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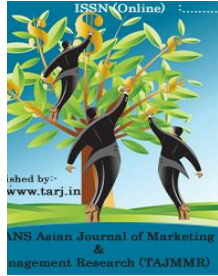**(Double Blind Refereed & Peer Reviewed International Journal)**

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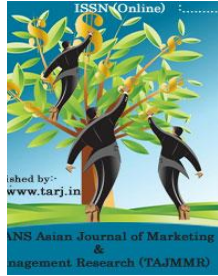# SPECIAL ISSUE ON DESCRIPTIVE PROJECT MANAGEMENT

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T R A N S A s i a n J o u r n a l o f M a r k e t i n g M a n a g e m e n t R e s e a r c h (TAJMMR)

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PROJECT MANAGEMENT: A PLATFORM FOR INNOVATION

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ABSTRACT:

Planning, organizing, and regulating resources is a crucial aspect of project management, which is used to accomplish certain objectives within a predetermined time limit. This chapter examines project management's core ideas and tenets while demonstrating its significance across several fields and sectors. Project management helps to drive innovation and foster organizational development in the always changing business environment. It looks at the essential elements of effective project management, including setting goals, assigning resources, controlling risks, and tracking development. It also talks about how project managers lead teams and encourage efficient communication and cooperation. The abstract emphasizes the importance of project management in fostering creativity, enhancing efficiency, and producing positive results.

KEYWORDS: *Innovation, Managers, Project Management, Project Manager.*

INTRODUCTION

A pandemic, an economic crisis, and an environmental disaster need for creative problem-solving, fearless leadership, and internationally coordinated response. Technological advancement is a never-ending force for both creation and devastation. Large and small organizations alike have been obliged to move swiftly, learn quickly, and make crucial choices based on changing conditions in order to adapt to a worldwide epidemic. Each answer is a project[1], [2].Assumptions about how to power industries, buildings, and automobiles have evolved as a result of innovation in energy generation. Projects include setting up wind turbines and solar panels, conducting research, shutting down outdated power facilities, and starting electric vehicle manufacturers.

Our workplace is dominated by projects. Our project-driven workforce maintains motorways, creates social media applications, produces movies, renovates our homes, and looks for drugs and treatments to keep us safe and well. Supply networks are changed by companies. To relieve the financial strain on working families, nonprofits provide rental apartments at below-market rates. Our global culture is continuously changing, although incrementally[3], [4]. More than ever, innovation is a skill that every firm must possess.

To innovate, we don't all have to be scientists, researchers, or software developers. Innovation is defined throughout this book as providing a novel solution to an issue that matters to people. Projects are always the foundation of innovation. To handle the ever-growing avalanche of change that surrounds us, project management offers critical thinking and communication capabilities[5], [6].

A Timeless Leadership Toolset

Managing projects is nothing new. The organization and planning abilities of a project manager were undoubtedly necessary for the construction of the ancient pyramids and aqueducts. Michelangelo had all the tribulations of a contemporary project manager when overseeing the construction of St. Peter's Basilica in Rome: inadequate specifications, limited workers, uncertain finance, and a strong client. In his day, Michelangelo was the exception. 500 years later, every level of every business is now impacted by the difficulty of leading projects[7], [8].

We must initially comprehend projects in order to comprehend how much project management assists our workplace. We complete all of our work in projects. Every project has a beginning and a conclusion, whether it be designing an airplane, constructing a bakery display case, or developing a company brand. Realizing that each project creates something unique is essential to comprehending the significance of projects. It takes a project (really a number of projects) to design and prepare the tools to construct a new electric vehicle, but not a project to produce thousands of electric vehicles. Ongoing operations are characterized as recurring procedures used in manufacturing and other activities[9], [10].

The hardest part of managing operations is learning to do well-known activities really well. The difficulty of project management is in guiding a diverse team of individuals to consistently make wise choices as they create something new. Because of this, project management is basically a collection of analytical and verbal communication techniques. These resources support us in a variety of leadership tasks:

1. Maintaining open lines of communication with team members and stakeholders throughout the course of the project.

2. Calculating the amount of time, money, and effort needed to complete a project and determining if the benefits outweigh the anticipated costs.

3. Quickly assembling cohesive, highly productive project teams, even when none of the team members had previously collaborated.

4. Managing the activities of a heterogeneous workforce that has been brought together especially for a project in order to accomplish the objective for the least amount of money and in an acceptable amount of time.

5. Tracking productivity and progress to provide precise projections for budget and project completion deadlines.

6. Managing the many staffing requirements that arise from consistently managing a number of projects at once, each of which uses a common pool of workers.

When done well, project management is a triumph of rational thought and interpersonal interaction. People may use project management technologies to make intelligent choices based on factual information. Of course, experts with the best of intentions sometimes disagree. That only enhances the value of project management and the significance of competent decision-making procedures. The project management toolbox assists us in navigating uncertainty and making aspirations come true in a world full of chances and difficulties.

Project Management Is Keeping Pace with Global Change

Project management is a field that has developed as a way to handle the complexity of work that is one-of-a-kind and transient. The discipline has a successful track record, despite the fact that it is still developing. The ideas presented in this and other project management publications are regularly used in millions of projects across the world. Over the last 60 years, this discipline has been codified by the Project Management Institute (PMI), which has its headquarters in the United States, the International Project Management Association (IPMA), which serves Europe, Asia, and Africa, and other standards organizations.

The number of project managers has significantly increased as a result of the increase in projects, and project managers are now a frequent position in almost all types of organizations. The emergence of the certified project manager is a similar phenomenon. Professional certification programs are provided by PMI and IPMA to officially acknowledge knowledge, talents, or both.The biographies of OrthoSpot and PM4NGOs, two organizations, at the conclusion of this chapter provide examples of how project management is extending to new areas of our global workplace. The first is a new company, while the second is a charity that encourages assistance organizations to employ project management in developing nations. Both of these businesses began by adapting the tried-and-true project management structure to suit the requirements of their particular target audiences.

DISCUSSION

A strong foundation for supporting innovation inside firms is project management. It offers a structured framework and a cooperative setting that facilitate the investigation and application of novel ideas. Organizations may promote forward-thinking initiatives, improve problem-solving skills, and gain a competitive edge in today's changing business environment by incorporating innovation into project management techniques.The importance of strategic planning in project management as a platform for innovation is one of its fundamental features. Project managers collaborate closely with stakeholders to establish project goals and link them to the strategic objectives of the company. This procedure promotes futuristic thinking and the pursuit of innovative possibilities. Organizations may actively look for unique strategies, technologies, or processes that can effect change by including innovation as a key project aim. Agile and Design Thinking project management techniques provide adaptable and iterative project execution

strategies. These techniques welcome change and promote experimentation, empowering teams to look into cutting-edge fixes. Project managers may tap into the team's collective intelligence to generate creative ideas and ground-breaking solutions by encouraging an environment of openness, innovation, and teamwork.

Another crucial aspect of project management that touches on innovation is risk management. Project managers may reduce possible risks by efficient risk assessment, planning, and mitigation techniques, even if innovation by its very nature entails some degree of uncertainty and risk. Project managers may foster an atmosphere where teams feel empowered to take calculated risks and explore new ideas without fear of failure by recognizing and managing the risks related to innovation.Promoting innovation in project management requires effective communication and teamwork. Open lines of communication, the promotion of idea exchange, and the creation of chances for cross-functional cooperation are all things that project managers enable. Project teams may use collective knowledge to produce creative solutions that handle complicated issues by bringing varied viewpoints and experience together.

In order to ensure that sufficient resources are devoted to innovation projects, project management also offers a systematic method to resource allocation and prioritization. Organizations may devote the essential resources, including time, money, and talent, to support creative activities by including projects linked to innovation into the project portfolio. Organizations are able to promote an innovation culture and create an atmosphere where creative ideas may flourish thanks to this deliberate resource allocation.

Project Management Is an Essential Leadership Skill Set

Given the significance of succeeding in a project-driven society, project leaders those who transform ideas for what may be into actualized goods and services stand out. However, it has been shown that project managers cannot develop mature companies whose project management expertise results in a competitive advantage on their own. In reality, executives at all levels need to be able to communicate in project management terms as the rate of change quickens.

1. Projects are chosen by executives. Additionally, they act as champions or sponsors for projects, monitoring their progress and offering counsel to the project manager and team. There is a senior executive who is ultimately responsible for the success of every significant initiative or program. The project portfolio, which is made up of all ongoing initiatives that have been chosen as the most effective means of achieving the organization's objectives, is another responsibility of executives.

2. Functional managers fund, direct, or supervise departmental initiatives. As they allocate their workers to project teams, they decide what projects should be prioritized.

3. The project runs more smoothly when the team has people who are knowledgeable about project management. Because they provide more accurate estimates, recognize dangers, and take part in planning and problem-solving, they increase the project manager's effectiveness.

The rise of part-time project leads is a similar trend. These are often senior employees and functional managers in charge of more modest or intermittent tasks. They are not interested in pursuing a career as a project manager. But they must still establish clear objectives, develop

workable strategies, and maintain constant communication. These individuals see project management as an additional set of skills that help them become strong leaders. What role does project management play in your own professional objectives? How much change do you anticipate in your career over the next ten years, given that the economy is forcing every one of us to learn and adapt?

Well-Performing Projects Deliver Value

Back in 1995, the project management community could agree that a successful project was one that was completed on schedule, under budget, and according to specifications. But times do change. There have been far too many projects that "delivered to specification" but didn't really add anything to the company that paid for them. The most frequent offenders have been costly information technology (IT) initiatives that resulted in reports or systems that didn't benefit the company, either because the system was rejected by the users or because it didn't address the project's primary issue. Although not alone, IT. Any project team that loses sight of the context of the project and just concentrates on providing the stated product or service is liable for failing to produce value. A project that adds value to the company is a more modern definition of success. The conclusion is that the project manager has to be aware of the project's business case. Additionally, the idea of who constitutes a project stakeholder has been expanded. After all, have things improved or worsened if a solution for my portion of the organization hurts your section of the organization?

Realizing that our solutions are probably not having their intended effect if they are not really adopted and utilized is another component of providing value. As a result, project teams are becoming more and more involved in the practice of change management. In this context, the phrase "change management" refers to helping those who are impacted to alter their behavior in support of the project's objective. Contrast this with change control, which deals with managing modifications to scope, schedule, budget, and other prior agreements. Project managers see the wider picture and contribute more to their company and other stakeholders when they perceive their role as driving change that creates business value.

The science and art of project leadership

Both an art and a science have been used to describe project management. You'll see in these pages how understanding project management science lays the groundwork for the art of leadership. Both need the same set of talents. The finest project managers are without a doubt exceptional leaders. They inspire others, have a clear goal, and most importantly, they do amazing things.

In fact, when we describe the qualities of the best project managers, their talent might seem enigmatic and mystical, as if the best ones were created rather than born. Thankfully, that is not the situation. It has been abundantly evident to me over the last 30 years of listening to thousands of professionals and seeing the most effective project leaders that project management is a talent that can be taught and acquired. I've discovered that some traits, far from being mystical or magical, are continuously present on successful projects in every sector. These five project success characteristics, which serve as the foundation for this book's design, may be summed up as follows:

1. Consensus on the project's objectives among the project team, clients, and management. The significance of having defined objectives seems so apparent that bringing it up is almost embarrassing. However, many of initiatives now lack definite objectives, and the effects of this ambiguity may be disastrous.

2. A roadmap that outlines a general course of action, specific roles, and may be used to gauge project success. Every project is different, therefore having a strategy is the only way to comprehend it and carry it out effectively. A solid plan not only outlines who is in charge of what and when, but it also illustrates what is feasible. It contains the information needed to estimate the number of personnel, resources, tools, and supplies that will be required to do the work. The plan may also serve as an early warning system for activities that are running late or over budget since it serves as the foundation for tracking progress.

3. Constant, efficient communication between all parties involved with the project. Projects are completed by people, not by planning or software. A project's success is a consequence of everyone setting and achieving objectives. Success relies on the capacity to reach consensus, plan actions, identify and resolve issues, and respond to changes from idea through execution.

4. A limited scope: Success is subjective to the individual. Because of this, the effective project manager will make sure that everyone knows precisely what can be done within a certain timeframe and budget from the very beginning. This is known as managing stakeholder expectations, and it is a crucial continuing activity that must be completed throughout the project, particularly if modifications are made. Stakeholders must not only accept the project's initial scope but also be aware of any scope revisions.

5. Management assistance: Rarely do project managers have the formal power to perform all the necessary actions to conclude a project. They depend on those in conventional management positions to provide personnel and equipment, to decide on policies, and to eliminate obstructions inside the firm. If they do not enlist the individuals in positions of power to act on their behalf, even the most ardent, inventive, and inspiring project leaders will fail.

These five crucial components are not at all mysterious and may be accomplished by using the science of project management with diligence and persistence. That is not to imply that success cannot be achieved by art; on the contrary, art is of utmost significance. Political and interpersonal skills, the ability to make judgments without all the facts, the ability to assign tasks based on intuition, and other abilities are all included in art. But mastering the fundamentals of science is a must for using this technique. This is significant for all of us because it shows that project leadership is a discipline that can be acquired and taught, not only for the fortunate few who are born with the necessary abilities.

Processes Are Not Leadership

It is possible to think of project management as a science made up of techniques, methodologies, and even software. It may also be seen as having the capacity to lead a group of people to

success, to make difficult decisions, and to behave honorably even when they are wrong. In actuality, project management encompasses all of these. We must understand the distinction between mastering the science and exercising the art if we are to advance.

The ability to lead a project effectively is a talent that is developed through time via sensitivity, experience, and a complete understanding of management's fundamentals. Your first step toward being a capable and motivating leader might be to learn the fundamentals of project management. The fundamental science may be taught reasonably quickly, and capable students can study and put the lessons in this book into effect on their very next assignment. While learning all these abilities will take time, it is possible to learn them.

Tools For Application and Continual Learning: Beyond The Book

This book offers practical guidance using tried-and-true methods, but it also contains a number of features that make it simpler to put that advise into practice:

1. Access to webinars that describe recent advancements in project management or go further into certain book subjects.

2. Common project management deliverables in downloadable form.

3. Advice on using Microsoft Project, the most widely used project management program.

4. Tips for passing the Project Management Professional test offered by the Project Management Institute, including practice questions, videos, and tutorials.

Webinars to Investigate New Subjects or Learn in a Different Way

Books are one kind of educational tool. Live, interactive webinars featuring the author and his colleagues provide another way to keep up with the latest information or consider novel angles on themes covered in the book.By subscribing to updates at www.VersatileCompany.com/FastForwardPM, you may be informed about free webinars.

Downloadable Worksheets for Applying the Discipline

By leveraging common forms and templates, we can all reduce the time it takes from idea to application. More than 20 checklists, forms, and templates are included in this book for managing your own projects. Because they work together to provide a fundamental project management approach, we've named these forms the Fast Foundation in Project Management. The forms are available for download at www.VersatileCompany.com/FastForwardPM and are mentioned in Appendix B. Numerous businesses have utilized these forms since they were initially included in the second edition of this book, customized them for their own projects, and accepted them as their own standards.

Tips for Best Practices in Microsoft Project

Although there are several good project management software programs available, Microsoft Project is by far the most popular.

The videos on www.VersatileCompany.com/FastForwardPM provide video lessons for getting Project up and running.

OrthoSpot Entrepreneurs Use Project Management for Stellar Performance

The best project managers are entrepreneurs. They begin with an idea and establish a business. When they started OrthoSpot, a business that provides orthopedic doctors with an online inventory management system, the company's founders were aware that they were playing against the odds. But they succeeded. Within a few years, over 60,000 goods were being sent to orthopedic practitioners in hundreds throughout 44 states via OrthoSpot's distribution network. Bill Schafer, the CEO, credits the company's survival and ongoing expansion to the early adoption of basic project management principles. "We had no idea how to launch a business, how to secure funding, or how to market our product." As a result, the months prior to launch were devoted to planning and creating a thorough outline of the work that lay ahead.

"What do we have to do to make money?" was their first thought. They created a solution from the top down. "We need a product, a framework for our company, and a system for distributing our sales and marketing efforts. Our first three main objectives were to create a company plan, secure capital, and establish an office. The first offices were donated by Shari Cohen, vice president of customer relations, who offered the basement of her house. Sticky notes and thread were used to cover the walls to display all of the jobs and their respective due dates.

For a startup, venture funding is a double-edged sword since it gives them the resources to develop while simultaneously handing up the future benefits of their idea. As a result, OrthoSpot utilized venture financing cautiously and restricted the amount of hires it could make. Schafer used the meticulous strategy to get a lot done with a small staff. "If you don't have focus, keep your eye on the objective, and allocate resources appropriately, the early-stage mentality of overcoming obstacles by intensity can lead you astray."

Schafer used the blueprint to guide his strategic choices. He discovered that OrthoSpot's innovative approach to orthopedic practices attracted more prospects. "A lot of chances present themselves when you're changing the way business is done and you're making progress; for instance, do something for cardiologists. However, we don't have enough staff or time to do everything, so concentrating on the plan keeps energies focused. The benefit is that the squad maintained a high level of vigor. They are capable of amazing feats when concentrated.

Every aspect of the company's operations have absorbed the early emphasis on following a plan. Detailed work breakdown structures (WBSs) serve as the foundation for new product development initiatives and system rollouts for clients. Project management and responsibility are ingrained in who we are, claims Schafer. He thinks OrthoSpot is set up to be very competitive as a consequence. "We compete with businesses that have a hundred times our capital and win."OrthoSpot is used by orthopedic offices all around the United States to increase productivity and save expenses so they can provide greater value to their patients. In order to service its expanding client base and provide the OrthoSpot founders the chance to reap the rewards of their hard work and vision, OrthoSpot depends on core project planning and execution.

CONCLUSION

Regardless of the size or complexity of the activity, project management is essential to its success. Project managers may make sure that projects are completed within the allotted time, budget, and quality requirements by using efficient planning, organizing, and controlling procedures. The steps in project management include establishing specific, quantifiable goals, finding and effectively allocating resources, proactively managing risks, and carefully monitoring development throughout the course of the project.In addition, project managers serve as facilitators and leaders who direct teams toward the accomplishment of project objectives. Clarity, dispute resolution, and a productive working environment all depend on team members' ability to communicate and collaborate effectively. Organizations may improve resource usage, simplify processes, and reduce project risks by applying effective project management approaches and frameworks. Companies may increase productivity, boost customer happiness, and produce effective results by adopting project management concepts. In order for teams to discover areas for development, draw lessons from the past, and enhance methods for future projects, continuous review and adaptation are essential.

REFERENCES:

[1]   A. Tereso, P. Ribeiro, G. Fernandes, I. Loureiro, and M. Ferreira, "Project Management Practices in Private Organizations," *Proj. Manag. J.*, vol. 50, no. 1, pp. 6–22, 2019, doi: 10.1177/8756972818810966.

[2]   S. Armenia, R. M. Dangelico, F. Nonino, and A. Pompei, "Sustainable project management: A conceptualization-oriented review and a framework proposal for future studies," *Sustainability (Switzerland)*. 2019. doi: 10.3390/su11092664.

[3]   S. C. M. Barbalho, J. C. De Toledo, and I. A. Da Silva, "The Effect of Stakeholders' Satisfaction and Project Management Performance on Transitions in a Project Management Office," *IEEE Access*, 2019, doi: 10.1109/ACCESS.2019.2955446.

[4]   R. Müller, N. Drouin, and S. Sankaran, "Modeling Organizational Project Management," *Proj. Manag. J.*, 2019, doi: 10.1177/8756972819847876.

[5]   G. Silvius and R. Schipper, "Exploring responsible project management education," *Educ. Sci.*, 2019, doi: 10.3390/educsci9010002.

[6]   MOSES JEREMIAH BARASA KABEYI, "Evolution of Project Management, Monitoring and Evaluation, with Historical Events and Projects that Have Shaped the Development of Project Management as a Profession," *Int. J. Sci. Res.*, 2019, doi: 10.21275/ART20202078.

[7]   A. G. Chofreh, F. A. Goni, M. N. Malik, H. H. Khan, and J. J. Klemeš, "The imperative and research directions of sustainable project management," *J. Clean. Prod.*, 2019, doi: 10.1016/j.jclepro.2019.117810.

