of eating" is closely linked to the success of a project and the happiness of those who are part of it.

Balance and Nuance: "Correct blending" suggests that it is essential not only to have stakeholders but also to understand their unique roles, expectations, and interests to involve them effectively. This thoughtful strategy helps avoid overwhelming or under engaging certain groups.

Avoiding Failure: Just as the right amount of salt is essential for a dish, poor management of stakeholders can cause confusion, pushback, and ultimately, the failure of the Project.

Effective stakeholder management is about understanding the "flavour profile" of your Project's environment and adjusting your approach to ensure everyone is contributing positively to the desired outcome.

Some individuals are directly involved, while others come from outside groups, such as government agencies, policymakers, or those who influence policies.

Customs departments may play a role in the importation of equipment from outside India. Media, environmentalists, lobby groups, and the public are also key stakeholders to consider when undertaking any project that benefits ordinary citizens. Transportation departments within the business area or elsewhere are also crucial. External stakeholders come from a wide range of backgrounds and may have different levels of influence, but they all matter.

Specific individuals may have a minimal impact on the Project, but others can significantly alter the results. Research on major project failures reveals that it is essential to have a straightforward method for identifying, prioritising, and engaging all participants.

The project manager's responsibility is to correctly recognise and appropriately involve everyone associated with the Project & which can affect whether it succeeds or fails.

To improve the chances of a successful outcome, identifying and involving stakeholders should start immediately after the Project is handed over to the Project manager and the team begins to form.

Recognising and ensuring stakeholder satisfaction is an essential goal of the Project.

The key to successfully engaging stakeholders is to keep open lines of communication with all involved, including team members. It's an iterative process throughout the project; people will come and go as per their roles, responsibilities, and interest in the project. That's why it's an essential aspect to engage stakeholders during the Project.

This helps in understanding their needs and expectations, resolving problems as they arise, handling differing interests, and encouraging appropriate involvement from stakeholders in project decisions and activities.

The following are some effective strategies for managing stakeholders.

Identify the Stakeholders

Identifying stakeholders refers to the ongoing process of determining who is involved in a project and gathering key details about their interests, roles, connections, influence, and potential impact on the project's success.

The primary advantage of this process is that it enables the project team to determine how to engage with each stakeholder or group of stakeholders effectively.

This task is done regularly throughout the project as required.

Typically, this process first happens in a project either before or when the project charter is created and approved. It is repeated as needed but should be carried out at the beginning of every phase and whenever there is a significant change in the project or organisation.

Each time the identification step is repeated, the project progresses through five phases, and not every stakeholder is essential throughout all stages, as some may lose relevance based on their input towards the project's success.

Many partners may initially join and later withdraw their support, which is why this task is recurring. At the beginning of each phase, or when necessary, the stakeholder list should be updated to ensure the project's success.

Identifying stakeholders at the start of a project, preferably during the initial phase, is very important for several reasons:

Avoids Surprises:

Missing a vital stakeholder early in the process can cause significant problems later, such as unexpected resistance, an unsupportive nature, and numerous other challenges.

Identifying them early helps you foresee possible challenges and opportunities.

Align Expectations:

Involving stakeholders from the beginning enables you to understand their diverse needs, hopes, and concerns. This fosters a mutual understanding of the project's aims, deliverables, and limitations, leading to increased support and involvement.

Enhances Communication:

Understanding who your stakeholders are helps you adjust your communication accordingly. Different stakeholders may require varying amounts of information, other ways of presenting it, and different frequencies of updates.

Recognises Risks and Opportunities:

Stakeholders can often provide essential knowledge and insights that help identify potential risks (such as regulatory challenges or resource issues) and opportunities (like creative solutions or additional funding) that the project team might overlook.

Develops Relationships:

Most importantly, engaging with stakeholders early on helps establish trust and strong working relationships, which are essential for the smooth implementation of projects and resolving conflicts.

Managing the Stakeholder Involvement

Managing Stakeholder Involvement is the process of interacting and collaborating with stakeholders to fulfil their needs and expectations, address issues, and encourage meaningful participation from stakeholders.

The primary advantage of this approach is that it enables the project leader to garner more support and mitigate pushback from stakeholders.

This approach is undertaken continuously throughout the project.