[8]   I. Kononenko and S. Lutsenko, "Application of the Project Management Methodology Formation's Method," *Organizacija*, 2019, doi: 10.2478/orga-2019-0018.

[9]   S. Prasad, J. Woldt, J. Tata, and N. Altay, "Application of project management to disaster resilience," *Annals of Operations Research*. 2019. doi: 10.1007/s10479-017-2679-9.

[10] A. Alotaibi and B. Alnefaie, "Project Management : The Implication of Project Management Practices on Project Success in Saudi Arabia," *Univ. Portsmouth*, 2019.

PROJECT LEADERSHIP: PEOPLE BEFORE PROCESS

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ABSTRACT:

Any project's success depends heavily on the project leader. A team may be led by an effective project leader to meet project goals and provide high-quality outputs because they have a certain set of abilities and traits. The fundamental elements of project leadership, including its definition, significance, and the traits necessary for successful leadership, are summarized in this chapter. It also emphasizes how important effective leadership in project management, motivation, and decision-making abilities are. Organizations may improve their project management procedures and increase project success rates by better understanding the function of project leadership.

KEYWORDS: *Project Managers, Project Leadership, Project Management, Team Members.*

INTRODUCTION

On any project, they are the individuals. The individuals, who work with you or ignore you, contribute or withhold power, and make choices. But without the direction of a project manager, these individuals will not cooperate to complete a project.This chapter focuses on a project manager's main responsibility: managing everyone who has an impact on the project. The science of project management, as well as the tools and ideas that make up the discipline, are covered in later chapters of this book. We place an emphasis on leadership at the beginning of the book so that every subsequent idea can be understood in the context of how it improves a project manager's capacity to lead[1], [2].

While there are certain leadership issues that are exclusive to the project environment, the requirement for leadership is universal. This chapter highlights two particular leadership difficulties and offers suggestions on how a project manager might decide to develop their leadership skills. This book's leadership ideas, which are introduced in this chapter, will be present throughout [3], [4].

The Challenge of Project Leadership

Two aspects of projects by their very nature provide distinct leadership challenges. Projects first bring about change. That transformation necessitates a number of choices, often taken without complete information. Consider a project as a discovery journey where we establish assumptions, choose our course of action, and continue to learn. Then, we repeatedly follow that process. The fact that project directors have very little control over all the individuals who have an impact on

the project is the second characteristic that poses a problem. Contrast that with functional managers, such as department managers or CEOs, who often have responsibility that corresponds to their scope of authority. Our starting point for developing a vision of project leadership is a more thorough investigation of these two elements as shown in Figure 1.
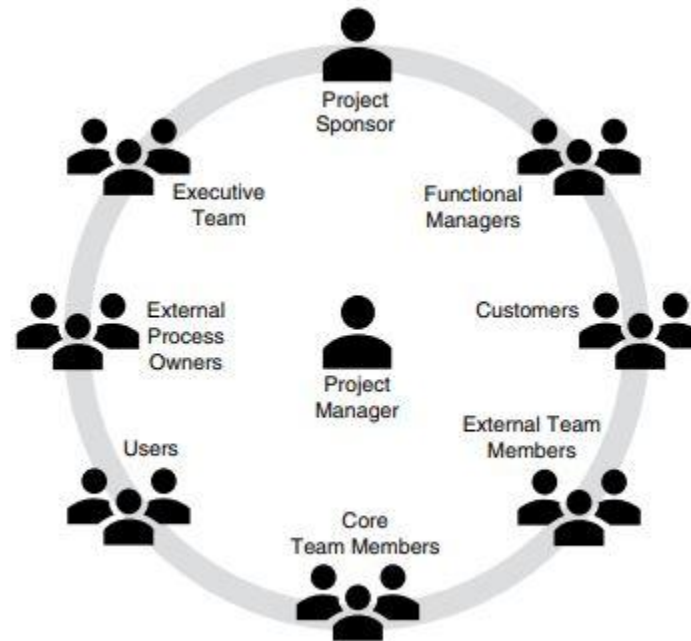
Figure 1: Project managers lead a diverse group of stakeholders but have little direct authority.

Create a team environment that is conducive to a journey of discovery. Every day, project teams make choices that are often based on inaccurate information. They do their best, and when they make a mistake, they reflect on what they've learned and change their course. That requires a certain sort of team culture, one that promotes cooperation, trust, and adaptability. On their teams, project managers set the tone and create the culture[5], [6].

Does this description apply to those who are sporting hard helmets and safety glasses? It may conjure up ideas of software developers, human resource policy makers, architects, and scientists. Yes, since these very physical enterprises also need ongoing decision-making. For instance, the foreman of a field team called Bill, who was in charge of a cabling project for a telecommunications business. Evidently, the crew's situation did not conform to the engineering department's criteria. After arriving at the job site by car, Bill descended into the utility vault and sat next to the foreman. "I outlined our goals and took the foreman's advice into consideration. He was probably astonished, but we came up with a workaround together.

A culture that promotes resilience, trust, and cooperation

Imagine a project team meeting to reach a conclusion. They can differ on the issue they are attempting to resolve. They may differ over the underlying issue, the available alternatives, the decision-making process, and every other element of the issue. However, it is this group that

must solve the issue. They need to be able to actively dispute with one another, learn from one another, come up with a solution together, and maintain good, respectful relationships[7], [8].They do not become negative when a mistake is made or when presumptions are incorrect. With the same collaborative spirit, they recover and confront reality. Not every group can succeed. Collaboration and resilience call for abilities and dispositions that the team's leader and members actively promote. The team culture is to blame. Team ideals are manifested in a visible manner via team culture. Active listening will be a team habit if respecting opposing viewpoints is a team value. Giving and taking feedback honestly is a team habit if peak performance is a value. Leading by example is a leadership practice that shapes the culture by making the ideals clear and encouraging the desirable behaviors[9], [10].

DISCUSSION

The function and duty of leading a project and its team members to a successful conclusion is referred to as project leadership. It entails supervising and controlling all project-related activities, such as planning, carrying out, monitoring, and controlling. A project leader is in charge of determining the direction of the project, making important decisions, managing resources, and making sure that project goals are reached within the parameters of time, money, and quality. In contrast to general leadership, project leadership is focused only on managing projects and project teams. It calls for a special combination of abilities that fuses in-depth technical knowledge with effective interpersonal and communication abilities. The best practices, procedures, and guiding principles of project management must be well understood by project leaders. They must be able to successfully convey the project's objectives to the team, stakeholders, and clients. They also need to have a clear understanding of the project's objectives.

Effective project managers are adept at managing teams and have the ability to establish and inspire high-performing teams. They are able to delegate duties and responsibilities appropriately since they are aware of the team members' skills and shortcomings. Project managers promote a cooperative and welcoming workplace where team members may share their knowledge and suggestions, fostering innovation and creativity.An essential component of project leadership is communication. Effective communication with team members, stakeholders, and clients is a must for project leaders. They need to make sure that everyone is aware of their duties and responsibilities, establish expectations, and offer clear instructions. Effective teamwork, dispute resolution, and stakeholder updates are all made possible through effective communication.

Making decisions is a crucial component of project leadership. To solve issues, reduce risks, and maintain project momentum, project leaders must make prompt and well-informed choices. They evaluate the information, compare the options, and think about how choices could affect the goals of the project. Project managers can traverse complexity and make decisions that result in good project results when they have strong decision-making abilities.

Temporary Teams Form Before They Perform

A project-specific team is developed for each project. These individuals first meet as outsiders to the initiative. They don't start off as competent team players or with a strong sense of loyalty to the group. The progression from a cautious beginning to a cohesive, resilient, and committed

team follows a well-known, predictable pattern. The five phases of team development identified by Bruce Tuckman's 1967 model, which has been used and developed upon ever since, are stages that any team will go through from their first meeting until the team disbands. For talking about team creation, these stages Forming, Storming, Norming, Performing, and Adjourning create a shared language.

Evolve Your Leadership Style

Understanding these phases is advantageous to project managers for two main reasons: It offers advice on how to move a team quickly through each stage, and the phases inform the leader's decision on their preferred leadership style. Do we really need to choose and modify our leadership style as a project progresses? Isn't our unique style a representation of who we are? Tuckman's concept states that as our teams go from one level to the next, they need various styles. It seems obvious that a high-performing team would enable a leader to be less involved. It also seems obvious that a new team would want strong leadership. On the pages that follow, there is a box with information on the phases and how each affects our leadership style. Understanding the differences between the phases allows us to adapt our approach to the team's requirements.

Self-governing teams are created

Teams that get to the performing stage can manage themselves in most situations. These teams are robust, effective, and desired because of their maturity. These traits are often required by self-managing teams in agile frameworks. These teams are believed to possess the abilities necessary for planning, communicating, resolving conflicts, and conquering challenges. This presumption is refuted by Tuckman's steps in actuality. Self-managing teams should be seen as a desired objective by project leaders utilizing agile frameworks, and they should be prepared to engage in team development until the team displays its maturity.

Develop your own influence and authority

As said, project managers are supposed to lead several individuals and organizations without having any formal control over them. Formal or legal authority is the term used to describe this direct control that is based on their position within the organization. Project managers must use personal power to make up for a lack of positional authority. Expert and referent authority are the two most crucial forms of personal authority for a project manager.

A person who commands respect for their knowledge and skills is said to have expert authority. Using the project management techniques outlined in this book effectively can help project directors build expert authority rapidly. Running meetings, defining scope, communicating clearly, and organizing a planning session are a few examples of tasks that, when done successfully, will gain the respect of all concerned stakeholders.

As a subject-matter expert, the project manager

A subject matter expert (SME) is a person having specialized technical knowledge. It may be a software architect with experience in a novel technology, a scientist with extensive knowledge of an endangered species, or a structural engineer with a focus on motorway bridges. When resolving a technical issue or organizing work in their area of competence, their specialized

knowledge is used. Prior to taking a leadership position, project managers often acquire specialized technical expertise during the course of their employment. However, this knowledge could impede a leader's attempts to create a unified team that is open to receiving and offering constructive criticism. When an industry veteran expresses their opinions firmly, it might be simple for less seasoned team members to refrain from saying the opposite.

Building expert and referent authority via humility

Humility mixed with assured technical knowledge is a highly attractive combination. Respect is shown to a sportsperson who gives credit to their colleagues rather than themselves. Referent authority is created by the technical expert who listens to others, shares credit with others, and exhibits polite disagreement. This leadership style is suitable for technical project managers. The respect and admiration of others is the source of referent authority. Some persons have the innate capacity to be friendly and gregarious, which helps them quickly earn referent authority. Integrity, openness in business dealings, willingness to accept responsibility for errors, and reliability will result in more long-lasting referent authority. Every stakeholder reacts to authority from experts and references. Everyone wants a project leader who has gained the trust and respect of the team, customers, suppliers, other departments, senior management, and undoubtedly other departments.

Project Leaders Need Political Savvy

Project managers must be able to sway individuals and choices that are not directly within their direct control while dealing with a variety of stakeholders. Developing this influence requires political smart abilities.Office politics almost never has a good meaning. It evokes feelings and recollections of unfair influence and judgments that seem to be based more on personal connections than on objective evidence. But politics really exist. To reject their existence is to render oneself powerless. Political awareness is a vital talent, particularly in a project environment where cross-functional stakeholders have divergent ideas and important choices are being made.

Let's hear from various authorities who have written books on political savvy on the realities of politics in organizations:

1. Politics, according to Joel DeLuca, is "leadership behind the scenes."

2. Organizational politics are "informal, unofficial, and occasionally behind-the-scenes efforts to sell ideas, influence an organization, increase power, or achieve other specific objectives," according to Rick Brandon and Marty Seldman.

These writers offer a number of considerations that every project manager should consider:

1. On sometimes, politics is the sole means through which significant work is completed.

2. Politicians may behave with good or ill intentions. It may just serve the interests of the individual (bad), or it can serve the interests of the organization.

3. Politics are real. To disregard them would be foolish. It is preferable to develop political acumen and use it to progress our goal and defend our team.

4. Political knowledge requires experience. In comparison to science, it is significantly more of an art.

Like other crucial leadership abilities, developing political acumen can be learnt and honed. Put this subject on your list of professional development topics.

Create a Network of Influence

Strong leaders are known for developing their own personal power, yet this alone is insufficient. In addition, the successful project manager will create a network of formal authority, which is exemplified by organizational structures and regulations. Two recommendations for creating a network of formal authority are as follows:

1. Assign authority to the project sponsor as a partner. A sponsor is a person who is responsible for the success of the project and has official authority over the project manager. Establish a habit of frequent communication and emphasize how the project's aims are in line with those of the sponsor. The sponsor should be proactive in fostering this connection since they require a strong project manager. When that doesn't occur, a project manager must take the initiative to approach the sponsor and start a partnership.

2. Early involvement of the decision-makers. Decision-making authority for projects originates from several sources. An excellent illustration is the procurement policy. The organization's guidelines for creating contracts and making purchases will be followed by a project that makes use of external goods and services. Simply because a project manager is charismatic does not affect these guidelines. The project manager should make an effort to comprehend the regulations before including the appropriate individuals in the project. Each group has the power to make a variety of choices. Establish an authoritative network by understanding who to include first and why.

Building these networks of authority will be greatly aided by gaining a reputation for openness and skill. The greatest method to gain the trust of these stakeholders is to apply the science of project management effectively.

You Choose To Lead

The variety of project management methods covered in this book may cause us to lose sight of the project manager's core duty, which is to guide all project participants. Through experience, it is possible to learn and master the science of project management, including estimating, change control, and status reporting. The struggle of mastering the art of leading lasts a lifetime. The project leadership in action is summed up in these concluding suggestions.

Be Purposeful

It is not a by-product of project management operations to exhibit leadership. The first step in becoming a leader is deciding to accept your position as a leader and influencer. Keep in mind that the leader sets the tone and that everyone is watching. Anyone who has been given the opportunity to head a project after being promoted from inside a team has faced the team's scrutiny as their former teammates now have higher expectations of them.

Keep the Strategic Vision in mind

The project manager keeps a consistent focus on the aim and value of the project while the team members are preoccupied with immediate issues and duties. With this constant focus, activities are completed and issues are resolved within the context of the project's overall objectives.

Motivate the Team by Setting an Example

Our behavior reveals our views and ideals. Rarely do the team's enthusiasm, attitude, and dedication surpass those of the leader. Decide to adopt the culture you want.

Make Decisions Based on Project Management Science

When assumptions are required to support decisions, project management is a collection of logical, analytical procedures. Realistic expectations and appropriate assumptions must be built on facts and unbiased data. Many undertakings have suffered significant harm as a result of wishful thinking and unwarranted confidence. Encourage all parties involved, from team members to top executives, to base choices on accurate information.

Be Courageous and Speak the Truth

The news is not always positive as we go along this path of knowledge. An optimistic business case will fall apart if assumptions are incorrect. Mistakes do occur. Nobody enjoys having to inform customers and management about productivity issues. But negative news cannot be disregarded. Taking center stage requires boldness. Utilize project management techniques to your advantage in this circumstance. Make a story from of facts and tested analytical techniques. This will be challenging and valuable. You will gain the esteem of your group and establish credibility with all parties involved. You can be a better leader if you have courage.

The necessity of putting people above procedure when managing and leading projects is emphasized by project leadership. Project leaders understand that the people working on the project are what ultimately make it successful, despite the importance of procedures and techniques. This method emphasizes that successful project leadership requires comprehending and attending to the demands, drives, and assets of various members of the project team.

Project managers that adhere to the "People before Process" attitude place a great emphasis on establishing trusting bonds and developing a friendly and cooperative team environment. They put time and effort into getting to know their team members, figuring out what they are capable of, and matching their strengths to the responsibilities of the project. Project managers may create a climate where team members feel respected, inspired, and empowered to give their all to the project by establishing a foundation of trust and respect. Effective communication is a critical component of this strategy. Project managers make sure that everyone has a voice, actively listen to their team members, and promote candid communication. They ensure that team members are informed and involved by clearly and consistently communicating project objectives, expectations, and progress. Project managers may encourage cooperation, reduce misconceptions, and take a proactive approach to any issues by encouraging open and regular communication.

Project managers also place a high priority on their team members' professional development. They provide chances for education, training, and knowledge exchange, allowing people to broaden their horizons and make more valuable contributions to the project. In order to foster a culture of learning and provide team members the freedom to take responsibility for their work, project leaders also provide direction, support, and mentoring. Project managers that prioritize people over processes understand that each member of the project team brings different skills, viewpoints, and contributions to the table. To improve project results and foster a feeling of team ownership and commitment among team members, they make use of these varied abilities. This strategy enhances cooperation, encourages invention, and generates a good team environment.

Project managers are aware that although procedures and techniques provide structure and direction, a project's success ultimately rests on the cooperation and dedication of the individuals involved. Project managers create an atmosphere where people can flourish by putting their team members' well-being, development, and engagement first. This improves project results and boosts overall project success.

CONCLUSION

Any project's success depends on effective project leadership. Technical expertise, interpersonal abilities, and the capacity to handle complicated issues are all qualities that make for effective project directors. Throughout the course of the project, they actively interact with team members, stakeholders, and customers because they recognize the value of effective communication. Strong decision-making abilities help leaders take prompt, well-informed decisions, and motivation is essential in keeping the team dedicated to meeting project objectives. Project managers may establish an atmosphere that encourages cooperation, creativity, and continual development by developing a good team culture and offering direction and support. In the end, investing in project leadership development and cultivating talented leaders may considerably improve project results and add to an organization's overall success.

REFERENCES:

[1]   S. M. J. Iqbal, U. Zaman, S. H. Siddiqui, and M. K. Imran, "Influence of transformational leadership factors on project success," *Pakistan J. Commer. Soc. Sci.*, 2019.

[2]   C. J. Behling, "Project Success in Virtual Projects: A Qualitative Study of Leadership Behaviors," *ProQuest Diss. Theses*, 2019.

[3]   N. A. Zulkiffli and A. A. Latiffi, "Review on Project Manager's Leadership Skills in the Pre-Construction Phase of Sustainable Construction Projects," *MATEC Web Conf.*, 2019, doi: 10.1051/matecconf/201926601011.

[4]   M. Podgórska and M. Pichlak, "Analysis of project managers' leadership competencies: Project success relation: what are the competencies of polish project leaders?," *Int. J. Manag. Proj. Bus.*, 2019, doi: 10.1108/IJMPB-08-2018-0149.

[5]   N. Bansal, S. Singh, and D. K. Srivastava, "Understanding Project Leadership: An Indian Context," *Bus. Perspect. Res.*, 2019, doi: 10.1177/2278533719833811.

[6]   B. Hartono, S. Sulistyo, and M. Umam, "Leadership profiles of successful project

managers in Indonesia," *J. Ind. Eng. Manag.*, 2019, doi: 10.3926/jiem.2735.

[7]   M. A. Khan, M. I. Ali, and M. Umar, "Impact of Leadership Styles on Project success: Evidence from Private Sector Firms of Construction Industry," *Glob. Manag. J. Acad. Corp. Stud.*, 2019.

[8]   Emerald, "Towards greater likelihood of project success: Leadership style and goal clarity can help," *Development and Learning in Organizations*. 2019. doi: 10.1108/DLO-02-2019-0040.

[9]   C. H. Ong and T. Bahar, "Factors influencing project management effectiveness in the Malaysian local councils," *Int. J. Manag. Proj. Bus.*, 2019, doi: 10.1108/IJMPB-09-2018-0200.

[10]   E. J. Van Rooyen, "Applying the P5 standard for sustainability: Enriching project leadership," *OR Tambo Int. Airpt.*, 2019.

FOUNDATION PRINCIPLES OF PROJECT MANAGEMENT

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ABSTRACT:

The core structure that supports effective project execution is formed by the Foundation Principles of Project Management. These guidelines include several facets of project management, such as scheduling, coordination, stakeholder involvement, and communication. To successfully lead and execute projects within scope, budget, and time, project managers must comprehend and put these ideas into practice.Project managers may efficiently plan and arrange project activities, develop open lines of communication, proactively manage risks, and include stakeholders throughout the project lifecycle by following these guidelines. The essential concepts and their importance in ensuring project success are summarized in this chapter.