Managing Stakeholder Involvement includes tasks like:

Connecting with stakeholders at suitable points in the project to secure, verify, or uphold their ongoing commitment to the project's success, Handling stakeholders' expectations through discussions and exchanges; Tackling any risks or worries related to managing stakeholders and predicting possible future problems that stakeholders might bring up; and clarifying and addressing issues that have been recognized.

Managing stakeholder involvement ensures that stakeholders have a clear understanding of the project's aims, purposes, benefits, and risks, as well as how their input will contribute to the project's success.

In my opinion, "Manage Stakeholder Involvement" involves a constant and active approach to cooperating with individuals.

This means going beyond just recognising and planning for them to actively managing relationships, ensuring that everyone who can impact or is impacted by the project is involved to help it succeed.

If this continuous attention and communication are missing, even the most carefully made plans can lack the required backing,

like a well-cooked dish that fails to impress without the proper spices.

MONITOR STAKEHOLDER ENGAGEMENT

Monitor Stakeholder Engagement is the method of observing the connections with project stakeholders and adjusting plans to better involve them by changing how one engages with them.

The primary advantage of this approach is that it helps maintain or enhance the productivity and quality of activities involving stakeholders as the project progresses and the surrounding conditions evolve.

This is a constant and ongoing method of reviewing and evaluating how well your strategies for engaging stakeholders and your relationships with them are working throughout the project's life cycle, ensuring that the "salt" remains well blended and that the "food" remains pleasing.

Why Keeping an Eye on Stakeholder Engagement is Very Important:

Changes in Stakeholder Dynamics:

The interests, influence, and even the identity of stakeholders can shift during a project. A main decision-maker might leave the company, a regulatory body could add new rules, or a group that was initially neutral might become opposed due to unexpected project effects.

Monitoring helps you identify these changes quickly and understand their implications for the project. Without this awareness, you would be relying on old information, which could lead to ineffective ways of involving stakeholders.

Evaluating Engagement Effectiveness:

Having a plan doesn't guarantee it's effective. Monitoring helps you determine if your communication methods are effective, if stakeholders are receiving the correct information, and if they are engaging as expected (for example, by attending meetings or providing timely feedback).

It allows you to ask questions such as: Are we getting the level of support we want? Are we handling opposition well?

This evaluation helps you understand how well your engagement efforts are performing.

Preventing Issues and Resolving Conflicts:

By frequently checking in with stakeholders and noticing their feedback and behaviour, you can detect early signs of problems or disagreements. A minor change in a stakeholder's tone, a slow response, or new concerns raised can all signal potential trouble. Monitoring enables you to address these early issues before they grow into serious obstacles that might disrupt the project. It allows early problem-solving, rather than waiting until a crisis arises.

Adapting and Making Corrections:

No project plan is flawless, and neither are engagement strategies. Monitoring gives you the insights needed to adjust your tactics. If a specific way of communicating isn't reaching the audience it should, you can modify it. If a stakeholder's priorities change, you can alter your approach to fit their new needs. This ongoing feedback enables flexible adjustments, ensuring your engagement efforts remain relevant and practical as the project progresses.

Keeping Support and Commitment:

Maintaining stakeholder support throughout a lengthy project requires consistent effort and attention. Monitoring helps ensure that key stakeholders remain engaged and satisfied. By showing that their opinions are valued and their worries are being tackled, you strengthen their sense of ownership and significance in the project. This ongoing relationship-building helps stop indifference or opposition from developing over time.

Measuring the Value of Engagement Efforts:

Although it can be challenging to measure, effective engagement with stakeholders plays a vital role in project success by reducing risks, enhancing decision-making, and fostering teamwork. Monitoring allows you to gather information on engagement outcomes (like fewer issues, quicker approvals, and more participation) that can help illustrate the return on the time and resources dedicated to stakeholder management.

Learning Lessons for Future Projects:

The knowledge gained from monitoring stakeholder engagement is beneficial for upcoming projects. By keeping track of what went well, what didn't, and why, project managers can refine their methods and develop more effective engagement strategies for future initiatives. This helps promote learning within the organisation and enhances project management practices over time.

Chapter 9:

Health Safety and Wellbeing

The significance of an occupational health and safety policy goes beyond specific sectors. It is a crucial component of achieving success in any organization, preserving human life, maintaining compliance with laws, enhancing productivity, and fostering a strong workplace culture. Regardless of the field, dedicating resources to a solid OHS policy is not simply a requirement—it is an ethical, social, and economic necessity.

Ensuring a safe and healthy environment for employees remains the top priority and obligation for organizations worldwide. In our everyday activities, we work with clients, suppliers, and other stakeholders to promote safety and well-being in the workplace.

Companies allocate a significant portion of their budget to educate employees about HSW regulations and ensure that these guidelines are implemented effectively by Project Managers.

Creating a safe environment for all is no longer an option; it has become an essential requirement in the corporate sector. Some companies operate with zero tolerance, meaning that irrespective of your designation or role in the organisation, if you fail to comply with these guidelines, you can't continue your job in that organisation.

This is one area where I have observed significant improvement in every industry. The last two decades have seen a critical awareness and implementation of HSW guidelines.

I vividly recall the early 2000s, when teams responsible for erecting telecom towers would often work barefoot. They didn't even wear regular shoes, let alone safety shoes. These workers had a strong belief that the towers were the source of their income, and since their

livelihoods depended on them, they felt it was necessary to avoid wearing shoes on the job.

Moreover, when climbing the towers, they would often use cross-section support bars instead of proper climbing ladders. Thankfully, this has improved over the years, with a greater emphasis on prioritising the safety and well-being of field teams.

It doesn't matter whether you are working outside or inside the premises; safety rules must be followed everywhere.

Safety must be observed everywhere, regardless of the industry domain.

There are set rule to save human life and minimize the risk.

1. *If you are driving a two-wheeler, then both the driver and the co-passenger must wear a helmet.*
2. *If you are driving a two-wheeler, wearing the reflective jacket is mandatory for both the rider,*
3. *If you are driving a four-wheeler, then every passenger, including those in the front and rear seats, must wear a seatbelt.*
4. *While driving, the speed limit must be monitored and adhered to strictly, as per the posted speed limit.*
5. *Never drive under the influence of alcohol or any other addictive substance.*
6. *Never talk on a mobile phone while driving a two or 4-wheeler.*
7. *Always use a PPE kit with a full harness when working at height.*
8. *All work related to electricity should be done by a certified person only*
9. *Before starting any work related to excavation, obtain permission and complete knowledge about the work.*
10. *Don't enter the drop zone without wearing a complete PPE kit.*

Everyone deserves to return home safely and soundly.

Every human life is precious to their respective families

PART- 4

Chapter 10:

7 Major reasons for Project Failures

No one likes to fail, especially in project delivery where expectations are high and timelines are tight. Yet, failure is often part of the journey to success. Unforeseen challenges, delays, or missteps may still occur, despite the best planning. What matters is how teams learn, adapt, and bounce back stronger. While success is celebrated, it's the lessons from failure that build resilience and lead to long-term excellence in delivery. Accepting failure as a stepping stone, not an endpoint, is key to achieving sustainable success.

The following are the reasons that may contribute significantly to project failure.

1. Leadership Team
2. Scope agreement
3. Communication
4. Risk response plan
5. Poor Change Management
6. Stakeholder Management/conflict management
7. Resource constraint

1. Leadership Team

In today's rapidly changing environment, everything moves quickly, and everyone seeks fast results. Deliveries must be made on time, regardless of the method you choose. Once you receive the purchase order, the immediate next step is to focus on delivery.

Organisations with a strong leadership team tend to experience significant growth. I am not just referring to one individual in a position of authority making decisions for the company's

benefit. Instead, I mean the senior leaders responsible for generating business and ensuring successful delivery.

Over time, I have observed that to secure business, leadership teams often promise to meet unrealistic goals regarding delivery or product features.

They manage to get the purchase order based on these overly optimistic promises, but they fail to grasp the challenges involved in actual delivery.

When teams are assigned unrealistic targets, their entire group ends up under immense pressure to deliver, where everyone is giving their all.

A positive mindset leads to better productivity, so the leadership team should frequently reject unrealistic targets to raise the standards across the industry. It is not solely the project manager's responsibility to ensure timely project delivery; the entire organisation plays a role in the successful execution of the project.