KEYWORDS: *Managers, Project Management, Project Managers, Risk Management.*

INTRODUCTION

Understanding the project environment is the first step to understanding project management. This setting differs from that of a conventional organizational setting. This chapter examines the differences between managing continuous operations and managing projects, and it demonstrates how the discipline of project management has developed to solve the problems that are specific to projects. This chapter also sets the vocabulary used throughout the book, provides an overview of the project management process, and looks at the difficulties projects provide to organizations [1], [2].

Projects Require Project Management

Why is project management a distinct discipline? To respond, we must take into account that the variety of activities at every workplace may be divided into two categories: projects and continuing operations. Simply said, projects are all of the tasks that are completed just once, while continuing operations are the tasks that we do repeatedly. We'll examine each one independently to discover how they each provide a unique management difficulty.

How a Project Is Defined?

There are two universal traits that apply to all projects:

1. Every endeavor has a start and a finish. The exact start date could be hazy when a project develops from a concept. To ensure that everyone involved in the project understands what it means to be finished, the end must be clearly stated[3], [4].

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2. Each project results in a distinct product. The result may be something physical like a building or a piece of software, or it could be something intangible like new employment policies. The awareness that service delivery organizations have a lot of projects and can manage them using the same tools that have been used effectively in businesses that generate physical items is one reason for the new interest in project management.

There are projects in every industry. Here are a few instances from various industries:

1. Engineers reconfigure the dashboard controls of a car.

2. To advertise a new razor, an advertising agency creates print and television commercials.

3. Maternity ward nurse roles have been reorganized by hospital managers.

4. For ISO certification, manufacturing engineers must record their procedures.

Each of these initiatives is breaking new ground, and they will all be completed after they have achieved their objectives. Projects are distinct and transient. Also take note of the fact that although some of these initiatives result in physical items like fresh advertisements or dashboard redesigns, others like the rearrangement of nurse duties produce intangible results. Results of a project might be measurable or intangible[5], [6].

DISCUSSION

Definition of Ongoing Operations

Projects have an end, however ongoing operations don't, and they often create the same, if not identical, outputs. A company's or a department's principal goal is often ongoing operations. Let's examine a couple instances:

1. Every day, an insurance provider handles hundreds of claims.

2. A bank teller offers a few dozen specialized services to over 100 clients each day.

3. For decades, power corporations have controlled the flow of water and the electricity generated by hydroelectric dams[7], [8].

Operations that continue generate identical goods and have no clear goal. The majority of traditional management theory's attention has been given to continuing activities like those in the previous list. Experts in staffing, human resources, inventory management, accounting procedures, and initiatives for process improvement have all seen the organization as a continuous series of operations. The emphasis on managing continuing operations is still important in the twenty-first century, but these professionals today also need to be skilled at handling temporary and one-of-a-kind tasks [9], [10].

The Challenge Of Managing Projects

Unique and transient work necessitates a particular set of management skills. Projects provide a unique set of difficulties since they vary from existing operations in many ways. Here are some difficulties that project managers encounter:

1. **Employees:** Each project has unique staffing requirements. For every project, a distinct group of individuals with a varied set of skills are required. Where are these individuals from? When they are no longer required, where do they go? Running many projects at once could make these personnel issues worse. An organization could be forced to bear an untenable weight if all initiatives reach their resource peak at once. Additionally, if all of the projects were to conclude at the same time, the business could have to make layoffs.

2. **Calculating:** Organizations need precise cost and schedule estimates in order to assess possible initiatives. However, since every project is unique, estimates could include more assumptions than actual information.

3. **Possession:** Although organization charts often depict the firm's current activities, they also identify power within the organization. When initiatives span organizational boundaries, many decision-making authorities are unclear. Political scheming and a deadlock that prevents development may result from this.

The controls. According to standard accounting procedures, operational budgets and operational expenditures are matched on a quarterly or yearly basis. These deadlines, however, are insufficient to keep a project on schedule. By the time a project's overbudget status is revealed in quarterly accounting reports, it can already be too late to turn things around. The list of problems and difficulties might go on, but it should be obvious at this point that managing projects differs from managing continuing operations. It should be noted that managing projects involves a unique set of obstacles, not that maintaining continuing operations is inherently more complex.

To tackle these issues, the project management methodologies in this book have developed. Review this list of issues as you read the book to see how each is addressed by the tools and approaches you are learning. There is little doubt that current activities and initiatives interact and overlap. Operations are started or altered by projects. Projects may sometimes be found inside a current business, but sometimes it's the other way around. Both may utilize many of the same individuals and be supported via the same budgeting procedure. Both demand a broad variety of the same managerial abilities, including, but not limited to, oral and written communication, dispute resolution, motivating, accounting, and negotiation.

However, these parallels may make it difficult to distinguish between initiatives and continuous operations. Understanding their various issues is made easier by recognizing these variances. As we saw in the part before, each project has its own set of challenges that call for a distinct approach to management. To become successful leaders, project managers need to acquire these disciplines.

The Evolution Of A Discipline

Projects and project management have existed since people first cooperated to construct a shelter or grow a crop. Nevertheless, a systematic project management discipline has only recently arisen, after World War II. The United States government was involved in large weapons development initiatives both during and soon after the conflict. Most people agree that the first project to apply contemporary project management concepts was the Manhattan Project, which was responsible for the development of the first atomic weapon.

Later government programs to construct nuclear-powered submarines and warships needed so much ingenuity and invention and cost so much money that they couldn't be managed by the methods now in use. To handle these massive projects, the first modern project management techniques were developed. Today, people are still familiar with their names: program evaluation and review technique (PERT) and critical path method (CPM).

Understanding the history of project management as a discipline may help us better understand its function in the modern world. Project management was seen as a subset of technical expertise prior to World War II. For instance, John Roebling, a civil engineer who invented the use of steel cables to construct suspension bridges, conceptualized and oversaw the construction of the Brooklyn Bridge alongside his son, Washington. Roebling was a renowned civil engineer, but his accomplishments in constructing this and other bridges were at least as much a result of his managerial abilities. The Saint Peter's Basilica in Rome's architect Michelangelo also oversaw the project, which included dealing with the popes over money and other issues. It is still typical to see project management as the lead technician's proper area, regardless of whether this person is an engineer, an accountant, or a doctor, even now as it receives recognition as an independent discipline.

The U.S. government's experience with the aforementioned atomic and nuclear initiatives started to alter this belief. No one individual could have been in charge of all the technical choices for these enormous projects since there were so many different aspects to them. Coordination and communication bottlenecks started to impede development. Congress also requested an explanation for the massive sums of money going into these projects. The first official project management processes were created in this environment of constant change. Although the administrators of these initiatives were no longer expected to be the foremost authorities in their fields, professional understanding of nuclear physics or submarine warfare was still essential.

Since then, the United States government has taken the lead in creating and promoting project management methodologies, and for good reason these methodologies are still required to manage its massive military, space, and civil programs.Despite having a lengthy history, project management has only recently gained universal acceptance. At that time, it was adopted by the telecommunications sector, which was undergoing changes due to the rapid advancement of cellular phone technology, and it became a key target of information technology project improvement. The project management office (PMO) was created as a result of the rapid expansion of the emphasis on multi-project management.

In a short period of time, project management has transformed from an unacknowledged skill set to a respected profession with academic credentials. But there's still one crucial query: Is there a body of information and methods for project management that everyone can comprehend and use, regardless of their level of technical expertise? How much technical expertise is needed to run a project successfully? Could John Roebling have created the Brooklyn Bridge and then hired a non-engineering project manager to finish it?

Industry-independent project management does not apply to project managers.

Due in large part to its capacity to cross borders, project management has been more popular in recent years. Any project may benefit from using the methods presented in this book. Projects of

all sizes are becoming more effective and their outputs are increasing in quality owing to the application of sound project management techniques, from Silicon Valley to Broadway. The development of project management as a discipline has been significantly influenced by this industrial independence, however this independence does not apply to the individuals who practice the discipline.

Project managers need to be familiar with the project's purpose in addition to knowing how to function in both business and project contexts. Project managers in particular need expertise in the following three areas:

1. **Project administration:** The pure discipline that is discussed in this book is this.

2. **Management of a business:** Any effective manager, whether overseeing projects or operations, should possess the following skills: negotiation, finance, client recruitment, organizational growth, communication, and motivation.

3. **Expertise:** Almost all businesses that have created a career path for project managers start the journey with technical proficiency. The person overseeing the task has to be an expert in whatever field they are heading, whether it be accountancy, advertising, computer chips, or oil pipelines. However, the top technicians in the organization are not always necessary for project lead positions in these same career trajectories.

On small projects, project managers are more likely to participate in technical decisions, but managers still need to be aware of the work being done on huge programs. If they don't, they may be able to serve as a catalyst, encourager, cheerleader, and facilitator, but they won't be able to comprehend or take part in technical problem-solving. "Good," you may be saying. "I don't want to get into the nitty gritty." However, project managers who are ignorant about the technology they are in charge of risk losing the trust of their teams, especially those who take pride in their technical prowess.

The finest project managers naturally bring a variety of abilities to their work, and it stands to reason that the bigger the project, the more project management expertise is needed. However, even a one-person project's leader has to be able to plan tasks and interact with customers and management effectively. An example of how the project environment determines various skill needs for project managers is shown in Figure 1 using a three-axis graph.
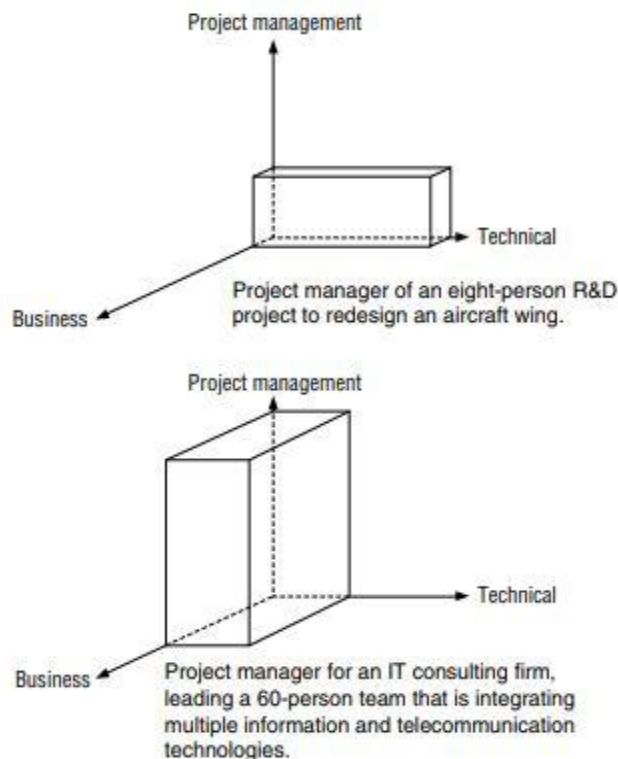
Figure 1: The project environment dictates skill requirements for project managers [scribd].

The corporations who engage in the most project management consulting are perhaps the finest source of evidence that management philosophy is transferable. These businesses succeed across all sectors by asking the right questions, not by having all the correct answers. They will help you undertake risk analyses, develop project plans, and concentrate your team on the important concerns when you bring them in at the beginning of a project. They won't be making decisions throughout this process; instead, they'll serve as a catalyst and facilitator. Because they are the ones with the technical expertise required by the particular project, the project manager will make choices with the assistance of their team. The philosophy behind project management applies to many sorts of enterprises. Project managers must possess strong technical expertise in their subject; they are not, however, independent of industry.

The Definition of Project Success

Each project is started with the intention of bringing about a significant transformation for the company. The time, money, and scope success criteria may be used to determine if the change is genuinely worthwhile.

1. **On time:** On schedule, the merchandise is delivered. If a project isn't completed on time, it is practically useless. For instance, the IT infrastructure needed to run the Olympic Games is useless if it isn't ready until after the competition is over.

2. **On a budget:** The project's costs are in line with expectations. As investments, projects that go over budget may end up costing the company more money than they generate.

3. **On range:**The project's output that the client anticipates receiving. More challenging to measure than on time or on budget is the scope objective. The client anticipates a result that will serve a function and provide the value anticipated at project inception. Requirements are used to determine scope objectives. Here are a few illustrations:

a. *Prerequisites for business:* What the product is meant to accomplish. How many passengers can the aircraft accommodate? In the hospital wing, how many operating rooms will there be? What features will be available on the website?

b. *Requirements for performance:* A gauge of how well the feature functions. For instance, contrast the audio systems of an economical automobile versus a premium sedan. Both can wirelessly connect to the audio on your phone (a function), but only one probably sounds much better.

The Cost-Schedule-Scope Equilibrium

The three main project factors are cost, time, and scope. If you alter one or more of these factors, the others will follow suit. For instance, if a project's time and financial resources are cut down, the product's potential scope will almost likely be constrained. Similar to this, it will cost more to supply the same scope in a shorter amount of time. The word "triple-constraint" is also derived from this connection. As the project manager, it is your responsibility to strike the ideal balance between costs, time, and scope.

The word "scope" has another dimension, which complicates this equilibrium even more. The above-mentioned product scope is what will be delivered. The total amount of work necessary to achieve the project's goals is the project scope. For instance, if a chandelier is part of the product scope in a lavish hotel lobby, the effort required to install the chandelier would vary based on the height of the ceiling. Depending on the height of the lobby, it can need double the effort to hang the same chandelier in one location as in another.

Meet Stakeholder Expectations of Value

Unfortunately, completing a project on schedule, under budget, and according to the agreed-upon scope does not necessarily equate to success. Due to the possibility that your concept of the cost-schedule-scope equilibrium differed from that of your boss or client. They are the last arbiters of your project, and in their perspective it may be late, over budget, or the delivered product may fall short, even if their expectations of cost and pace are unreasonable.

Although it may seem unfair, this does occur. But it is avoidable for disagreements of this kind. A strong motivation to ensure that everyone participating in the project agrees on how the cost schedule-scope equilibrium relates to the project's original objective is the realization that the success of our project is determined by how others see it. This brings us to a brand-new project manager success formula:

1. Communicate realistic expectations to all project stakeholders on the cost-schedule-scope equilibrium and link these restrictions to the business case supporting the project.

2. Control expectations all the way through the process. Make sure everyone is aware of and agrees with the new equilibrium if it changes.

3. Reevaluate the aim if it ever seems that achieving the cost-schedule scope target won't allow you to achieve the initial business goal.

4. Complete the project on schedule and within the allotted budget. A crucial project leadership opportunity is to manage this dynamic balance and the corresponding stakeholder expectations.

The Ultimate Challenge: No Damage

Project managers may be tempted to sacrifice team members in order to reach unachievable targets in an atmosphere where the emphasis is on producing a high-quality product on time and within budget. Every industry experiences it, and it always occurs because the project objectives take precedence above the requirements of the individual team members. Furthermore, this mindset isn't limited to the project team; in order to meet project objectives, suppliers and even clients are sometimes subjected to extreme hardship. However, expecting them to provide 120 percent on every endeavor is ineffective. They get weary, disheartened, and just plain furious. Meeting the project's cost, time, and scope objectives without causing harm to the people is the ultimate challenge for project managers. That indicates that the project is completed with strong morale, positive customer connections, and suppliers eager to collaborate with you on future projects.

Agile and Waterfall Development Methodologies

The life cycle of product development shown assumes that each phase of development is finished before the next one starts. The term "waterfall development life cycle" is often used to describe this sequential, linear process. While creating an apartment complex could be ideal for the waterfall method, other product development life cycles don't proceed in this manner. The introduction of agile approaches, which repeatedly repeat requirements, design, and construction, has had one of the largest impacts on software and information technology projects in the last 20 years. Regardless of the sort of development technique employed, the primary lesson remains the same: managing a project requires keeping an eye on the scope, timeline, resources, risks, and other factors.

Organizing For Projects

Some businesses only work on projects; major construction corporations match this style. Their organization is mostly focused on certain initiatives. Utilities are on the opposite end of the spectrum and focus on operations. However, most businesses carry out continual activities and initiatives. It has never been simple to develop an organizational structure that supports initiatives. After instance, how can any company design an organizational structure that will persist through the conclusion of the next project if a project only occurs once, has a certain combination of personnel, and has a specific reporting structure? Although projects may mess up organizational structures, there have been several well-known organizational reactions to the project environment throughout time.

Function-driven businesses are structured around core departments such those in charge of marketing, engineering, information systems, manufacturing, and human resources. One manager is responsible for assigning, supervising, and handling administrative duties including remuneration for the workers. Initiatives inside functional groups don't cause any organizational issues, however cross-functional authority and loyalty issues arise with cross-functional initiatives. For businesses that take on significant, protracted initiatives, project-oriented organizations are acceptable. Functional departments are found inside the project rather than within and among functional departments. Project-oriented businesses, also known as projected businesses, are willing to put up with organizational inefficiencies in order to maximize management effectiveness on each project. They may have duplicate processes across numerous projects. For instance, such companies build up a whole organization to manage every facet of each of their massive projects in the heavy construction sector.

The hybrid that emerges when cross-functional initiatives are routine are matrix organizations. By having both project managers and functional managers subordinate to the same executive, this arrangement offers them both power. Functional managers will have a say in who joins project teams and will be in charge of long-term administrative concerns. Project managers divide up work among the project team members, keep an eye on it, and coordinate it. Every employee working on a project has two supervisors, and if they work on many projects, they will have even more. This is the major issue with the matrix structure.

Project Managers Are Leaders

A collection of woodworking tools may be linked to the discipline of project management. Both have been created with particular goals in mind and, in the hands of an expert, are capable of stunning outcomes. Regardless of their title, every project requires someone to carry out project management duties. On minor projects, it may be completed in a few hours a week; on extremely big ones, it can be distributed among several individuals. However, this position cannot be only described in terms of project management's features or the toolkit that goes with it. It is also important to realize that a project manager's main duty is to inspire cooperation among all the project's participants, including the project team, management, suppliers, and clients. Every approach in this book may be necessary to bring a project to a successful completion, but none of them will suffice unless the manager wants to lead. The initiator who gives the project its lift and gets it moving is the project manager. Never forget that the skills you learn here have power because of your attitude and enthusiasm!

CONCLUSION

Project managers may use the Foundation Principles of Project Management as a framework to help them negotiate the challenges of project execution and guarantee positive results. When these concepts are put into practice, project management becomes more organized and disciplined, empowering teams to overcome obstacles, adjust to changing conditions, and produce projects that meet or exceed stakeholder expectations. Project managers that embrace the Foundation Principles are more equipped to promote efficiency, effectiveness, and quality in project delivery, thus enhancing the overall performance and long-term viability of companies.

REFERENCES:

[1]   S. Armenia, R. M. Dangelico, F. Nonino, and A. Pompei, "Sustainable project management: A conceptualization-oriented review and a framework proposal for future studies," *Sustainability (Switzerland)*. 2019. doi: 10.3390/su11092664.

[2]   A. Tereso, P. Ribeiro, G. Fernandes, I. Loureiro, and M. Ferreira, "Project Management Practices in Private Organizations," *Proj. Manag. J.*, vol. 50, no. 1, pp. 6–22, 2019, doi: 10.1177/8756972818810966.

[3]   R. Müller, N. Drouin, and S. Sankaran, "Modeling Organizational Project Management," *Proj. Manag. J.*, 2019, doi: 10.1177/8756972819847876.

[4]   S. C. M. Barbalho, J. C. De Toledo, and I. A. Da Silva, "The Effect of Stakeholders' Satisfaction and Project Management Performance on Transitions in a Project Management Office," *IEEE Access*, 2019, doi: 10.1109/ACCESS.2019.2955446.

[5]   D. Özkan and A. Mishra, "Agile Project Management Tools: A Brief Comprative View," *Cybern. Inf. Technol.*, 2019, doi: 10.2478/cait-2019-0033.

[6]   G. Silvius and R. Schipper, "Exploring responsible project management education," *Educ. Sci.*, 2019, doi: 10.3390/educsci9010002.

[7]   I. Kononenko and S. Lutsenko, "Application of the Project Management Methodology Formation's Method," *Organizacija*, 2019, doi: 10.2478/orga-2019-0018.

[8]   F. Sanchez, J. P. Micaëlli, E. Bonjour, and D. Monticolo, "The transition between traditional project management to agile project management: Using a project management maturity model," *J. Mod. Proj. Manag.*, 2019, doi: 10.19255/JMPM01906.

[9]   M. Piraveenan, "Applications of game theory in project management: A structured review and analysis," *Mathematics*. 2019. doi: 10.3390/math7090858.

[10] E. K. Owusu, A. P. C. Chan, O. M. DeGraft, E. E. Ameyaw, and O. K. Robert, "Contemporary Review of Anti-Corruption Measures in Construction Project Management," *Proj. Manag. J.*, 2019, doi: 10.1177/8756972818808983.

AGILE AND WATERFALL: CHOOSE A DEVELOPMENT PROCESS

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ABSTRACT:

For software development teams, selecting a development method is a crucial option. Two well-liked strategies, Agile and Waterfall, provide different methods for project management and software development. In order to provide guidance to teams choosing a development process, this chapter compares and contrasts the features, advantages, and drawbacks of the Agile and Waterfall techniques. While Waterfall adopts a linear and sequential methodology, it guarantees thorough documentation and clearly defined stages. It makes it simpler to forecast timelines and assign resources for projects with steady and predictable needs. Teams with less experienced members or those working on projects that must comply with regulations might also benefit from using waterfall.

KEYWORDS: Agile, Development, Project Management, Waterfall.

INTRODUCTION

"I cherish my phone," "This is a pointless report," "Paying my bills online is incredibly simple." It would be a problem to leave work to visit the clinic because of the odd hours. "The structure is stunning!" Stakeholders are speaking here. These are customers and end users, to be exact. Here is the viewpoint of a different stakeholder. There will never be enough traffic to bring in the required amount of money. Do we really have anything that is desired after all the work that goes into a project? Are the advantages of the result greater than the expense of the development? Did we achieve the anticipated value? It's never easy to reach the value objective when we develop goods and services. The construction project team must determine precisely what needs to be constructed before beginning.

That is true whether we are working on a home renovation, releasing a brand-new medication, or enhancing internet banking services. We refer to this procedure as the product development life cycle or the product development process. It starts with the discovery of the requirements and ends with turnover. A method for developing products outlines the main stages of work and how it should be done. It is not surprising that the product development life cycle for these two types of initiatives is so different as redesigning a kitchen and releasing a new medicine have virtually little in common[1], [2]. The phases of your development process will be exclusive to your sector, unlike project management, which is fundamentally the same across all industries. And as the need for innovation grows, so does the need for fresh, improved methods of product development.

This section will:

1. Reevaluate what success in a project means and bring a fresh perspective on what it means for a project to create value.

2. Illustrate the advantages for businesses of having a well-defined product development process that can be used to all of their initiatives.

3. Give a number of instances of product development life cycles and demonstrate how each one takes into account the particular traits of the industry in which it is utilized.

4. Contrast agile development techniques, which are used in software development projects, with conventional development life cycles, which have a sequential phase structure.

5. Examine techniques for quick innovation to produce goods that consumers appreciate.

A recurring issue in this chapter is the distinction and complementarity between project management and product development processes. The capacity of project managers to choose the product development phases that are most appropriate for their projects increases when they are aware of this difference[3], [4].

A New Lens For Judging Projects Informs The Development Process In Defining Value:

The most common definition of a successful project is one that adheres to the specifications, the budget, and the timeline. The most crucial goal will be missed if the product's specification is incorrect or the business context changes throughout development—it won't be beneficial to the stakeholders who paid for it or must use it. The finest project managers are accountable for generating company value, thus it is beneficial to provide a fresh viewpoint while assessing a project [5], [6].

Viable, Feasible, and Desirable: The IDEO Framework

Design Company IDEO has gained notoriety for its role in innovation. In order to promote organizational cultures and practices that encourage creativity and innovation, IDEO consultants collaborate with businesses in every industry. Their three criteria for evaluating prospective solutions form a distinctive paradigm [7], [8].

1. Feasibility. The answer is technically workable.

2. Desirability. There is a demand for this remedy. People want it.

3. Viability. The remedy may be provided via a long-term company strategy.

This paradigm may be used for any project, including ones that don't claim to be new, and is astonishingly simple to comprehend. The standard cost-schedule scope measurements are not in contradiction with the IDEO variables; they are just seen from a different angle. These three factors are very helpful when assessing potential projects.

Choose a Product Development Process That Delivers Value

The toolkit for project management is extensive and diverse, with many different techniques and procedures. However, this toolkit cannot yet provide a guarantee that the product we are developing is the right one and is being constructed properly. A product development process,

usually referred to as a methodology or a framework for product development, is responsible for carrying out that task[9], [10].

What Is the Process of Product Development?

A product development process lays out the general flow as well as specific tasks for the work that needs to be done at both a macro and micro level. That includes precise procedures for choosing the best product or service to create and ways to make sure it is done so accurately and quickly. The fact that a development process is unique to the kind of work being done and the product or service being generated should come as no surprise.

DISCUSSION

When comparing these two linear processes, the following parallels emerge:

1. There is a movement from doubt to certainty at each successive step.

2. A specific component of development is addressed at each stage of the process. In reality, the nature of the work within each phase may vary significantly, but it is often focused on resolving a particular set of issues, isolating or eliminating certain unknowns, reaching important conclusions, and producing deliverables that might be utilized as inputs in following phases.

3. Phases and explicit Go/No-Go decision points are commonly included in development processes. These decision points, also known as phase gates, have two functions: first, they assess the level of work produced during the phase; second, they analyze the business case, or value equation, in light of the fresh data that was gathered during the phase.

The life cycle of developing a medicine differs significantly from that of building a capital structure since a development process takes into account the particular difficulties a certain product faces.

1. The pricey expense of research & development as well as the high cost of guaranteeing the product is efficient and safe are both evident in the new pharmaceutical product. The U.S. Food and Drug Administration's three trial phases serve as an example of how a development process may be standardized within an industry.

2. Despite containing the bulk of the costs, the actual building phase of the capital construction life cycle is just one. Design is a major area of investment for capital projects. When compared to the expense of revision after real construction has started, the cost of changing a design while it is still in the design phase is small.

Read How Fast to Learn More About the Cost of Rework.The section "Stellar Performer: Seattle Mariners Baseball Park" near the conclusion of Chapter 13 details how monitoring a Major League Baseball stadium raised expenditures by 25%. Also note that the owner's viewpoint is emphasized throughout this development process. Each step and set of deliverables for architects and contractors is tailored to lowering risk or raising individual performance.

The Advantages of Consistent Development

A well defined development process emphasizes doing the appropriate tasks on each project in the correct order. A completion checklist for each step may be used to incorporate the knowledge gained from earlier initiatives. It is possible to create standard work specifications and deliverable samples to ensure that each project team does the task at least as well as the one before it. The capital development life cycle creates a standard perspective for the organization to use when evaluating any capital project, which serves as the foundation for ongoing development. They may examine the life cycle for a common source of the problem if the same issue arises across many projects. A standard WBS for each stage of a project is often included in a development process. This standard set of activities facilitates planning and guarantees that every project, especially those that deal with quality assurance, has all it needs.

Calculating the Advantages of a Standardized Development Method.

When all projects have the same phases and tasks, gathering real cost and schedule performance information by phase and task is simpler and more useful. Future project estimation is facilitated and improved by actual performance data from completed projects.

Feasibility, Viability, and Desirability Are Addressed in a Development Process

The three IDEO solution assessment standards provide fresh perspective on the creative process. Because this is the biggest uncertainty, the drug development process concentrates on feasibility at the early research stage. To find the chemical molecules that could potentially produce a medicine, several tests are conducted. The main concern when developing a new medicine is its viability, just as it is when creating any new products where innovation and discovery are essential elements.

In contrast, the creation of capital projects doesn't actually raise any technical feasibility concerns. On corporate and academic campuses, the majority of structures don't push the limits of constructability. The capital project stages, on the other hand, concentrate on striking a balance between desirability what consumers want and viability what the organization can afford. This equilibrium is further improved with each step. The lengthy design process emphasizes how crucial it is to get the design right while it's on paper and modifications are still reasonably priced.

A Product Development Process Integrates Best Practices For Capturing Requirements

Stakeholder expectations for attractiveness and viability are met by successful initiatives. That may be simple to say, but stakeholders often struggle to express their needs clearly, resulting in requirements and specifications that have no practical value. The optimum method for determining needs will vary by industry. Understanding how the tenants want to utilize the new facility is a key component of the Capital Projects example from the beginning. In the first stages of the product development process, the appropriate questions and accepted techniques for gathering customer needs may be discovered. The techniques for collecting requirements are a crucial part of the development process in any business where goods are created for particular customers.

It gets more difficult to distinguish needs as a product's client base expands. How can a car manufacturer, for instance, actually know what will sell? Without a procedure to record the

"voice of the customer," often known as VoC, delivering an innovative design becomes quite dangerous. Projects working on software and information systems are approaching the requirements conundrum quite differently. These initiatives embrace the uncertainty and quickly generate tiny portions of the solution since it may be so difficult to establish needs with precision. This gives their clients a concrete product to assess. Agile is a term used to describe this iterative method, which we will explore in more depth later in this chapter. The more accurately a project team can identify the requirements, the more likely it is that the final product will provide the value that the project's users and other stakeholders had in mind when they started it.

Project Management is not a Development Process

A development process and project management have a close link, but it's important to recognize that they are two distinct but complimentary processes. The work's definition and proper execution are described in the development process. The focus of project management is on collaboration and communication to ensure effective task performance. A project may be a part of one or more development life cycles. This procedure, which may take 10 to 15 years, could include hundreds of separate projects, each of which adheres to the Define, Plan, Execute, Close project management life cycle that was described in Chapter 3. The Capital Projects Life Cycle stages are managed in the same way. Every step of lengthy development life cycles is often managed as at least one project.

It could be simpler to start with project management for businesses that lack both a defined development process and reliable project management. When the Software Engineering Institute (SEI) at Carnegie Mellon University published its initial Capability Maturity Model (CMM) for software projects more than 25 years ago, it came to that conclusion. In that paradigm, SEI suggested that software development shops prioritize being able to reliably plan and manage their work. After that capacity was established, creating a development procedure was the next step. Even though SEI has since made modifications to the CMM and other models, they haven't wavered from their stance that reliable project management is the cornerstone of any development process.

Agile Or Waterfall: Which Brings In The Best Value?

We've established in this chapter that a development process is a description of the stages involved in creating anything, from the original idea to the final product delivered to the consumers. We are now better equipped to handle the two very divergent product development methodologies, waterfall and agile. In the world of software development, the contrast between waterfall and agile initially became apparent. But as we'll see, there are certain things that any project manager can take away from this. Which development strategy offers the highest value is the most crucial factor to consider when we compare these two approaches. What if we asked, "Which approach provides the most useful product, in the shortest time, for the least cost?" instead of the original query?

Waterfall Is a Predictive Development Approach

There were few individuals working on designing software for business systems in the 1960s, and there was no consensus on the most effective strategy. By the 1980s, many large-scale information systems departments had a formal system development life cycle, or SDLC. By the 1970s, common strategies had begun to emerge. There were as many variations as there were consulting companies pushing them, but they all followed a similar pattern of stages to the facilities life cycle that was covered previously in this chapter. Figure 1 depicts an SDLC in a typical way.
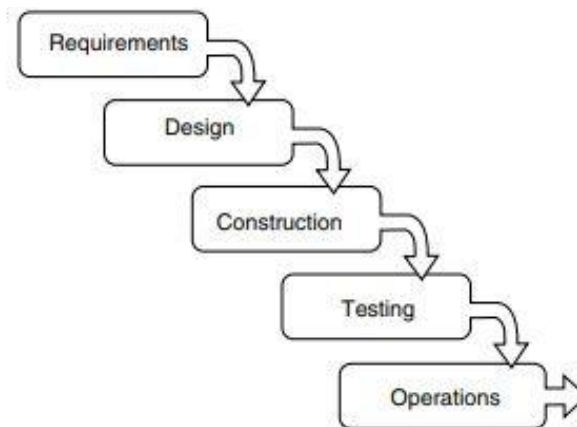

Figure 1: System development life cycle (SDLC) portrayed as a waterfall [scribd].

In order to underline that this is a one-way process, the word waterfall emerged: The criteria are acquired, and the design is then built on them. On the basis of the design, the system is designed and data bases are built. The stages of growth are carried out sequentially and without repetition, much as how water falls downhill due to gravity. Similar to how we build a home, this sequential method is justified by the same logic: The building must be planned before the foundation can be constructed, and so on.

The Project Management Institute (PMI®) has been using the word "predictive" to describe this sequential technique since 2013. In this context, "predictive" denotes the early in the life cycle that a good understanding of the project's scope may be reached, allowing the project team to create a plan and budget that is very reliable. Unfortunately, many information systems projects that used this development method discovered that unless they had clear objectives and a strong design, they were unable to correctly calculate scope or estimate cost.

On the one hand, it makes logical that we should plan the system building phase after obtaining requirements and a design. However, the overall budget for a sophisticated information systems project may already be 40 to 50 percent spent before the design is finished.

Even still, information systems projects often have inaccurate construction phase estimates. As a consequence, this waterfall, predictive technique isn't actually that excellent at forecasting project cost and time. This is one of the main shortcomings of the waterfall life cycle that drove software engineers to support other methods that came to be known as agile.

Agile Methodologies Are Iterative

It was sometimes difficult to properly comprehend the system requirements during the early requirements phase for individuals who used the predictive waterfall method. Customers and users often had trouble picturing just how they anticipated a future system to function. Contrarily, agile frameworks acknowledge this problem as a normal component of producing anything new. The agile methodology starts with a high-level objective for a system or software product, then builds it piece by piece while modifying the requirements along the way. Iterations are the stages in a piece's development.For many different sorts of items, incremental delivery is not feasible.

A building team might begin with the broad objective of a family shelter with electricity and plumbing and then allow a construction team to build for 30 days if new residential development is delivered incrementally. The family would relocate to whatever shelter was built after 30 days. The building crew would then have a further 30 days to extend the shelter. The family would pay for and utilize whatever was constructed if they liked it.

The new addition would be taken down and the building crew would try again if they didn't like it. The family's home will become bigger and more comfortable month after month. This illustration demonstrates that iterative, incremental delivery is not a typical method for house building.

Other goods may not work well with this strategy, in our opinion. However, software may be released in pieces. After establishing the idea of incremental delivery, we can go more deeply into the advantages and methods of agile development.

Common Agile Practices

People whose projects have historically employed predictable, linear development procedures may find agile to be entirely unrealistic. The significant advantages of agile will become clear when we take a deeper look at key presumptions and practices, which will also enable us to identify applications outside of software projects. A typical representation of agile's iterative patterns is shown in Figure 2.
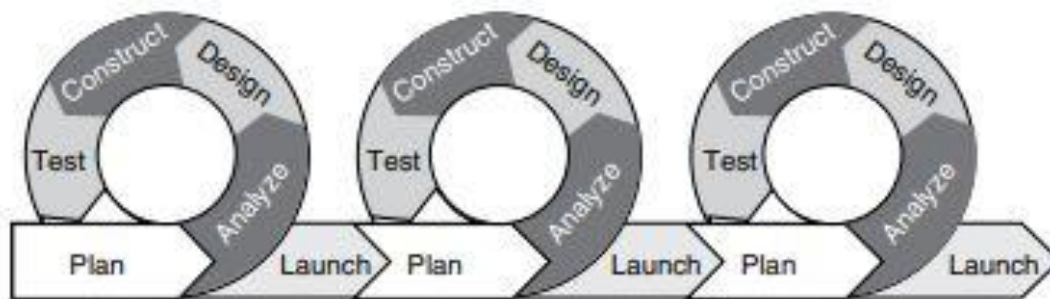

Figure 2: Iterative patterns within agile [scribd].

Requirements Are Prioritized into a Product Backlog

When a project begins, the overall product is high-level stated, and the primary components are broken down into a list called a product backlog. This is a crucial feature of agile development frameworks. For instance, after an hour of brainstorming, the key components of the Palermo Plant Pizza website were constructed. The Palermo family then decided which elements to include on the website as each iteration started. A prioritized product backlog was made by listing the remaining features in order of importance.

They may have further suggestions for the website's improvement after four revisions, but they are less crucial, therefore they weren't included. The Palermos may add additional content to the website in the future after the restaurant is profitable, such comprehensive nutritional data for each menu item. Only during the iteration that is centered on a particular feature are the specific requirements for that feature evaluated in detail. As a consequence, minimal attention is devoted to keeping up with specific needs.

Each Iteration Is Structured

Every iteration follows a set pattern, which gives the development team more structure. An iteration may be structured in a variety of ways.

All iteration methods share the following actions.

1. The client chooses the most crucial feature as the iteration's objective at the beginning of the process.

2. The team concentrates on achieving the specified functionality and creates a usable product for the client.

3. The team meets daily during the iteration to plan and organize their tasks.

4. The team evaluates its own performance at the conclusion of the iteration, praising its successes and looking for areas for development.

5. The client evaluates the product at the conclusion of the iteration and may choose to accept or reject it. If it is rejected, such feature can still be the focus of the next revision.

Most often, these iterations last one to four weeks.

Every iteration results in a valuable product

Producing a functioning component of the solution is the aim of each iteration. For instance, after the initial iteration, the Palermo Plant Pizza website started producing results. Customers might use search engines to discover the website. Every succeeding version increased the website's capabilities, and their clients valued that functionality.Not every agile project will deliver over portions of a finished functional product to the end user at every iteration. A complicated product like an aircraft wing could go through many revisions with the wing design as the primary emphasis. One design iteration could result in a certain choice. A corporation won't distribute a video game to its clients in stages if it is developing it. But a functioning game will gain a feature with each iteration. This implies that each increment must be properly checked before being added, and that a test of the whole game is performed after each increase.

Customer Interaction Is Systematic and Frequent

In order to create items that consumers want, we must pay careful attention to their feedback. The customer's voice is included into iterations' structure in a variety of ways.

1. The product backlog belongs to the client. They prioritize the backlog along with the team and go through it again at the start of each iteration.

2. During an iteration, customers are anticipated to be accessible to respond to queries.

3. As part of the iteration closing, the team provides the client with the iteration's results. The following iteration is influenced by their comments on each item that is produced.

The general direction of the product being developed is strongly influenced by the client, even if iteration results are still subject to course correction. Customers adjust their own expectations about their commitment to the development effort as a result of the structure of customer interaction throughout each iteration, which has a significant cultural impact.

Common Abilities of Agile

Due to several unique advantages, agile has quickly gained favor for software and information system projects. These advantages are available outside of software projects as well.

Iteration Reveals the Right Solution

Homeowners thinking about remodeling their kitchen or bathroom often go to showrooms that provide stunning examples of modern kitchens and bathrooms that include the newest items. Homeowners may really see what they could have in their own home by visiting a showroom. Showrooms provide customers concrete representations of what to anticipate, enabling homeowners and renovation contractors to be extremely explicit about what will be constructed. Agile iterations may do the same thing. The development team may utilize iterations to design one functional element of the system rather than asking a client to picture the full future information system. This solves the problem of the customer who can't explain what they want but says, "I'll know it when I see it."

It's crucial to understand that a consumer could utterly reject an iteration's results. However, they need to be clearer about what they really want. The outcome of the next iteration should be significantly closer to the ideal product. The knowledge of the client and team on the ideal solution to the issue is gradually improved via iterations. Each iteration increases the team's and the client's trust in the emerging solution. When they are finished, it's doubtful that they will discover that they significantly missed the aim.

Iteration Delivers Value Faster

When a product is released progressively and each installment may be utilized, the advantage is seen sooner by the consumer. This is a significant distinction between agile and predictive software development methods. A project's first few months might be used using a predictive development method to record requirements or create a solution. A fraction of the ultimate solution would already be operational on an agile project, according to the team.This advantage is shown on the webpage for Palermo Plant Pizza. With the first iteration, they started to attract

clients! Customers get more enthusiastic and inventive about what may be produced next as they see the outcomes of fast iterations, which is a related advantage. "I'll know it when I see it," is changed to "Let's try something out!"