In a situation in which over 80 resources are hired externally or from third parties on contracts that can be renewed monthly for your project, you cannot depend too much on their dedication, as these resources often lack loyalty to your goals. If they discover better pay, superior opportunities, or a more favourable work environment, they may leave without giving proper notice. You must be very careful while organising your weekly or monthly objectives and always include a safety margin in the final figures for both your clients and your internal aim.

The leadership team also needs to sustain the high morale of everyone working for them every day, individuals who sacrifice their personal and leisure time. These team members need to feel a sense of belonging and pride in their contributions

to meaningful projects, which can only happen when a positive atmosphere is maintained.

After a conversation with a leader, you should feel empowered, organised, aligned, and recharged to accomplish more than before. If you feel disheartened after sharing your thoughts with the leadership team, your productivity is likely to decline.

The leadership team needs to be open about all developments happening at the upper levels. While a project manager may not be directly responsible for specific issues, every project manager acts as a change agent within their project.

If a project manager is informed about all types of communications, they will be better equipped to make thoughtful decisions that support their team's well-being.

The leadership group should support their project manager in every way possible, especially when facing criticism for underperformance due to the actions of other stakeholders.

In large companies, it is common for several stakeholders or partners to collaborate on a single client project. Often, one partner can only begin their tasks after another partner has finished theirs. Therefore, each partner must recognise the importance of the goals and contribute their share so that the whole system functions effectively.

The project manager serves as the primary link for connecting various groups, including his team, the client's team, subcontractors, and their specialists who will be involved in his project.

He needs to be aware of any critical information that could affect his ability to deliver and his overall performance. Typically, there is a lack of communication regarding specific contract terms between clients and the LT team or sales group.

This creates difficulties for the project manager in understanding his overall responsibilities to the client. In some places, I have seen that project managers do not even have a copy of the purchase order. All these essential documents are kept secret by a central team, and he is instructed to deliver specific results with a set number of resources within a particular time frame.

Project managers must be included in all essential talks with clients. In some companies, I have noticed project managers are even told not to join key kick-off meetings, which are crucial for understanding who the stakeholders are and what solutions have been agreed upon for the project's key milestones. Numerous problems arise from this lack of involvement.

My primary concern is that the project manager is considered merely an additional team member. It is better to make these agreements sooner to improve project delivery.

Imagine the Project Manager as a company commander, and their Leadership Team as the headquarters. Let's delve into how this analogy unfolds.

The comparison between a Project Manager and a company commander, alongside the Leadership Team and the headquarters, is straightforward.

It underscores the vital importance of providing clear guidance and honest communication. Just like a company commander relies on specific directives and intelligence from headquarters to effectively secure a boundary, a PM depends on well-defined goals, approaches, and transparent dialogue from their LT to make educated choices and meet deadlines.

The effectiveness of the project manager is contingent upon the Leadership Team's ability to provide a distinct vision and ensure transparency.

Here's a detailed outline of the analogy:

Company Commander (Project Manager):

The role of the PM involves the planning, structuring, and execution of a project, like how a commander directs a unit of soldiers.

Headquarters (Leadership Team):

The Leadership Team provides strategic guidance, resources, and a comprehensive vision, much like a headquarters that defines the overarching objectives and tactics for a military operation.

Boundary Security (Project Fulfilment):

The Project Manager aims to complete the project, effectively ensuring the security of the boundary by achieving the project's goals and deliverables.

Clarity (Effective Communication):

Open communication between the leadership team and the PM enables the PM to understand the broader objectives, make informed decisions, and tackle challenges effectively.

Vision (Strategic Guidance):

The insights and strategic direction provided by the Leadership ensure that the Project Manager's tasks correspond with the organisation's overall aspirations.

Essentially, this analogy reinforces that a Project Manager's effectiveness is directly linked to the quality of guidance and support from the LT, just as the success of a military company commander hinges on precise orders and intelligence from their headquarters.

2. Scope agreement

Undefined project scope contributes as a significant disruptor in project management. Initiating a project with an ambiguous scope and ill-formed goals makes it challenging to track progress or maintain consensus among stakeholders. Over time, this lack of clarity leads to continuous modifications, commonly referred to as "**scope creep**."