Iteration Reduces Scope

Customers and users are incentivized to increase scope during the requirements phase, a common critique of a predictive method. Why? Because criteria will be used to determine the budget. New concepts or modifications might be rejected and will be subject to change control. As a consequence, lower priority needs are included into the baseline of requirements, increasing the amount of design, development, and testing work.

When a team produces a solution in stages, they start with the most crucial components. The consumer chooses which element will be constructed next before each iteration. The customer can see how their solution is developing and functioning since every new component of it genuinely functions (much like every new snowball on the fort). And when it performs adequately, the client can see. The final delivered product is thus probably less useful and hence less priced.

Selecting Between Waterfall Development and Agile

In this part, we compared the value produced by agile and waterfall methods. We went through some of agile's most well-known advantages. Let's now examine further elements that may affect the choice of a development strategy. We'll continue to compare and contrast software and construction projects as we go since they both provide extreme instances of project characteristics.

Incremental Delivery is supported by Product Architecture

The website and the examples above of house development clearly demonstrated the idea and difficulty of incremental delivery. It is possible to design, create, test, and release software in stages. If it couldn't, incremental, iterative delivery wouldn't make any more sense than it does for home building. If you don't work on software projects, it could be tough for you to envisage incremental delivery, but it's worth thinking about what you're producing and determining if it might be divided into smaller chunks and provided in stages to get the advantages of early customer input and early value. Here's an illustration:

A developing company's training manager was given the assignment of creating an extensive management training curriculum. She had planned on a year of growth after comparing similar programs at other organizations, then a huge launch led by the CEO as the first set of thirty managers started the evolution of seminars and mentoring sessions. After seeing an agile presentation, she understood that she could likely deliver the program's initial component in two months, and then on to release new components every two months.

The Members of the Development Team Remain Stable

Agile places a strong emphasis on the value of having a reliable cross-functional team that can stick with the project through all iterations. This consistency provides a lot of benefits for team management that are related to cooperation. It also makes resource forecasting easier, which is a

significant benefit for project management. You are aware of the resource plan when a ten-person software team is allocated to a ten-month project. Therefore, in order to have the correct individuals participating at the right moment, the project manager does not need to be aware of the team's month-to-month work schedule.

For organizations with several projects, like the majority of information technology departments, this value is amplified. There is a backlog of projects as well as a backlog of products for projects. After many iterations, a high-functioning team is still together and is able to focus on other tasks. In comparison, a 10-month home building project would need for a wide range of specialized skill sets, including those of plumbers, electricians, painters, tile installers, and so forth. The need to plan each of these many resources, all of which must participate in a certain order, makes it imperative to have a comprehensive predictive calendar in place.

CONCLUSION

Software development approaches such as Agile and Waterfall may be chosen depending on the needs of the project, the size of the team, and organizational culture. Agile is renowned for its flexible and iterative character, which enables teams to adjust to shifting needs and provide incremental outcomes. It encourages teamwork, consumer participation, and quick feedback loops, which raises customer satisfaction. Agile, however, need knowledgeable team members and regular communication, which may be difficult for big or far scattered teams. However, because to Waterfall's rigidity, it may be challenging to incorporate changes throughout the development process, which might cause delays or cost overruns. The decision between Agile and Waterfall should ultimately be made after a careful analysis of the project's features and team dynamics. To maximize the benefits of each methodology, hybrid techniques that integrate components of both may be taken into account. The secret to maximizing the odds of successful software development is to connect the selected development process with the project objectives, team competencies, and the organization's overall strategy.

REFERENCES:

[1]   B.-A. Andrei, A.-C. Casu-Pop, S.-C. Gheorghe, and C.-A. Boiangiu, "A study on using waterfall and agile methods in software project management," *J. Inf. Syst. Oper. Manag.*, 2019.

[2]   A. A. Bogdan, C. C.-P. Andrei, C. G. Sorin, and A. B. Costin, "A study on using waterfall and agile methods in software project management," *J. Inf. Syst. Oper. Manag.*, 2019.

[3]   B. T. Ramamoorthy and P. Mayilvahanan, "Comparative study on agile scrum over traditional waterfall lifecycle projects," *J. Adv. Res. Dyn. Control Syst.*, 2019.

[4]   D. Ahmed Refaat Mohamed and N. Ramadan Darwish, "Extracting CRM Requirements-Waterfall or Agile: A Comparative Study," ‖ *Int. Res. J. Adv. Eng. Sci.*, 2019.

[5]   S. Haworth, "Waterfall vs Agile: ¿Cuál Metodología Debes Utilizar Para tu Proyecto?," *Https://Thedigitalprojectmanager.Com/*, 2019.

[6]   A. Grotta, E. Parada, and V. Prado, "Project Management Approaches And Methods To Computer Programming Education Via Project-Based Learning: A Systematic Literature

Review," *Immersive Virtual Int. Conf.*, 2019.

[7]   S. Pradhan and V. Nanniyur, "Back to Basics - Redefining Quality Measurement for Hybrid Software Development Organizations," in *Proceedings - International Symposium on Software Reliability Engineering, ISSRE*, 2019. doi: 10.1109/ISSRE.2019.00047.

[8]   S. Atawneh, "The analysis of current state of agile software development," *J. Theor. Appl. Inf. Technol.*, 2019.

[9]   G. Krishna, "Utilization of Agile Management in Construction Industry," *Int. J. Eng. Sci. Comput.*, 2019.

[10]   S. Pradhan, V. Nanniyur, P. Melanahalli, M. Palla, and S. Chulani, "Quality Metrics for Hybrid Software Development Organizations - A Case Study," in *Proceedings - Companion of the 19th IEEE International Conference on Software Quality, Reliability and Security, QRS-C 2019*, 2019. doi: 10.1109/QRS-C.2019.00097.

PROJECT INITIATION: TURN A PROBLEM OR OPPORTUNITY INTO A BUSINESS CASE

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ABSTRACT:

In the project management process, the project start phase is crucial because it creates the conditions for a successful project execution. It entails creating a thorough project plan as well as identifying the project's goals, stakeholders, and resources. This chapter offers a succinct summary of project commencement, emphasizing its significance in setting the project's clear course and coordinating stakeholders' expectations. Project managers may create a solid basis for the project's eventual success by concentrating on the crucial aspects of project initiation, such as setting project objectives, identifying key stakeholders, and developing a roadmap. The importance of project beginning and its part in lowering risks, allocating resources optimally, and encouraging productive project cooperation are also highlighted.

KEYWORDS: *Business, Management, Project Initiation, Stakeholders.*

INTRODUCTION

The first choice to go on with the project is the answer. Depending on the details of the project, this choice starts the execution process in action and sets off a series of events that may last for years. In light of this, it would be logical for every decision to start a project to be preceded by a detailed review of the potential advantages, disadvantages, resource needs, strategy alignment, and several other elements related to the project. A project business case, often known as a project rationale, proposal, or another similar phrase, is the primary output of the project start phase[1], [2]. This chapter focuses on the significance of the project initiation process, emphasizing that starting a new project requires rigorous, focused study and that all projects regardless of their value must be seen in the context of the organization's existing initiatives and plans. We will analyze the skills and approaches needed during project initiation, put project initiation in the perspective of the full project life cycle, and provide recommendations on how to transform a challenge or an opportunity into a project business case. The Logical Framework Approach, a potent method that has been used successfully on significant projects all over the globe but has just lately entered corporate decision-making processes, is also introduced in this chapter[3], [4].

The Stage of Project Initiation in the Project Life Cycle

The procedures and activities leading up to the choice to undertake a project are beyond the usual purview of project management, despite the fact that this decision is of utmost importance.

When we evaluate who really carries out the initiation task, the explanation for this becomes clear. In this chapter, we examine project initiation from the viewpoint of the owner, or sponsoring organization—the body that will finance the endeavor and reap its rewards. Another reason that project initiation and project management are distinct is that the project owner could not be accountable for project execution. The construction of an apartment complex by a real estate development business that engages a general contractor or the implementation of a customer relationship management (CRM) system by the marketing department's information technology department are two famous instances. The feasibility study that comes before project authorization and execution is the joint responsibility of the marketing division and the real estate development firm. What value will the project provide? The solution is discovered during the project beginning processes [5], [6].

A Complete Project or a Mini-Analysis Phase

Project initiation is the labor necessary to research a challenge or opportunity. The outcome can be a suggestion to start a project. It may also be decided that the issue or opportunity under consideration simply does not warrant further action[7], [8]. Often, this analytical effort starts out casually. A management may assign someone to "see what we can do about that" because of a persistent issue. Or it may be a suggestion for a novel product that would open up new markets, broaden existing ones, or save expenses. Anywhere, including trade exhibitions, publications read, comments made by staff members, and listening to customers, might provide fresh ideas. Once we realize that initiation occurs informally, it is simple to see why occasionally the necessary rigor is not used. Because of this, it's critical to establish precise project approval criteria. Whatever the project's initial haziness or ambiguity, a rigorous analysis will eventually be conducted on it[9], [10].

A Project Manager's Part In Project Initiation

What does a project manager do during initiation if it takes place before a project is officially authorized? There are three options: oversee the project's beginning phase, carry out the analysis, or just assess the business case that results once the project is accepted. The analysis might include a sizable and complicated amount of labor, necessitating the abilities of a project manager to manage the people and work as in any project. People who are proficient in project management may also be able to handle the task of beginning. That work includes stakeholder analysis, issue resolution, root cause analysis, creative creation of prospective solutions, and cost-benefit analysis, as we'll see in this chapter. The knowledge and methods needed for this job are beyond the typical purview of project management. It is feasible for one individual to be able to oversee the initiation work as well as carry out that job since both skills are very complimentary to project management.

It's also conceivable that the project manager who is eventually in charge of overseeing a project that has been authorized was not involved in the project's beginning at all. In actuality, this is often the case. Whoever will be responsible for funding the project may designate an individual or group to gather needs and create a business case. For instance, business analysts are often the ones who carry out the task inside an information technology company. But there might be a danger with this handoff. Will the project manager really comprehend the targeted business

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value the project is to provide? The better a project manager is able to manage the project to fulfill the business case in any of the aforementioned situations, at the very least, is his or her ability to comprehend all of the findings of the analysis carried out during commencement. The issues in this chapter may not fall within your direct purview as a project manager, but they will improve your overall impact on your initiatives and your company.

DISCUSSION

Initiative and Project Portfolio Management are Related

A business case is created at project start and serves as the foundation for the project evaluation. Each business case delivers consistent data if a company has a portfolio management process in place, and all possible projects are compared to one another. Project portfolio management makes ensuring that an organization's limited resources are allocated to the projects that provide the greatest outcomes, whether those results are determined just in terms of money or in other, less tangible ways. We'll see how business case material mirrors portfolio selection criteria when we look at the typical content of a project business case later in this chapter.

A business case determines the potential value of a business.

Benefits are the reason projects are authorized. These advantages are described in the business case in comparison to the associated costs. Therefore, a good business case outlines the main justification for a possible project, balances estimated costs and expenditures, and starts to describe the future state that would be attained if the project is carried out. It is helpful to think about the three factors that the design company IDEO advocates and that were presented in Chapter 4 to determine if a project is worthwhile: attractiveness, viability, and feasibility. These are crucial for assessing a commercial product, but they also serve as a basic framework for assessing all future projects.

1. Wantworthiness: Will prospective consumers find the features we want to give compelling? How much can we reasonably anticipate these users will pay if we want to make money from them? If public bodies are thinking about initiatives, from bike lanes to tolled motorways, they must take this element into account.

2. Viability: How much return on investment is required? Viability assesses the lifetime cost vs the lifetime benefit in addition to the implementation cost. Development on the front end, operational expenses and revenues, and the costs of decommissioning as it approaches the end of its life are all included in lifetime costs and benefits.

3. Feasibility: Technically, is this possible? What technological hazards will there be during the course of a solution?

These issues are explored throughout the initiation phase, and the business case that can be found at the conclusion of this chapter provides a summary of the solutions.

Project Risk And Business Risk

Making assumptions and predictions is necessary when creating a business case, but they might all be inaccurate. A real estate investor invests in a brand-new apartment building and starts construction 12 months before the first tenant moves in. Additionally, the project won't become

profitable for years of rental revenue. Will there be enough demand for these units in the future to sustain high occupancy?

These inquiries deal with business risk, or the risk an owner takes on while funding an enterprise. Project risk is distinct from business risk. Delivering the stated deliverables for projected cost and time is the main worry of project risk. The project risk was effectively handled if the apartment complex is constructed appropriately, is delivered on schedule, and is under budget. Throughout the duration of the apartment complex, the business risk will continue to exist. The project manager is not responsible for managing business risk.

Tracking Benefits Starting with the Business Case, realization occurs

For the majority of initiatives, the advantages they provide won't be felt until the project is over and the change is operationalized. Before the value of the project investment is realized, the project may be terminated and the project team may be split apart. Due to this, no matter how much we research a project before we start it, the outcome is never quantified, which leads to a frequent issue. When that occurs, the legitimacy of the project approval process is compromised since we are unable to determine if the expected cost savings or improvements in market share really occur. A project management office (PMO) executive at a hospital identified one reason benefits monitoring failed as "We have a hard time assessing the effect of an individual project. We can't always draw a direct connection from our surroundings to the project since there are so many factors involved. She said that the hospital monitored a wide range of significant metrics and that initiatives were started and coordinated in accordance with these guiding criteria. However, strategic metrics are often trailing indicators, which means that they are the outcome of several causes.

Drilling down to the underlying cause to discover the driving metrics should be done at the start phase. Addressing the fundamental cause will be the project's objective. That suggests that observing the change that takes place to the core cause should be the main focus of benefit realization monitoring. Because changes here affect the strategic metric, a measure connected to a root cause is frequently referred to as a leading metric. Monitoring the real benefits of initiatives is becoming more and more important to businesses. A business case's content should specify exactly what will be measured, when, and how. Include a proposal for the entity that should be in charge of keeping track of the advantages as the project team may disperse before the outcomes are realized.

Requirements engineering also covers the capability of delving into a process to provide quantifiable benefit measures. It is important to remember that expressing business requirements requires talent. The people who want to see a change often have a vision of what they want, but they are unable to articulate it in a manner that encourages the most effective method of problem-solving. This ability is contributed by business analysts to IT initiatives. They broaden the range of potential solutions by assisting stakeholders in identifying what they genuinely want to achieve via their facilitation abilities. This knowledge is connected to a suggested practice that is discussed later in this chapter: Identify the issue before offering a remedy.

Requirements and Metrics are connected by the Logical Framework Approach.

It should be obvious that tying a project's strategic objectives to a particular quantifiable result makes the business case more rigorous. The Logical Framework Approach is a technique for doing this. An introduction to this method, written by Terry Schmidt, who was a member of the group that invented it more than 30 years ago, is included at the conclusion of this chapter. Include a logical framework in each business case you create.

Project Initiation Common Principles

Will a carmaker utilize the same procedure that a marketing department employs to evaluate the inclusion of a CRM system to contemplate launching an electric sports car? The same way a university assesses the addition of a wholly online degree program, does a real estate developer examine the viability of a new retail mall? There is little doubt that they are all quite distinct prospective project kinds, and the appropriate analysis for each one differs. The most intricate and time-consuming review is needed for the most complicated items. The automobile and significant real estate developers both have complex processes and hordes of experts who have been educated to do meticulous examination. In many businesses, it is just not feasible or acceptable to do that. But it doesn't imply that before starting a project, any project can't implement certain generally acknowledged best practices. The following guidelines for project beginning are shown in Figure 1:
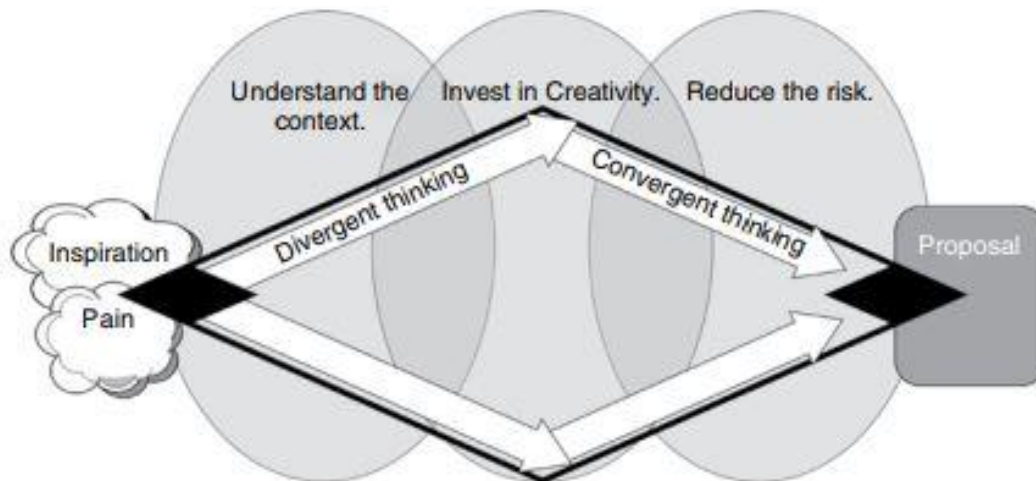
Figure 1: Project initiation begins with divergent thinking to expand our understanding of the project before attempting to choose a solution [scribd].

1. Recognize the context of the problem from the viewpoints of all parties involved.

2. Spend money on creativity. The best chance to attack the problem with novel, innovative ideas is via initiative.

3. Examine the possibilities and test hypotheses methodically. This phase's risk detection reaps enormous rewards.

The astute company may extrapolate from the rules that come next and apply them to their initiatives.

Engage a Diverse Range of Stakeholders

All parties involved in or impacted by the project are considered stakeholders. As we'll see in Chapter 6, effective project managers make an investment in early stakeholder identification as the first step in comprehending a new project.

Stakeholder participation is even more critical and challenging during project initiation—more critical since this is when we establish the project's objectives and direction, and more challenging because there will be a larger pool of prospective stakeholders at this early stage. As a roadmap for your own initiatives to include and engage the appropriate stakeholders, consider the following viewpoints:

1. Consider the issue or opportunity from everyone who will be impacted by it. When developing a new aircraft, an aviation maker must take the maintenance personnel, pilots, and passengers into account. Consider all the individuals who will interact with the product throughout the course of its entire life cycle. What are their apprehensions or aspirations in relation to the issue or chance?

2. Both supporters of the status quo and those who want change could exist. Why? What is at risk for each if a change is made (or not made)?

3. There are many stakeholders in federal, state, and local government entities. The situation is constrained by laws and regulations. For instance, zoning regulations limit how real land may be used by defining the kinds of structures and activities that are permitted.

4. On all types of projects, integration with current systems is a problem. A secure payment processor will be integrated with an e-commerce website. The tanker aircraft that delivers the gasoline must be taken into account by a military fighter jet that has to refuel while in flight. An updated mobile app has to be compatible with the phone's operating system.

From this vantage point, it would seem that there is an endless list of stakeholders and that locating them all will take a very long time. The idea is not to do that. But it just serves to highlight how difficult and often specialized the analysis required to create a project business case is. The basic message is that needs and restrictions will become apparent through paying attention to stakeholders. These can be managed more affordably the sooner they are revealed. We'll see that include as many stakeholders as possible at initiation is simply the start of providing value to stakeholders.

Clarify the Problem before Proposing a Solution

Before we come up with brilliant solutions to a problem, it seems quite apparent that we should agree on what the issue is, yet failing to do so is a common error. A frequent source of dissatisfaction is the failure to identify the issue, especially because it is often found after the project is finished. Describe it as human nature. Encourage it by praising it for being incisive and practical. Put it into action because "that's what the customer asked for." However, acting without first defining the issue is usually a mistake. This idea underpins all sensible approaches

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to problem-solving or product creation. The gap between the actual state and the desired state, also known as the issue or gap analysis, should be defined. The perfect situation would instead be the talent we want but do not already possess. The connection to enterprise needs that was mentioned before in this chapter is made through this. The ideal future condition is when business criteria are met. This is what the requirements part of the Project Business Case template that may be downloaded expressly asks for.