If not addressed deliberately, unclear objectives alongside scope creep can completely derail a project. Ambiguous project goals act as a silent threat in project management. When a project launches without a clearly defined scope or established objectives, it becomes highly challenging to track progress or maintain alignment among stakeholders.

This lack of clarity leads to ongoing alterations, commonly referred to as "scope creep." If this situation is not addressed proactively, ambiguous objectives and scope creep can ultimately lead to a project's failure.

Let's examine a practical example from the telecommunications sector: Imagine a project commenced to enhance a city's network infrastructure for 5G capabilities. However, if the client's ambitions—such as coverage zones, bandwidth requirements, or deadlines—are inadequately specified or consistently changing, the team will struggle to determine whether to prioritize speed, quality of coverage, or cost. Various teams, ranging from RF engineers to civil contractors and software suppliers, may grasp the project needs differently, resulting in misaligned workflows, redundant tasks, and costly rework.

Scope creep occurs when additional features, roles, or deliverables are incorporated into a project without proper change management or impact evaluation.

A situation arises when you can only submit your invoice for completed project work after receiving the acceptance certificate following the client's formal approval.

At times, clients may deliberately withhold approval of your completed work until you perform extra tasks that exceed your original scope. Although these additional tasks may pertain to the project, they were not included in the initial agreement or the scope established for the project.

This often results from a drive to satisfy stakeholders or a deficiency in project discipline. A client might demand “just one more addition” or propose to enlarge the network to areas not initially planned. Though each adjustment might appear small, their combined effect can be substantial, prolonging timelines, increasing budgets, and overwhelming teams.

One key factor contributing to unclear objectives is the weakness of project initiation practices. If the project charter is not specific, or stakeholder expectations are inadequately gathered and recorded, confusion will inevitably arise for the team later. Additionally, without a Work Breakdown Structure (WBS), delineating the scope's limits proves challenging, making the project susceptible to unmanaged modifications.

Proper documentation, such as a well-organized Project Scope Statement and an endorsed Scope Management Plan, is vital. These documents serve as the basis for decision-making and assessment throughout the project's life cycle.

Controlling scope creep necessitates robust control mechanisms. Any request for changes should be formally submitted, assessed for its potential impact on time, cost, and quality, and approved by a Change Control Board (CCB). Information regarding these modifications should also be communicated clearly to all stakeholders.

Ultimately, lacking distinct objectives and a defined scope, a project becomes an unpredictable target. The team finds it challenging to navigate, stakeholders experience frustration, and the budget gets drained without achieving the desired outcomes.

A project manager dedicated to implementing clarity and discipline from the outset dramatically enhances the likelihood of successful delivery on schedule, within budget, and to the satisfaction of stakeholders.

3. Communication

One of the key elements that can drive the success of any project is effective communication in all possible avenues, which encompasses internal interactions within our teams and external interactions with all other stakeholders that can influence the speed of your project, whether positively or negatively.

There is a fundamental guideline that all project managers should follow: negative communications should only be directed upwards, whereas positive news should always be conveyed downwards within your team. Negative communication refers to any information that could adversely affect your project. This type of news should not be shared downward because it can cause confusion and dissatisfaction, ultimately harming productivity. Such matters should first be communicated to senior management, as they possess a deeper understanding of the situation and can provide more effective solutions for the negativity.

Conversely, if you have good news that fosters positive energy and encourages teamwork, it is something you should share with your team.

Communication is responsible for approximately 70 to 80 per cent of a project's success. Therefore, establishing a robust and

diverse communication network is crucial, ensuring that every pertinent detail reaches the appropriate person promptly so they can capitalise on that information.

Effective communication serves as the backbone for any project, particularly in large, multi-functional, or geographically dispersed teams. When communication breaks down, it leads to misunderstandings, delays, and potential conflicts, all of which can jeopardise a project's success.

Ineffective communication may manifest in various forms, including ambiguous roles and responsibilities, inconsistent reporting, delayed responses, and disengagement from stakeholders.

A project manager needs to oversee both upward and lateral communication. Vertical communication refers to interactions with senior management and stakeholders, while horizontal communication involves collaboration among team members and departments. Without organised communication systems—like status meetings, dashboards, and precise documentation—the project may experience scope creep, deadline breaches, and misaligned expectations.

Moreover, in a team composed of diverse cultures or scattered across locations, language and cultural differences can further complicate communication challenges. If attention isn't paid to these factors, instructions could be misinterpreted or taken lightly. In telecom projects, for example, inadequate communication between core teams and field engineers often results in discrepancies between planning phases and practical execution.

While technology can be a helpful aid, it is not a catch-all solution. Platforms like Slack, Microsoft Teams, and project management tools facilitate smoother communication, but their success heavily relies on how they are utilised.

To address communication barriers, project managers need to create a communication management plan during the project planning stage.

4. Risk response plan

Risk is a natural component of every project. The larger and more complicated the project, the higher the chance of encountering risks due to various problems. It isn't always your fault; sometimes, other stakeholders involved in the project contribute to these risks.

Regardless of how thoroughly a project is organised, there are always uncertainties, like technical problems, disruptions in the supply chain, lack of resources, severe weather, public protests, disasters, and pandemics.

What I mean is that you can never predict everything; not everything is under your control. The best you can do is prepare to manage these situations. That's why you should always have a plan ready to address them proactively.

When risk management is poorly handled or overlooked, it typically results in missed deadlines, increased costs, or even the complete failure of a project.

Many project managers lack organised tools for managing risks. Methods such as SWOT analysis, Monte Carlo simulations, or decision tree analysis are not utilised sufficiently, often due to limited knowledge or time constraints.

Lacking these tools, teams frequently find themselves reacting instead of taking action beforehand, rushing to find solutions only after an issue has already caused harm.

Another significant issue is poor communication regarding risks. Often, team members hesitate to share early signs of difficulties, fearing they will be blamed or because of the workplace culture.

Additionally, stakeholders may only become aware of growing concerns when the situation has already deteriorated. This delay in communication obstructs timely responses.

To handle risks well, a project manager should weave risk management into all stages of the project. This involves holding comprehensive risk identification sessions with stakeholders, carefully documenting risks using probability-impact matrices, and creating mitigation and backup plans for the most critical risks. It's also crucial to appoint risk owners—individuals tasked with overseeing and addressing risks throughout the project's life.

Conducting regular risk assessments during status meetings helps in updating the risk register and keeps the team aware of ongoing threats. Moreover, fostering an environment where team members feel secure in raising early concerns ensures that warning signs are not overlooked.

In comparison, effective risk management is like a shock absorber in a car; it helps mitigate the impact of unexpected events. You can't always foresee the road conditions, such as when you'll encounter potholes or where the stretches of road are smooth. However, with a good shock absorber, you experience less of a jolt. If the shock absorber is weak, you'll complete the journey, but you might feel exhausted or experience body aches from the rough terrain.

It acts as a safety net, giving the project a greater ability to handle surprises and uncertainties. A project manager focused on risk planning not only shields the project but also fosters trust among stakeholders.

5. Poor Change Management

Changes are unavoidable in every project, whether they arise from shifting client demands, market changes, regulatory updates, or unexpected issues.

However, ineffective handling of these changes can create significant disturbances. Poor change management results in misunderstandings, inconsistencies, uncontrolled growth in project scope, depletion of resources, and ultimately, project failure.

This is particularly applicable in large, fast-moving industries like construction, IT, telecom, Manufacturing, etc, where technology advances quickly and conditions in the field rarely remain the same.

For instance, during a typical rollout of telecom infrastructure, the initial design may rely on expected ground conditions or available frequencies. However, when the field teams start their evaluations, they might discover new limitations, such as barriers created by nearby buildings, restricted access to specific locations, or incompatible equipment.

If these changes are not systematically evaluated and incorporated, they influence the network design, procurement process, and implementation timeline. Without a strong change management strategy, teams may continue to work with outdated plans, resulting in rework, budget overruns, and delays.

One significant reason for ineffective change management is the lack of a formal Change Control Process. In various projects, change proposals are made casually—via emails, phone conversations, or informal meetings. These alterations are not examined for their consequences on the three main constraints: scope, time, and budget. Consequently, teams may

implement a change without recognizing its potential impact on other tasks or stakeholders.