What the company or client will be able to perform as a consequence of the project's successful completion should be described as the major success criterion. Because they don't actually solve the main business or functional requirement that the customer had, many finished projects disappoint the client. Because business needs can hide below the surface, behind the signs of a problem or the customer's perspective of the best course of action, it requires talent to identify and catalog them. Keep in mind that these specifications will be expanded upon in later project stages. This element becomes even more significant in areas where there is a pressing demand for innovation. By training ourselves to concentrate on clearly describing the issue, we widen the spectrum of potential solutions. We have the ability to go beyond the first, seemingly apparent answer and consider all viable options for achieving our objective. The "ideal state" requirements also provide a framework for assessing potential alternatives.

Contribute to creativity

It may seem obvious that when we evaluate an issue or an opportunity, we need to come up with a number of possibilities rather than settling for the first one that comes to mind. Most certain, there is no other method to produce really original thoughts. The possibility to add value to a project via innovation may be highest during the start phase. It is the stage when the least money has been spent and the most possibilities are available. It may just take a few days or weeks to investigate a novel concept. At this early stage, learning and insights open up new opportunities. On the other hand, after the project has been authorized with a solution, a budget, and a deadline, the desire for originality and creativity is lost in the emphasis on efficiency. In order to actively promote and encourage creative thinking, idea development, and problem-solving, an atmosphere must be actively fostered. The following are a few ways that people and organizations may support creativity:

Open-mindedness: Fostering an open-minded mindset enables the emergence of many viewpoints and ideas. It entails questioning standard thought processes, accepting other opinions, and being open to novel and uncommon ideas.

Collaboration and diversity: Diversity of thinking and teamwork are two factors that might improve creativity. Individuals with various experiences, areas of expertise, and viewpoints may be brought together to create a richer pool of ideas and methods, which can ultimately result in creative solutions.

Promoting risk-taking: Taking chances and pushing beyond one's comfort zone are essential components of creativity. Creativity and experimentation may be sparked by creating a secure and encouraging atmosphere where people are encouraged to take measured chances without worrying about failing.

Providing resources and autonomy: Giving people the autonomy, tools, and resources they need to explore their ideas and make them a reality. A helpful infrastructure may be created, and unneeded obstacles can be taken down to encourage a creative atmosphere.

Promoting a learning culture: fostering a learning culture by placing a strong emphasis on lifelong learning and growth. People's views are widened and their creative talents are improved when they are encouraged to pursue new information, study other fields, and participate in continual skill development.

Embracing failure as a learning opportunity: Accepting failure as a teaching opportunity may help foster an atmosphere where people feel at ease taking chances. Failure is a normal part of the creative process. Resilience and a growth mindset are encouraged through promoting the process of learning from mistakes and utilizing them as stepping stones for development.

Giving people space for thought and exploration: Giving people time to contemplate, brainstorm, and explore may inspire original ideas. Giving people the freedom to think deeply, explore their ideas, and participate in creative activities may result in ground-breaking discoveries.

The renowned management consultant and author Peter Drucker once said, "Efficiency is doing things right; efficiency is doing the right things." Before starting the project team, now is the moment to make sure we are acting ethically. Putting money into creativity requires bravery. Nobody wants to pay for the twenty ideas that came before the one that might really work, even if everyone wants the original, clever answer. It does require time and effort to test hypotheses, try out novel strategies, and generally be ready to "think outside the box," but this is the only way to depart from the conventional wisdom.

Here is the tip that applies to project initiation the most out of all the advice for investing in creativity:Our comprehension of the issue or opportunity serves as the foundation for creativity in the workplace. Understanding the stakeholders and their demands serves as motivation for creativity in innovation.Creativity doesn't just happen. It takes effort and time. It will take some imagination to include creative activity into your project beginning activities. However, innovation is more valuable than ever now.

CONCLUSION

Any project's initiation acts as a crucial beginning point since it lays the foundation for the project's effective implementation. Project start provides a clear grasp of project needs and expectations via effective identification of project goals, stakeholders, and resources. This phase's creation of a thorough project plan aids in creating a timetable, assigning resources, and defining project deliverables, timeframes, and milestones. Organizations may reduce risks, improve stakeholder participation, and increase the likelihood of project success by devoting time and effort to project beginning. In order to guarantee a strong basis for succeeding project activities, it is crucial for project managers to devote enough attention to the project beginning phase.

REFERENCES:

[1] H. Huang and S. Jong, "Public Funding for Science and the Value of Corporate R&D Projects; Evidence from Project Initiation and Termination Decisions in Cell Therapy," *J. Manag. Stud.*, 2019, doi: 10.1111/joms.12423.

[2] S. Luz, E. Shadmi, and A. Drach-Zahavy, "Nursing innovation: The joint effects of championship behaviors, project types, and initiation levels," *Nurs. Outlook*, 2019, doi: 10.1016/j.outlook.2019.02.001.

[3] M. A. Andreazzi, V. E. G. Silva, E. A. de S. Paccola, and F. L. bim Cavalieri, "Historical Evolution of Scientific Initiation Projects in the Area of Environmental Education," *Interdiscip. J. Environ. Sci. Educ.*, 2019, doi: 10.29333/ijese/6290.

[4] N. E. Janssen, "A Machine Learning Proposal for Predicting the Success Rate of IT-Projects Based on Project Metrics Before Initiation," *Univ. Twente*, 2019.

[5] C. Jose Ignacio Lee, A. J. Chicote, and E. C. Montañés, "Initiation to the architectural project: Exercise as a device for learning," *ZARCH*, 2019, doi: 10.26754/ojs_zarch/zarch.2019123546.

[6] C. Bakke, A. Johansen, K. M. Mahmood, and S. Grenland, "Feeble Project Mandate equal higher cost?," in *Procedia Computer Science*, 2019. doi: 10.1016/j.procs.2019.12.203.

[7] E. Shevtshenko *et al.*, "Collaborative project management framework for partner network initiation in machining domain," in *Advances in Intelligent Systems and Computing*, 2019. doi: 10.1007/978-3-030-00612-9_19.

[8] J. Dare *et al.*, "Guidance for Research on Social Isolation, Loneliness, and Participation Among Older People: Lessons From a Mixed Methods Study," *Int. J. Qual. Methods*, 2019, doi: 10.1177/1609406919872914.

[9] J. S. Glenn and K. L. Rose, "Establishing governance for project and service management," in *Proceedings ACM SIGUCCS User Services Conference*, 2019. doi: 10.1145/3347709.3347826.

[10] V. Meniailo and O. Gura, "Building a project culture through research and innovation training of future PhDs in Ukraine," *Int. J. Educ. Pract.*, 2019, doi: 10.18488/journal.61.2019.74.377.390.

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BENEFITS OF PROJECT SELECTION AND PRIORITIZATION

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ABSTRACT:

A crucial step in project management is project selection and prioritizing, which entails locating and assessing viable projects before ranking them according to predetermined standards. Organizations must follow this procedure in order to distribute their few resources wisely and guarantee the success of their projects. Organizations may raise the chance of project success and maximize overall organizational performance by implementing good decision-making methods and taking both qualitative and quantitative considerations into account. This chapter gives insights into the advantages of a structured approach to decision-making in project management and discusses the important variables and methodologies involved in project selection and prioritizing.

KEYWORDS: *Business, Organizations, Project, Project Selection.*

INTRODUCTION

Compare each of the several potential strategies with the needs of the business and quantify the advantages and disadvantages of each as much as you can. By quantifying the advantages, it will be clear how differently the alternatives perform. A financial study, such as a return on investment (ROI) analysis, will have a solid basis provided the expenses are quantified. Finding means to quantify the costs and benefits will assist us to understand why we would wish to pursue a lower-cost option that gives a worse outcome since the majority of alternatives analysis needs us to evaluate choices that have various advantages and drawbacks (apples and oranges), we should discover ways to quantify the costs and benefits. Or it could support making the significant investment with the significant return[1], [2]. Remember when you do this analysis that when choosing the final project, a similar comparison will be conducted between the proposed project and other possible or ongoing initiatives. The project must be a better use of the company's limited resources than other initiatives in addition to producing benefits that surpass its expenses.

Risk management may be used to enhance the solution

To create a new concept, you need to have a lot of bravery. To put the concept out there and welcome criticism requires much more bravery. But by doing so, your finest answer will become much better. The risk management procedure may be used to identify flaws in both the proposed solution and its intended execution[3], [4].Invite people to assume the role of "devil's advocate," challenging every presumption about your finest suggestion. Ask questions concerning the

feasibility, attractiveness, and viability of the three IDEO factors. Don't just list your assumptions; test them as much as you can. Since this period stressed ongoing experimentation, the cost of testing assumptions will be much less than the cost of discovering your assumption is false after implementation or after the project is complete[5], [6].Managing risks is a great complement to being creative. It rigorously assesses all of our wild, unconventional ideas. It doesn't imply our original concept is bad when we do discover flaws or difficulties; it merely shows there is room for improvement.

Choosing and Prioritizing Projects

You can't compare apples with oranges, it has been claimed. It refers to making a decision between two possibilities that have various pros and drawbacks. The similar problem often arises when choosing between possible projects[7], [8].

Even if two projects are an apple and an orange, a seasoned CEO may rightfully depend on her or his instincts and judgment to make a decision. Portfolios of projects won't function that way. The variety of initiatives a portfolio steering committee must choose from may make the "apples versus oranges" decision a fruit salad. Establish a framework for decision-making by using a uniform business case structure and selection criteria [9], [10].

Utilize common financial models to evaluate projects

Should you select the 18-month project that might create a new market over the 4-month project that would increase income by 1% for the next 12 months? It's unfair to compare apples to oranges. These projects may be compared using financial models. In an effort to generate side-by-side comparisons, these models enable you to analyze the expenses and predict the financial advantages of quite diverse types of projects.

Benefit-cost ratio, payback time, and net present value are a few examples. Any business that uses a standard business case style will be able to tell you which of these approaches is necessary.Organizations may benefit from project prioritization and selection in a number of ways. Among the principal benefits are:

1. **Strategic alignment:** Organizations may align their project portfolios with their strategic goals and objectives by putting in place a procedure for project selection and prioritization. By strengthening business focus and coherence, this makes sure that initiatives are chosen based on their ability to contribute to the organization's overall strategic direction.

2. **Resource optimization:** It's important to efficiently distribute scarce resources like money, time, and human capital. Organizations may deploy resources more wisely by using project selection and prioritization to determine which initiatives are most important and have the best chance of succeeding. This results in the best possible resource usage and reduces waste.

3. **Risk management:** Project prioritization and selection require examining and appraising the risks connected to possible initiatives. This is risk management. Organizations may decide which projects to embark on by taking into account aspects like project complexity, viability, and possible dangers. The possibility of project failure is decreased because to this proactive approach to risk management, which also raises total project success rates.

4. **Improved decision-making:** A systematic project selection process offers a framework for making decisions that are better. It lets businesses to assess possible initiatives in accordance with predetermined standards, such as economic viability, market demand, technical viability, and strategic fit. Organizations may make well-informed choices that are based on an extensive evaluation of project potential by taking into account both quantitative and qualitative aspects.

5. **Increased project success rates:** By selecting and prioritizing initiatives, businesses may concentrate their resources and attention on those that have the best chance of succeeding. Organizations boost the likelihood of project success by choosing initiatives that are in line with company goals, have distinct objectives, and are practical. As a result, project results, customer satisfaction, and overall organizational performance all increase.

6. **Agility and adaptability:** Project prioritization and selection help firms adjust to shifting business demands and market circumstances. Organizations may make sure that projects stay in line with changing strategic goals by routinely evaluating and updating the project portfolio. Organizations can adapt swiftly to new possibilities and problems because to this flexibility, which strengthens their competitive edge.

DISCUSSION

Basic Business Case Content

A business case that is appropriate for a selection process should be the result of the project initiation phase. A single manager or executive with the power to commit the resources may examine the selection as part of an overall project portfolio management procedure.The project charter and the business case share similar fundamental information. That makes sense since both are used to transform an idea into a real, attainable objective. Because the business case is produced first, any areas of overlap with the charter offer a chance to either confirm a previous assumption or elaborate on that subject more. The logical framework approach discussed at the conclusion of this chapter will greatly strengthen the business case that comes next.

As was previously stressed, based on your business and the size of your projects, the information and analysis needed to choose a project may vary greatly. The information provided here covers the essential elements that the majority of project selection boards want. As we go through each element of the business case, you may find it helpful to refer to the online Project Business Case form.

1. Project Goal

Indicate the precise outcomes that the project will produce over a certain time frame. Keep in mind that this is the business value that we start to realize once the project is over. A training project can include the following objective as a goal: "This project will increase our capacity to accurately design projects and manage them to achieve cost, schedule, and scope targets.

2. Problem/Opportunity Definition

Describe the issue or chance without offering a fix. The project's essential justification must be understood by those who are authorizing it. The following components should be included in this problem/opportunity statement:

1. Specify the issue or chance. Provide factual evidence of the issue, if at all feasible, being careful to avoid making assumptions.

2. Describe the issue or opportunity in terms of its organizational context, including any affected activities or functions.

3. Specify one or more methods for calculating the problem's size. Both qualitative and quantitative metrics might be used.

3. Proposed Solution

Describe the steps the project will take to deal with the issue or opportunity. Be as explicit as you can when describing the solution's boundaries, including the organizations, business procedures, information systems, and other elements that will be impacted. Include any relevant challenges, systems, or processes that are beyond the purview of this project when describing the limits, if required.

4. Project Selection and Ranking Criteria

Ideally, your company has certain ranking or selection criteria that are handled here. This section will correspond to the categories used by a selection board to compare projects if there is a formal project portfolio management procedure in place.

Category for project benefits. Typically, projects fit into one of the following categories:

1. **Conformity and regulation:** The requirements for the project are set out by laws or regulations.

2. **Efficiencies and cost savings:** Lower operational expenses will be the project's outcome.

3. **Increased revenue:** For instance, more revenue may result from a new product, improved client loyalty, or increased market share.

5. Cost-Benefit Analysis

The financial justifications for doing the project are outlined in this section. It analyzes the predicted benefits in relation to the expenses and makes an effort to calculate the return on investment.

1. **Realistic advantages:** Measurable tangible advantages will correlate to the issue or opportunity mentioned. Include a description, a numerical value, and a conversion of the benefit into money-related terms, such as dollars saved or gained, for each benefit. Include any suppositions you made while figuring out this advantage. Describe the likelihood of obtaining the objective since forecasted benefits are often not clear. The benefit-realization measures that will be followed up on after deployment should be established here.

2. **Non-tangible advantages:** Although difficult to quantify, intangible advantages are nonetheless significant. For instance, simplifying a process could improve employee work

satisfaction, a good but challenging benefit. Describe the benefit once again, along with the underlying assumptions that were used to estimate its size and the likelihood that it would materialize.

3. **Cost of the necessary resources:** What kind of labor and other resources are needed? Add a sentence addressing the veracity of these numbers. Internal (employee) work hours, external labor, and capital investment are examples of typical cost categories. The project expenses should be recorded, but new continuing expenditures that support the project's outcome should be kept separate from them.

4. **Return on investment:** There are several financial methodologies that compare the project's upfront tangible costs with its anticipated future tangible benefits. Use the PMP® Exam Prep video Project Selection, which was mentioned earlier in this chapter, to learn more about some of these models.

6. Business Conditions

These are the business needs that we have underlined throughout this chapter. Describe the specifications from the owner's or customer's point of view. You are more likely to properly convey the genuine end state required by the client if you explain a demand using one of the following phrases.

7. Scope

List and explain the key achievements needed to achieve the project's objective. These could consist of training, information system improvements, facility modifications, process or policy changes, and so forth. The scope statement in the business case is likely to be less thorough than the one created for the project charter, while there is obviously overlap.

8. Risks and Obstacles

Identify the main challenges to success and the known dangers (threats) that can result in a disruption or failure. The distinction between risks and barriers is that although risks might happen, obstacles are a given. To assist identify possible hazards and either prevent them or lessen their negative effects, the risk management process operates continually throughout the project.

9. Schedule Summary

Describe the project's anticipated length (scheduled start and end dates), important milestones, and key stages at a high level. It is always helpful to moderate expectations by providing feedback on the accuracy of this schedule forecast. This is only an initial schedule estimate that will be improved throughout project definition and planning.

Creating a practical initiating process

A project might be the beginning. The studies and analyses you just read call for expertise and work. Initiation of certain initiatives may take months or even years. Hours will pass for simpler tasks. It is obvious that a balance has to be struck between recklessly launching new endeavors and being paralyzed by "analysis paralysis." Risk and estimating are two crucial aspects to take

into account while developing the initiation process; both are connected to the inherently unknowns that exist at the moment a project is accepted.

1. Risk: Identifying hazards and opportunities, then actively working to mitigate the threats and maximize the possibilities, is the process of risk management. No matter how meticulous the project start work was, our business case still has a lot of assumptions. Any projected expenses or gains might vary. Therefore, the key question for our initiation process is: Have we researched the issue enough to tolerate the level of uncertainty in the business case? Or do we devote more time and money to researching it further?

2. Calculating: Estimates, as we are aware, are a reflection of the known and unknown that still exist over the course of the project. The estimation's accuracy decreases with time. Because it contains no more surprises, the only estimate that is 100 percent correct is for a project that is finished. How accurate of an estimate must it be for us to approve a project, and how will we update it while the project is carried out?

A realistic project initiation process acknowledges that approval of projects is dependent on several assumptions, many of which won't be verified as true or untrue until the project is underway or even finished. The ideal method for establishing a balance was defined by the phased estimation methodology. The purpose of the phase gate reviews is to compel the oversight committee to reconsider the business case in light of the results and lessons gained from the preceding phase.

Project Leadership: Focus On Value

Projects must provide value, and the business case for that value must be documented. When reading a business case, project managers need to examine it critically. Is there really a direct link between the expected deliverables and the anticipated outcomes? Are prices and timetables based on facts? Can you quickly demonstrate the presumptions?

Any project's hazy beginning calls for sharp critical analysis and inventive problem-solving techniques. Project managers that challenge flawed reasoning and ask insightful questions add a lot to projects. While it may not be simple to contest the validity of a project that has been given to you, having the guts and analytical prowess to develop or assess a business case benefits the company and increases your influence and reputation.

CONCLUSION

Organizations must choose and prioritize their projects wisely in order to maximize resource efficiency and project success rates. Organizations may objectively assess new projects by using a systematic method that takes into account a variety of variables, including strategy alignment, feasibility, return on investment, and resource availability. By allocating resources to high-priority initiatives, project prioritization enables the efficient and effective use of limited resources. Additionally, a systematic project selection process helps firms to respond to changing business demands and connect their project portfolios with their strategic objectives. In the end, project selection and prioritization provide businesses a framework for making choices and prioritizing projects that will generate the most substantial value and support long-term success.

REFERENCES:

[1]   M. Parchami Jalal, E. Zebardast, and H. Fasihi, "Application of Relative Value Models in the Urban Projects' Selection and Prioritization through Portfolio Management Approach Case Study: Tehran Municipality's Department of Planning and Architecture," *Sci. J. Manag. Syst.*, 2019.

[2]   R. Kaiser, A. H. Futami, L. V. O. D. Valentina, and M. A. De Oliveira, "Development of a managerial tool for prioritization and selection of portfolio projects using the analytic hierarchy process methodology in software companies," *Gest. e Prod.*, 2019, doi: 10.1590/0104-530X4267-19.

[3]   A. Shaygan and Ö. M. Testik, "A fuzzy AHP-based methodology for project prioritization and selection," *Soft Comput.*, 2019, doi: 10.1007/s00500-017-2851-9.

[4]   S. Hansen, E. Too, and T. Le, "Criteria to consider in selecting and prioritizing infrastructure projects," *MATEC Web Conf.*, 2019, doi: 10.1051/matecconf/201927006004.

[5]   T. J. Kloppenborg, "Contemporary project management : organize, lead, plan, perform," *Cengage Learn.*, 2019.

[6]   P. Akbari, H. Jafarzadeh, and J. H. Dahooie, "Prioritising IT projects: Combination of fuzzy QFD and ARAS to address criteria multiplicity challenge," in *Proceedings of the 23rd Pacific Asia Conference on Information Systems: Secure ICT Platform for the 4th Industrial Revolution, PACIS 2019*, 2019.

[7]   J. Antony, V. Sunder M., C. Laux, and E. Cudney, "Lean Six Sigma Project Selection and Prioritisation," in *The Ten Commandments of Lean Six Sigma*, 2019. doi: 10.1108/978-1-78973-687-820191004.