Another issue is the inability to prioritize changes. Not all change requests are urgent or essential. Without a **Change Control Board** (A team of only relevant people from every domain who are responsible to run the show) or appointed authority to assess, the implication of all changes proposed if they are in line with business then they approve, else they dismiss changes, projects can become susceptible to frequent shifts in scope.

Additionally, poor communication regarding changes exacerbates the situation. If updates regarding scope or timelines are not shared quickly and clearly, team members may continue operating based on incorrect assumptions. Vendors might deliver incorrect materials, or contractors could follow flawed designs, leading to wasted effort and financial losses.

To handle changes successfully, project managers should create a structured Change Management Plan early during the planning stage. This plan must outline the process for submitting, assessing, approving, and communicating change requests. Each change should be analysed for its impact on project constraints, risks, and quality, with relevant documentation being updated accordingly.

Effective change management also requires alignment among stakeholders. Decisions related to changes must be made openly and collaboratively, ensuring that all parties potentially affected are informed and in agreement. Tools like change logs, impact assessment matrices, and version-controlled documents can help maintain oversight and traceability.

Change itself is not the problem—disorder is. Projects do not fail merely because change occurs; they fail due to poor management of change.

A project manager who handles changes in an organized manner, demonstrating discipline and transparency, can transform potential disturbances into opportunities for improvement. Without this disciplined approach, even a potentially successful project can devolve into chaos and fail to achieve its objectives.

6. Stakeholder Management/conflict management

The larger the project, the more complex it becomes, and there are usually more people involved. It can be quite a challenge to get every resource focused on the same goal. If you manage to do this, you are truly exceptional.

Effectively managing stakeholders is crucial for the successful management of projects. Stakeholders, including customers, sponsors, end-users, suppliers, government agencies, and internal teams, have different expectations, influences, and levels of participation.

Suppose a project manager fails to connect and engage with stakeholders effectively. In that case, it can lead to resistance, confusion, conflicting priorities, and ultimately, the need to redo work, budget issues, and even project failure.

In big projects, conflicts among stakeholders are likely to happen.

This is unavoidable, mainly because everyone can view things from different angles. If, as a project manager, you do not clearly explain the goals, targets, agenda, schedule, and expectations, each person may have their interpretation.

For instance, in a telecom project, the marketing team might want to launch the service early to stay ahead of the

competition. In contrast, the technical team could insist on the importance of comprehensive testing. At the same time, the finance team might worry about going over budget, and regulatory agencies may add new compliance requirements during the project.

If these differing opinions are not coordinated early on, they will create conflicts during execution, hindering progress and leading to frustration.

7. Resource constraint (Time Human Resources Budget)

One of the most frequent and significant challenges that project managers face is managing limited resources.

These limitations can be in the form of workforce, time, and Budget—key factors that, if not managed well, may result in missed deadlines, lower quality, or complete project failure.

If the project lacks sufficient resources, it may postpone many essential tasks. Moreover, there isn't an adequate budget set aside for specialised subcontractors or new equipment. In that case, the timeline for delivery will be delayed, or quality may suffer as a means to save money.

Simultaneously, project managers frequently find themselves under pressure due to several other reasons for delivery.

Time, money, and human resources are all interrelated. For example, a delay in receiving materials may necessitate overtime work or the hiring of more costly resources to stay on track—this can impact both the budget and team morale.

Likewise, if too few members are working on a project, the current staff may experience exhaustion, which can result in mistakes, lower productivity, and even team members leaving.

A significant reason behind resource-related problems is inaccurate assessment during project planning. Overly optimistic timelines or proposals with insufficient budgets—

often created to gain client approval—set the project up for failure. Project managers may also face difficulties due to competing priorities, especially when resources are shared among multiple projects. This leads to scheduling conflicts, resource unavailability, and blockages in key pathways.

Projects that usually rely on outside vendors and contractors. If their performance or availability is not closely monitored and managed, it can exacerbate resource issues.

Insufficient resources are not just an operational issue—they directly affect the project's scope, timeline, and quality. Effective project managers proactively identify potential limitations and address them through realistic planning, alignment with stakeholders, and ongoing monitoring and evaluation.

Overlooking resource limitations or assuming they will fix themselves is a clear route to project failure.

To manage this issue, project managers must develop a thorough resource management strategy during the planning stage. This should include determining the necessary skills, estimating the workload, securing commitments from those in charge of resources, and building in extra time and funds for unexpected situations.