[8]   E. Shayanfar and P. Schonfeld, "Selecting and scheduling interrelated road projects with uncertain demand," *Transp. A Transp. Sci.*, 2019, doi: 10.1080/23249935.2019.1639083.

[9]   Z. Muchová and F. Petrovič, "Prioritization and evaluation of land consolidation projects-Žitava River basin in a Slovakian case," *Sustain.*, 2019, doi: 10.3390/su11072041.

[10] M. Toloo and M. Mirbolouki, "A new project selection method using data envelopment analysis," *Comput. Ind. Eng.*, 2019, doi: 10.1016/j.cie.2019.106119.

ENGAGE YOUR STAKEHOLDERS AND WIN THEIRCOOPERATION

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ABSTRACT:

Stakeholders are essential to any project or organization's success. To achieve targeted results and reduce possible hazards, their assistance and participation are essential. The tactics for involving stakeholders and gaining their cooperation are examined in this research. It emphasizes how crucial it is to comprehend stakeholders' demands, communicate with them clearly, and build a relationship that benefits all parties involved. Organizations may improve cooperation, develop trust, and establish a healthy work atmosphere by putting these tactics into practice, which will eventually result in effective project results.

KEYWORDS: *Project, Project Manager, Stakeholders, Team.*

INTRODUCTION

There are moments when it looks like technology handles all the labor-intensive tasks in our economy. However, a deeper inspection shows that humans are always responsible for the output that technology creates. These influential people are referred to as stakeholders in initiatives because they have a stake in the outcome. Finding these stakeholders is a project manager's initial responsibility.

Of course, this group includes customers, decision-makers, suppliers, and workers, but in a broader sense, a stakeholder is everyone who contributes to the project or who is affected by its outcome[1], [2]. Since these stakeholders are the ones who make all of the crucial choices throughout the project's conceptualization and planning phases, identifying stakeholders is a key responsibility.

These are the individuals who, with the project manager's supervision, come to agreements about the project's objectives and limitations, create the plans and timetables, and give the budget their approval. In addition, stakeholders are the individuals and groups who will eventually assess the project's success. It is obvious that we must be aware of our stakeholders. It is also true that a lot of initiatives don't include one or more crucial stakeholders during project conception and planning.

It is simple to forecast the issues that will arise as a result: at the very least, there will be requirements disputes and rework, and there may even be more serious repercussions like litigation or costly penalties[3], [4]. The goal of this chapter is to direct the stakeholder identification process. We identify the most typical stakeholders and provide a checklist tool to make the process of identifying stakeholders more organized [5], [6].

Focusing on stakeholders throughout the project's lifespan

By include all individuals and groups impacted by the project or participating in its execution, we may define our stakeholders broadly. How are we going to manage or find such a big and varied group? Start by classifying them into two broad groups: those involved in the project's work and those who will just be impacted by it. Guidelines that apply to affected stakeholders may also apply to engaged stakeholders since they are also impacted by the project. The initial exploration reveals stakeholders who are engaged in the project and those who will be affected during the life of the project. Continue to expand the number who are actively engaged, and increase the project team's awareness of those who will be affected. Engaged stakeholders are shown in Figure 1 as a subset of all stakeholders[7], [8].
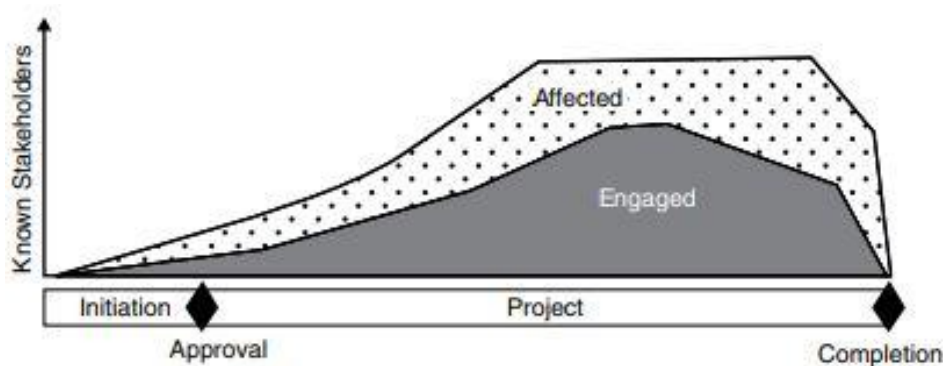

Figure 1: Engaged stakeholders [scribd].

Stakeholders who are actively involved are usually simpler to find. They perform a predetermined set of responsibilities that are necessary to complete the majority of tasks. Finding these crucial individuals and comprehending their investment in the project is made simpler by being aware of these traditional roles. These are typical stakeholder positions, therefore it stands to reason that some persons would play several roles, and that certain roles will be played by many people. The project manager, project team, management, and client responsibilities are covered in this chapter. A new problem is posed by affected parties. Although we may not need them to complete the project's work, we could discover that their collaboration is crucial to maximizing the project's potential. In other situations, we may prevent developing enemies when we understand their stake. This chapter's second half offers important questions to consider asking in order to identify project stakeholders who may be impacted and their level of interest [9], [10].

Early knowledge and expanding engagement

Our knowledge of stakeholders may be the widest it has ever been at this point. Even while it is not required to actively contact with every prospective stakeholder at this time, the more we are aware of them, the more accurate our predictions about how the project will be seen by everyone it impacts will be. As we find more departments, systems, and processes that interact with the changes our project is considering, this early insight might shift our presumptions about costs and risks.

As the number of stakeholders who are actively involved in the project will increase when it is approved and the project manager and team start working on it. The "affected but not actively engaged" segment will be simple to overlook as the initiative gains pace and stakeholders. That is always wrong. If ignored, these stakeholders will become challenges and maybe enemies if they are made aware of the changes being implemented. Engaging those whose behavior may need to change as a consequence of the project is a recent and significant trend in project management. The project team starts early to inform these impacted persons of the impending change and to secure their cooperation rather than assuming their cooperation upon deployment.

DISCUSSION

A Person's Risk Management Is Stakeholder Management

The more methodical we can be in locating and involving stakeholders, the more value our project will provide. It is simple to draw comparisons between the stakeholder management approach and risk management. Both processes start with identification, go on to prioritizing, and finish with analysis. Strategies for maximizing opportunities and minimizing dangers are developed via risk analysis. Stakeholder analysis results in initiatives for better communication and timely participation of the appropriate parties. Additionally, it recognizes possible adversaries and develops plans to lessen their influence. The project team analyzes current stakeholders as the project moves forward and looks to find new ones, the same actions that take place for risks. Finding stakeholders is the crucial first step that will be the subject of this chapter. It outlines four stakeholder roles that are crucial to the majority of projects and their normal level of involvement. The article continues with ideas for identifying other, less visible but equally important participants.

Make the process of identifying stakeholders repeatable

Finding stakeholders might be simple or difficult depending on the situation. Instead of asking, "Who is the customer?" or "Who is the project team?" when looking for stakeholders, try asking, "Who will make a contribution?" and "Who will be affected by this project?" A surprising long list will be produced by these first two questions, but it seldom ends there. Consult a list of probable stakeholders compiled from previous projects after this first brainstorming session on stakeholders. An example of this checklist is the Fast Foundation Stakeholder Analysis form that is discussed at the conclusion of this chapter. It is more than simply a list of job descriptions; it is also a list of questions that will make us think about other individuals and institutions. The form is meant to serve as a typical checklist that your company may use to carefully identify project stakeholders. The questions may be changed over time or new ones can be added to make the tool more relevant to your tasks.

Stakeholder Roles On Every Project

Roles differ from titles. Vice presidents sometimes take on the roles of client, sponsor, and project manager. A corporation may design extremely particular jobs that fit its process when it has a very well-established phase gate development procedure. Roles with clearly defined duties, such Product Owner and Scrum Master, are included in agile frameworks. Although each of the positions listed on the next few pages is essential to a project, not every company use these

titles.Consider the contributions that each main project position brings to the project as you read through the roles, such as funding, requirements, authority, or resources. Then, consider who on your project makes those contributions. Make sure someone is contributing in that way so you can identify who is assuming the job.

Stakeholder Roles: Project Manager

What benefits the project does a project manager bring? Magic, or more specifically, useable magic. The project manager must keep all the various groups in a project moving in unison, much as a symphony conductor guides the orchestra to bring out the wonder in the music. The project manager is always in charge of all that has to be done, including project planning, stakeholder identification, cost monitoring, and conflict resolution. Project managers may seem to be magicians while juggling all the many duties, but the skills that underlie this magic are learnable.

This description is short since the focus of the book is on the contribution project managers contribute to projects; nonetheless, one point must be stated. The project manager must explicitly define each stakeholder position, including their own, after they have been chosen. The project manager should inquire as to his or her authorization. Whom do I report to? "Does this mean I'll have less work to do elsewhere?" "What do I anticipate?" Being a project manager makes you a significant stakeholder. Don't forget to feed your own needs!

Locate Every Project Manager

The job of project manager might be divided among many persons when projects become bigger and span organizational boundaries. Technical lead and team leader are examples of titles that acknowledge an effort to divide up the responsibilities of project management. That's OK, but make sure that everyone understands their roles and duties.

Stakeholder Roles: Project Team

Who will carry out the task? The project team, working with the project manager, is the solution. Team members are any organizations or people who provide time, expertise, and effort to the project. Along with the employees of the organization allocated to the project, they may also include suppliers, contractors, and even clients.

Because they are the ones the project serves, the idea of consumers as team members may be unclear. Customers may have particular project responsibilities to do, however. For instance, throughout the system concept and design stages of information systems projects, clients are often engaged participants. Or, if the project calls for moving to a new office complex, the client may be in charge of planning the training necessary to operate the new building. At the outset of the project, during definition and planning, the team members are chosen. When the team members have decided on their roles and responsibilities for the project, the procedure is finished. Let's examine each stage in this procedure, starting at the beginning:

1. Tasks are dissected until various skill needs become apparent.

2. After that, the project manager and sponsor start looking for individuals and organizations who have the required expertise.

3. The project manager bargains for these additional team members' inclusion.

4. The project manager makes sure that everyone is aware of the plan and explains it.

5. The project charter and project plan both list the duties of each team member.

On small projects, it's often simple to identify the key participants; however, on huge projects, it's more harder and takes considerably longer. The project team's composition is crucial to the project's success, thus this time is wisely spent. Stakeholders in each project play crucial roles that have a big effect on its success. The project team stands out among these stakeholders as a crucial unit in charge of organizing, carrying out, and achieving project goals. The project team is made up of people with the specialized knowledge, abilities, and responsibilities required for project execution. In this introduction, the project team's stakeholder responsibilities will be briefly discussed while their importance and contributions are highlighted. The project team is made up of a varied set of people who work together to accomplish project objectives. Project managers, subject matter experts, team leaders, and team members who bring a range of viewpoints, expertise, and experiences to the table are often included in it. Each team member contributes individually to the success of the project via their own job and set of duties. As the team's head, the project manager is in charge of supervising every element of the project's planning, implementation, and monitoring. They serve as a liaison between the team and other stakeholders and enable good communication, resource allocation, and risk management. In order to keep the project moving forward, the project manager is essential in organizing team work, managing issues, and making important decisions. The project team's subject matter specialists have specific knowledge and abilities pertinent to the project's goals. To guarantee the project's success, they give their knowledge in certain fields, provide direction, and make insightful contributions. Their technical expertise and subject-specific knowledge aid in decision-making, problem-solving, and upholding the project's quality requirements.

The management and direction of certain sub-teams or groups within the project is the responsibility of the team leaders. They supervise team members' work, promote teamwork, and guarantee that each assignment is in line with the general goals of the project. In order to foster a supportive and effective team atmosphere, team leaders are crucial in inspiring and encouraging team members. The people who actively participate in the project's duties and deliverables are known as team members. They have the particular knowledge and abilities needed for their given tasks. Each team member's input is essential to the project's advancement, and their capacity for teamwork, meeting deadlines, and producing high-quality outputs has a significant impact on project results.

Stakeholder Roles: Management

Any project's success depends on effective collaboration with corporate management. Functional management, sometimes referred to as line management, is referred to as management in this context. These might be executive vice presidents, first-level supervisors, or department managers. Functional managers are accountable for an organizational unit, such as "Engineering" or "Internal Audit," as opposed to a particular project, with the exception of a project-oriented organization. These are the individuals who have long-term control over the company's

workforce and other resources. Additionally, they are engaged in establishing business rules, which might have an influence on the project.

"Management support" is often cited as one of the characteristics of successful initiatives. Most project managers express aid in "getting the right people at the right time" and "timely decisions based on the facts presented by the project team" when asked to elaborate on the kind of management support that is most beneficial. These opinions demonstrate the benefits functional management provides to the project team. Additionally, they may help the project manager determine which functional managers could be project stakeholders.

Every project needs the following two things from managers:

1. Supporting: a particular executive responsible for the project's success.

2. Materials: functional managers who allocate certain personnel and assets to a project.

Each of these contributions fits into a traditional management function that is discussed in the following sections.

Stakeholder Roles: The Customer

Any initiative that exists will have funding behind it from somewhere. Whoever pays often has the last say in terms of the success criteria, the budget, and the product description. Although other stakeholders could attempt to cram in new needs, the customer will have the last word since they are the ones footing the cost. The client is the one who pays the bills, which seems straightforward enough, but in practice, identifying the consumer is not always straightforward. Consider a project manager who is tasked with updating every desktop computer in her organization to the most recent version of the Microsoft operating system.

The following inquiries come up since there are several alternatives available while installing this operating system: Who should make the selection of the installed options? Should the 335 workers who use computers make this decision? Is this group your target market? Or is the project's financier, the company's president, the obvious choice? The project manager must instead question, "What process should I use in determining the installation requirements, and who should be involved in making the cost-benefit trade-off decisions?" rather than just asking, "Who is the customer?" in this situation. It might be challenging to identify the client on a project precisely, as this example shows. In a large and varied client base, it might be difficult to determine who has the right to speak on behalf of the group. Therefore, it is helpful to separate the customer function into two main contributors in our quest for stakeholders: those who provide needs and those who contribute financing.

Affected Stakeholders Can Contribute Importantly

The results of a project may have an impact similar to that of a stone striking water. Identifying the individuals and groups needed to execute the project or who will assess its success requires looking beyond the first waves. Any project manager should find the examples of possible stakeholders below to be inspiring.

Managers with Determination Power

Many important choices are made by the project sponsor and the client. However, they don't decide everything. It's crucial to realize this early on in the project since waiting for a response from a party that was not previously participating might lead the whole team to become inactive.

It might be challenging to identify the managers who will make choices. Start with the simple examples:

1. Managers whose businesses will be impacted by the project's results.

2. Managers that represent different stakeholders, like the client.

3. The manager who oversees the project manager.

Keep in mind the reasons each of these managers will be interested in your project and the choices they will have a say in. The person who has the power of veto is another less visible decision-maker. Consider the case of a major company's training department that made the decision to develop a project management curriculum as an illustration of the significance of this assignment.

The training expert in charge of developing the curriculum suggested a succession of courses covering everything from fundamentals like scheduling to more complex subjects like bargaining and program management. Based on specifications obtained from businesses throughout the firm and courses offered by reputable suppliers, it was a fairly detailed program.

However, the suggestion was not put into action. The manager in charge of selecting and overseeing this curriculum examined the anticipated yearly enrollment for the intermediate and advanced subjects and came to the conclusion that there was insufficient demand to justify the overhead associated with these courses.

Because this manager was following clear, established business policy, it was difficult to challenge the choice. The training expert drastically reduced the curriculum's breadth and did not take into account this stakeholder or his veto authority. Who will be involved in approving this curriculum was the issue that wasn't raised quickly enough. Who will make choices among the managers? Who has the last say? Whose lives are indirectly impacted by these choices? When looking for stakeholders among the management ranks, a project manager has to ask these types of inquiries.

A project is never an island

Each activity takes place in relation to a bigger community. Compliance with certain regulations addressing stakeholder participation may be one of a project's aftereffects. Project managers in public-sector organizations must adhere to the regulations and rules governing public works projects. The fact that every person who will utilize the utility, road, or other service provided by the project makes many municipal projects particularly challenging. The initiative is also funded by citizens. Government agencies at the federal, state, and municipal levels have rules and regulations that apply to every aspect of our lives, and their officials routinely participate in a variety of initiatives.

Do you need a license? An examination? approval from the Food and Drug Administration or the Federal Energy and Regulatory Commission? Are you taking out a loan to pay for a project? There's a chance the bank may want more insurance than you think is required. Can other systems interact with your computer system? An external limitation is represented by that interface. These parties involved in your project are neither for nor against it, but each has unique criteria that your team needs to be aware of. The list of parties who act as external restraints is endless. Ask the following types of questions to identify these stakeholders:

1. Do any rules or regulations specifically apply to my project? If so, who is the representative of these laws and rules?

2. Does the project need permission from external parties or organizations?

3. Who represents the interfaces between my project or product and the systems, infrastructure, and procedures that are currently in place?

Following the project's effects further brings you to the innocent bystanders who, if you don't grasp their stake, might turn into adversaries. Here are some further queries: Whose everyday activities, assets, and goods or profits will you have an impact on during or as a consequence of the project? Who will suffer as a result of your project?

Engage Affected Stakeholders

By this point, it ought to be evident that the obvious stakeholders are often just the top of the iceberg. As shown in Figure 6.1, stakeholder identification broadens our scope of participation by allowing us to identify people who will be crucial to the project's success or who will provide important input. This study identifies a group of stakeholders that is especially important because they must alter their behavior for the project to be successful. Numerous examples show that telling these folks to change won't work; you need to actively involve them if you want their participation. These tactics and methods are part of the field of change management, which is extensively discussed.

Lead The Stakeholders

The significance of stakeholders, those who will evaluate the project's performance and those who provide crucial contributions, has been underlined in this chapter. In addition to knowing who your stakeholders are as the project manager, you also need to show leadership skills to this varied group. Since you are the only one who really understands your project, it is up to you to steer it in the appropriate path. Here are a few examples of how to demonstrate this leadership:

1. **Decide who is allowed to participate:** As was said, there are often a lot of functional managers and customers eager to have an impact on your project. You must resist, however, if you believe that certain individuals don't have a legitimate claim to this power. In order to regulate who is permitted to have an impact on the project, you must utilize whatever persuasion abilities you may have to win your sponsor's or other stakeholders' support.

2. **Control upward:** Many of the stakeholders, such as your sponsor, functional managers, and some of your clients, will have official authority that is greater than yours as the project manager. However, they need your leadership. They depend on you to pose challenging

queries, provide logical alternatives, face them with the truth, and persuade them to take action again and over again with your persistence and excitement.

CONCLUSION

Stakeholder management must be done well for any project or organization to succeed. Organizations may promote collaboration and secure stakeholder support by treating stakeholders like important partners and actively including them in decision-making processes. Understanding the wants, requirements, and expectations of stakeholders enables the development of personalized communication strategies that connect with them. Establishing trust via open, regular communication improves the connection with stakeholders. Collaboration among stakeholders makes it easier for people to share resources and ideas, which improves project results. Organizations may overcome obstacles, resolve disputes, and foster a cooperative atmosphere among stakeholders by using these tactics.

REFERENCES:

[1]   J. L. McNaughtan, B. W. DePue, and E. D. McNaughtan, "The road already traveled: communication advice for higher education leaders," *Int. J. Educ. Manag.*, 2019, doi: 10.1108/IJEM-11-2018-0351.

[2]   H. S. Sauers-Ford *et al.*, "You don't know what you don't know: Using nominal group technique to identify and prioritize education topics for regional hospitals," *Hosp. Pediatr.*, 2019, doi: 10.1542/hpeds.2018-0217.

[3]   R. Pichler, "Getting Stakeholder Engagement Right," *Blog*, 2019.

[4]   F. Szekely and Z. Dossa, "Implementing Sustainability Strategy: How Can You Engage Your Stakeholders for Maximum Impact?," in *Beyond the Triple Bottom Line*, 2019. doi: 10.7551/mitpress/10953.003.0009.