Methods like Resource Levelling and Critical Path Method (CPM) can help in adjusting schedules without overloading resources.

Being adaptable is also very important; rolling wave planning, or phased approaches, can help in redistributing tasks and better managing resource shortages.

Consistent performance evaluations and prompt reporting of shortages enable faster actions, such as reassigning employees or seeking budget adjustments.

Since I worked throughout in my career with telecom giant OEM and Operator, I have bit insight of the project management in Telecom Industry.

In the telecom industry, projects are often complicated, involve many companies, require different skills, and have deadlines. Because of this, a good Project Manager (PM) is not just important, but essential. Whether a telecom project succeeds or fails often depends on how well the PM plans, organises, carries out, and completes the work. They also need to handle what stakeholders expect, follow rules, and meet strict deadlines.

A telecom Project Manager is the main point of contact between people inside and outside the company, government officials, infrastructure companies, equipment suppliers, and different department heads. They don't just handle tasks; they also manage relationships, expectations, and results. Whether it's setting up a network in a problematic area, installing new technology, or quickly increasing capacity, the PM makes sure everyone is on the same page and working towards the same goal.

Strategic Planning and Execution

Telecom projects usually involve bringing together teams working on civil work, electrical systems, RF planning, transmission, fibre optics, and core networks. The Project Manager starts the project by defining what it will include, how long it will take, what resources are needed, and how much it will cost. Their planning must consider not only the technical needs, but also local issues, availability of workers, and government approvals.

Once the project begins, the PM focuses on completing it by monitoring progress, ensuring that tasks are delivered on time, and managing the supply of materials and labour. Their ability to monitor and control everything—resources, quality, cost, and schedule—is key to keeping the project on track.

Stakeholder and Ecosystem Management

One of the most complex tasks in telecom project delivery is managing many stakeholders. The Project Manager must work with department heads within the company (radio, transport, IP, civil, fibre), as well as with external stakeholders (customers, OEMs, ASPs), and government organisations (for approvals, ROW, etc.). Their job is to ensure that everyone communicates effectively, resolves disagreements, and negotiates timelines and expectations efficiently.

A successful PM also helps build an ecosystem, which is a collaborative environment where all departments and vendors feel responsible and empowered. They create a strong network of cooperation across different areas, ensuring that no area works alone.

Leadership, Team Building & Conflict Management

The Project Manager leads by setting a good example. They don't just manage processes; they lead people. From motivating field engineers working in harsh conditions to helping support teams perform under pressure, their leadership directly affects how well the team performs.

They make sure the team is doing well, balance workloads, and positively resolve conflicts. A great PM knows that a happy and motivated team works faster and better. They take time to recognise what each person contributes, celebrate team successes, and create a culture where people take responsibility and are accountable.

In high-pressure telecom projects, disagreements and coordination problems are common. The Project Manager must handle these issues carefully, offering solutions that balance the project's needs with the concerns of individuals.

Change Management and Decision Making

Telecom projects often have changes in what they need to do. This can happen because customers want something different, technology changes, or unexpected problems come up. The Project Manager needs to be able to communicate effectively with the Change Control Board

and make informed decisions for the project. They need to think about the pros and cons, adjust the schedule and budget, and tell everyone about the changes.

Their choices can significantly affect how well the project does in the long run. Their ability to make good calls and change plans quickly is essential, whether it's speeding up the rollout by moving fibre or adjusting tower plans to comply with local rules.

High Influence and Strong Ethics

A telecom Project Manager has a significant amount of power over their team. Their enthusiasm, focus, and clear communication motivate others to follow them. They create a feeling of purpose and direction that keeps the project moving, especially when time is short and there are problems.

A great PM must have a strong work ethic. They oversee both the project results and the work environment they create. Being honest, open, and fair helps build trust between teams and those involved.

Conclusion

When a project is given to you, it is essential to be accurate, quick, and organized. For this reason, an excellent Project Manager can significantly influence the outcome. Project Managers serve as the strong bond that holds everything in place. They organise thoroughly, execute plans effectively, communicate respectfully, and guide with integrity.

Project Manager play a crucial role in every successful project; from managing customer expectations to solving issues regularly and acknowledging team achievements.