[5]   B. J. Wilson, " Top of Mind: Use Content to Unleash Your Influence and Engage Those Who Matter to You by John Hall ," *Mass Commun. Soc.*, 2019, doi: 10.1080/15205436.2018.1532192.

[6]   C. Lim, I. Lim, and S. Chern, "Building enabled communities in Singapore," *Int. J. Integr. Care*, 2019, doi: 10.5334/ijic.s3201.

[7]   K. R. Lewis, "Making It Matter: National School Library Standards for School Administrators," *Knowl. Quest*, 2019.

[8]   L. P. McGinnis and B. C. Glibkowski, "Keeping it real with Bruce Springsteen," *Qual. Mark. Res. An Int. J.*, 2019, doi: 10.1108/qmr-01-2017-0028.

[9]   K. A. Osmak, "A New Approach to Cyber-Security," 2019.

[10]   D. Massierer *et al.*, "Web-based self-management guide for kidney transplant recipients (the getting on with your life with a transplanted kidney study): Protocol for development and preliminary testing," *JMIR Res. Protoc.*, 2019, doi: 10.2196/13420.

WRITE THE RULES: MANAGE EXPECTATIONS AND DEFINE SUCCESS

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ABSTRACT:

The key components of project management are setting expectations and determining success. Project success depends on stakeholders' agreement on goals and objectives and clear communication.Management of expectations and success definition go hand in hand with successful project results. Project managers may maximize the possibility of attaining project objectives, satisfying stakeholder expectations, and delivering positive results by actively incorporating stakeholders, establishing realistic targets, and maintaining clear communication. This chapter looks at how to define project management success and manage expectations successfully. It focuses on how crucial it is to create reasonable expectations, include stakeholders in the process, and continually assess and modify project objectives. Project managers may improve stakeholder satisfaction, reduce risks, and produce effective project results by putting these techniques into practice.

KEYWORDS: *Project, Project Management, Project Charter, Stakeholders.*

INTRODUCTION

Each project is unique. There are various persons, different things, and various timetables involved. Additionally, there is a chance that different stakeholders would have different perspectives on a particular project's purpose. Making ensuring that everyone on board comprehends the project and is in agreement on what success looks like is your responsibility as project manager. No dictionary or reference on project management contains the phrase "project rules." For a new project, however, it is precisely this clarification of the game's rules that qualified managers must carry out[1], [2].

And they must be completely certain of these regulations before they can explain them to the participants. A project manager would wonder, as they would in any new game, "Who's on my side?" How will the score be kept? What's the prize? Experienced project managers are aware that new projects might vary from their predecessors just as much as ice hockey does from gymnastics [3], [4].

A problem of any new project is the need for project regulations. Every time a project starts since each one is unique, you have to recreate the fundamental management roles and procedures. What takes place during a firm restructuring is a near analog. The usual inquiries after a reorg

are: Who is accountable for what? How are we going to communicate? Who has the power? The organization will disintegrate and initiatives will fail if these issues are not addressed.

Project Rules Are The Foundation

Recall the key elements for a successful project? These included a strategy, clear objectives, effective communication, scope control, and managerial backing[5], [6]. Three of these key characteristics, at the very least, rely on the project rules being written with care:

1. Consensus among all stakeholders involved about the project's objectives.

2. Authority over the project's parameters.

3. Management assistance.

This chapter examines the development of project rules that take into account these three elements. The project rules must be widely accepted before the project starts since all project management activities flow from and are dependent upon them. The project's objectives and criteria must be accepted by the project team, management, and client. Without these written agreements, project restrictions and objectives might change daily. They serve as the rules that coordinate every part of the project[7], [8]. Let's examine how our three success indicators could change as a result of diligent project rule writing:

1. Agreement on the goals: It's not always simple to get consensus on project guidelines. This is due to the need to hear and take into account the opinions of all interested parties. Some people may argue that it's time to move on and "get to the real work" since this back and forth is taking too much time. However, this hurry would prove unsuccessful. If the project's stakeholders can't agree on the fundamental details before work starts, there is much less probability that they will do so after money starts to be spent. Before the pressure is increased, at this early phase, is the time to address various presumptions and expectations. The satisfaction of stakeholders is one of the criteria for a successful project. The project manager's responsibility is to manage these expectations, and this responsibility starts with putting them in writing and receiving consent. Stakeholder expectations are outlined in the project guidelines[9], [10]. The project regulations also provide a procedure for making changes to the project in the middle of it, if required. This change control requires that any changes to the rules be approved by the same stakeholders who approved the original rules. The likelihood of adjustments emphasizes once again how important it is to have everything documented before the project starts. The project manager will be well-prepared to describe any impacts that the adjustments may have on cost, scope, or schedule in an ongoing project once they have this information in hand.

2. Constraints on scope: Each project is an unknown when it is first begun since each one is unique. Projects become more challenging and enjoyable due to their uniqueness, but it may also result in significant budget and schedule overruns. We'll examine some strategies for preventing these overruns by keeping the scope of a project precisely specified later in the chapter. In order to keep the project team motivated and productive, the project rules must be carefully written.

3. Management assistance: Rarely does a project manager possess the power to dictate terms to other stakeholders. This is why a senior management sponsor is essential to a project's success. We'll talk about how to include this management assistance in the project guidelines. To make

sure that everyone is aware of and in agreement with the project guidelines, there are two essential papers. The project charter, the first, outlines the objectives, limitations, and presumptions that establish the project's general direction. The second, called the responsibility matrix, stresses stakeholder involvement and is developed simultaneously.

Stakeholders, Rules, and Project Communication

It may resemble the proverb "Which comes first, the chicken or the egg?" when combining the lessons from the previous chapter on stakeholder identification with those from this chapter on creating expectations. In actuality, once a project begins, a number of things are happening simultaneously. As you read this chapter, keep in mind that finding stakeholders will probably be necessary so you can create the project charter and duty matrix. The communication plan is a related project management deliverable that is often created early in the life of a project. It will outline who needs to be informed and how you'll keep them updated, according to your expectations. Learn more about the elements of that strategy and the relevant advice for drafting it.

Embrace Your Opportunity for Leadership

Your first chance to enter a void and give it speed and direction is during project definition. If you're fortunate, the project was authorized on the basis of a strong business case, but it's not unusual to start with far less. You are producing something from nothing (or almost nothing) in numerous ways. It takes a lot of work to produce the papers covered in this chapter. This is a leadership challenge, not a technical writing assignment. Accept the uncertainty as a chance to prove your ability to unite people. Realize that people are depending on you to stand up and take the lead. Choose to be the leader who can compel collaboration from a diverse range of stakeholders.

The rules of a contract are written in a statement of work

Statement of Work, or SOW, is a word that construction companies, consulting engineers, and any company that earns its income by completing projects are more likely to be acquainted with than charter. The SOW is the section of a contract for project services that specifically outlines what will be provided, when it will be done, how much it will cost, and any other aspects that establish the project's vision. The formality of creating a contract motivates the project delivery team and the project owner to give careful consideration to the specifics of the SOW. The average SOW contains more information than is provided in this chapter of the charter. Consider the following material to be a starting point since it is a requirement of the contract. If your project starts with a Statement of Work, read this chapter keeping the SOW in mind whenever you encounter the word charter.

DISCUSSION

Publish a Project Charter

Early in the 1970s, a television program featured Peter Graves as Jim Phelps, who would accept a perilous, top-secret mission for his team of espionage operatives. Phelps would sometimes get a simple manila envelope with pictures and a cassette recording on a flight, at a restaurant, or at a newsstand. The voice on the cassette would describe the mission before concluding with the

well-known phrase, "This tape will self-destruct in five seconds." We were aware of the danger they were taking since it was always made clear that Phelps and his agents were acting independently and would not get support or recognition from the US government in the event that they were apprehended. Every week, the dangerous, enigmatic, and consistently profitable Mission: Impossible delivered a fresh Cold War win.

Jim Phelps is a case study in effective project management thanks to his dedicated team and well-thought-out strategies, with one exception: the Mission: Impossible crew needed full secrecy and anonymity. Nobody could possibly be aware of their identities or activities. The majority of business and governmental undertakings are the exact opposite. Project managers need appreciation more than confidentiality. A project manager's role and power are transient since projects are distinct and ephemeral. The majority of the individuals and organizations required for a project's success don't even realize it exists when it first starts. Without official accreditation, the project manager behaves much like Jim Phelps mysteriously, independently, and with far less impressive outcomes. A project charter is crucial because it makes the major participants visible to everybody, which is why it is so significant. A project charter declares the start of a new project. It shows that the project management team and the project are supported by management. It is an effective tool that demonstrates the project manager's authority to take charge of the project and make choices.

Creating Authority

Project managers depend on both lawful authority and expert authority from their positions of temporary power. Expert authority comes from their performance on the job; the better they do it and the more knowledge and skill they demonstrate, the more authority the other stakeholders will accord them. An organization's authority is what is known as legitimate or official authority. By mentioning the sponsor's lawful authority, the project charter establishes the project manager's legal standing.

Write a Project Charter

Starting with the project charter, objectives and managing expectations are agreed upon. It outlines the project's objectives, restrictions, and success standards in other words, the ground rules. Typically, the project manager and sponsor work together to draft the charter. The many stakeholders may then negotiate and modify it once it has been drafted. It becomes the ground rules for the project once they explicitly concur on its substance.

Project Charter: Essential Information

A charter may cover a wide range of subjects, but it must have a specific kind of substance. You may construct your own charter using the online charter form.

1. Purpose Statement

What are our plans for this project and why are we doing it? The project's aim and rationale are concisely stated in the purpose statement. The project team can make better judgments throughout the project by having the what and why questions answered. In fact, understanding the purpose of the project is necessary for almost every decision on it. This goal outlines the outcome that proves the project was worth the time, money, and effort.

In reality, launching a project calls for several levels of why. The purpose statement does not try to address every question. The project's mission statement and charter do not provide a comprehensive reason. A distinct document, usually referred to as a business case, proposal, or cost-benefit analysis, should include such information. If a project business case already exists, include it in the charter or even replicate its summary.

Objective Statements Describe the value of the project

Aim statements like the following should be avoided: "The goal is to construct the product in accordance with the XYZ specification document." Delivering the product that the customer requested is the goal. Both of these statements lack an explanation of the purpose of the project, rendering them ineffective as guidelines for making decisions. An effective purpose statement from a project using information systems is shown here:

This project's goal is to compile information on our subsidiary's income. The finance group need this knowledge about the subsidiary's operations during the spin-off in order to forecast the subsidiary's future revenue. The four months starting on June 1 and ending on September 30 will be used for this data. The data will no longer be required when the finance group has concluded their analysis on October 31.

The necessity for data is not explicitly stated in this goal statement. The analysis document, a different document, should include that information. The team may make additional choices since the goal statement is so clear, such providing the least amount of system documentation. The project team is aware that since the product's lifespan is so brief, extensive documentation intended for future maintenance programmers won't be necessary. The quantifiable objective for the project's outcome may also be included in the purpose. An advertising campaign's influence on the target market, for instance, determines if it is successful. Consequently, the goal can be:

Within three months of the start of the campaign, retail sales of our product will rise by 5 percent among females in the San Francisco Bay region aged 25 to 40, and by 10 percent after a year.

2. Scope Description

The total amount of work necessary to complete a project is its scope. One of the most prevalent project diseases is scope creep. It entails gradually expanding work until all initial cost and schedule projections are wholly unrealistic. The project's main activities should be succinctly summarized in the scope description so that it will be crystal evident if more work is added later. Even though it isn't as extensive as a project plan, the essential tasks are described in such a way that it is apparent what the project will and won't accomplish.

Explain the Context and Development Approach

To specify a project's position within a bigger picture, use the scope description. For instance, the life cycle of the whole product will include a project to develop a new component for an airplane. The best place to underline how this project relates to other projects and the overall product development effort is in the scope description. Do some of your projects use an iterative delivery methodology while others employ a predictable, linear development approach? Make sure it is obvious which development strategy this project will use if your projects alternate

between them. Whichever strategy you choose to use should be evident from your description of the project's key tasks.

Specify What Is Beyond the Project's Scope

Make careful to be clear about what the project will not produce, especially if it is something that may be taken for granted. Even if they may fall beyond the project's purview, certain tasks are crucial to its effective conclusion. It goes without saying that finding subject-matter experts for trainers is an essential component of developing and delivering training, however this step is explicitly left out of the project by being listed as an activity that is "beyond the scope of the project."

Comparison between Product and Project Scope

The project scope might grow while the product scope can stay the same. If it seems unclear, keep in mind that the features and performance requirements listed in the product design standards make up the product scope. The whole amount of work required to complete a project falls within its scope. For instance, an electrical contractor would be wise to make it clear who is in charge of placing the order and delivering the supplies if the contractor bases his or her estimate of the work on the assumption that he or she would be installing a certain sort of wire. While accepting that obligation doesn't alter the breadth of the final result, it adds work for the contractor, expanding the scope of the project.

3. Deliverables

What is the intended outcome of the project? a fresh offering? a new style? Will it cure a manufacturing flaw? Inform a group of what it is expected to produce. This aids in setting the project's parameters and concentrates the team's efforts on creating a result. Due to its emphasis on production, the word "deliverable" is commonly used in project management. Refer to any applicable product descriptions when naming deliverables, such as a blueprint. Again, simply make a reference to the product description rather than trying to include it in the charter.

Recognize that deliverables may be both interim and final. Although the majority of homeowners don't have a plan for their homes, they do just well without one. However, no house buyer would want their contractor to start construction without a plan. The difference is whether the deliverable, in this example the home, is the finished result that achieves the project's goals or if it serves as a management tool for the project or development process, like a blueprint. Here are some other instances:

1. The final software product is an end delivery, while a paper outlining the specifications for a new piece of software is an intermediate deliverable.

2. An advertising campaign that uses magazine advertisements and television commercials is the end deliverable, while a description of a target market is an intermediate deliverable.

3. An intermediate deliverable is a study of a new admissions policy for emergency rooms. One last delivery is the real revised admissions procedure for emergency rooms.

It's crucial to remember that project management itself includes deliverables, namely those connected to each stage of a project's life cycle. The charter may define the frequency and audience for deliverables like status reports and change logs.

Without a Product Description, Planning

Projects are started to take advantage of chances and address issues. The charter will outline the steps for choosing and putting a solution into place if your project begins with a problem or opportunity but no clear solution. Of course, the problem is that you can only see so far into the distance until the road disappears over the horizon. Here, your development strategy will be helpful. Have you used phase gates in your development process? Then, at the first gate, your first delivery is due. It could be a suggested course of action or perhaps a whole design. Your first delivery may be the minimal viable product you provide to a significant client group using an iterative methodology. You are aware that it is impossible to provide a detailed description of the finished product in either situation. Progressive elaboration is the project management phrase for progressively discovering or creating a distinct picture of the ultimate outcome. This place is a trap. Stakeholders are interested in knowing the cost and completion date of this project. That's simply how people are. Therefore, if the ultimate result is not clearly specified in the charter, make a commitment to the next big delivery. Describe the different sorts of deliverables that will be created over the project's duration. However, you should exercise extreme caution when committing to the ultimate price and delivery date for a product that is still "to be determined."

4. Cost and Schedule Estimates

Every project has a spending limit and an end date. But the guidelines should include more information than simply a sum of money and a deadline. They need to respond to inquiries such, "How fixed is the budget?" How was the time limit set? How late or how much over budget can we be and yet succeed? Do we really have enough information to make accurate predictions? It seems appropriate to ask additional questions, such as: Why is the budget set at $2.5 million?, since cost and schedule targets must be realistic. Why must the project be completed by December 31? These numbers must be precise and practical since one of the objectives of developing the guidelines is to provide realistic expectations for project stakeholders. Using the methods outlined in Part 3, "The Planning Process," is necessary for any meaningful cost or schedule estimate.

5. Measures of Success

How will we assess the project's success and completion? What more is required to be deemed successful if we meet the deadlines and stick to the budget while producing the deliverables? This is a chance to specify the project's endpoint and determine how it is carried out. It may not be sufficient to just finish the deliverables. A measure of success on a project to replace a portion of an oil pipeline, for instance, was "No measurable oil spills," since the pipeline was in a sensitive environmental region. It was made clear that "Installation will not interrupt any customer interactions at the retail stores" when a department store company upgraded its countrywide inventory system.

Agreement on the project is based on clear, quantifiable objectives. A project team would have had to determine what was intended if the oil pipeline project had simply said, "The project will be executed in an environmentally sensitive manner." A specific criteria that would guide project choices was "No measurable oil spills." The project's exit criteria, sometimes referred to as client acceptance criteria, are established by the success indicators. The possibility to specify the goal state and customer acceptance procedure is presented by the phrase "The project shall be judged complete when." It offers an alternative viewpoint on scope management.

6. Stakeholders

Any charter should include a list of all stakeholders, or anybody who will have an impact on the project. List the key players, their responsibilities, and how they will contribute to the project.

7. Chain of Command

Who on this project reports to whom? This must be made explicit in the project charter. An organizational chart is a standard tool for displaying the chain of command. As the project crosses organizational borders, having a clear chain of command becomes more crucial. a project organization chart where each stakeholder is accountable to only one person. It specifies who will make choices and to whom an issue should be reported. Since clients also make decisions, it is often helpful to incorporate the charter's reporting structure as well.

Responsibility Matrix

A project's objective, scope, deliverables, and chain of command are all addressed in a charter. However, another agreement that explicitly outlines the obligations of each organization engaged in a project is required. It goes by a variety of names, including responsibility assignment matrix (RAM), RACI chart, and simply responsibility matrix. This document's significance is increasing as businesses reinvent themselves and create partnerships and virtual businesses. Many groups that may not ordinarily interact with one another are brought together to collaborate on projects in these sorts of settings.

The best way to illustrate cross-organizational contact is via a responsibility matrix. For instance, when a truck manufacturer develops a new cab type, tooling adjustments are needed for both the supplier and the assembly line. Questions inevitably follow, including: Who will decide on the design? Will the provider be involved in making these choices?

When should each group participate? Who is in charge of each project component? These kinds of queries are addressed by the responsibility matrix.

Setting Up a Responsibility Matrix

A responsibility matrix lists the project's main tasks and the principal stakeholder groups. By explicitly identifying who to contact for each task, this matrix may help prevent communication failures across departments and organizations. Let's examine the procedures for creating a matrix of responsibility:

1.   Identify the primary project activities only the primary project activities are included on the vertical axis; specific job allocations will be determined in the project plan. The responsibility matrix must stress the many responsibilities needed for each activity since it

depicts interactions across organizations. The matrix employs the same degree of information as the scope description to illustrate the responsibilities of the numerous stakeholders participating in the project's key activities. It might be helpful to create many responsibility matrixes with varying degrees of information for extremely big projects. Subprojects inside the bigger project will be defined by these matrices.

2.   Compile a list of the stakeholders: Stakeholder categories are listed on the matrix's horizontal axis. Observe how teams, rather than specific team members, may be identified in the project plan; examples are the project team and user council. However, it is reasonable to include individual names on the matrix anytime one person will be in charge of a substantial portion of the project or will be making choices.

3.   Code the matrix of responsibility: The codes identify each stakeholder's degree of involvement, position of power, and area of duty. The following are the most popular codes, however there are no restrictions on their use:

R—Responsible for carrying out. This individual or team will complete the task.

A—Approval authority (often a person). This individual is ultimately responsible for this activity and has the last say in any choices or requests for approval of the work completed. Include the veto-wielding parties here, such as functional managers who control the impacted processes.

C—Requires consultation. As the activity is being carried out, this group must be consulted. Even while the group's view matters, it is not king.

I—Must be informed. This group only wants to be informed of the choices being made.

Take note of how A, C, and I may be used to influence choices. It is extremely helpful to clearly define these various levels of authority when there are several stakeholders who all wish to contribute needs to the project.

4.   Include the accountability matrix in the guidelines for the project. Once accepted, the matrix becomes a part of the project guidelines, which implies that any modifications must get the same approval as the matrix's initial approval. The benefit of using a formal change management approach is that the project manager will always have a written record to consult in case of disagreement.

CONCLUSION

Defining success and controlling expectations are crucial elements of effective project management. Project managers may match stakeholders' expectations with achievable results by outlining the project's goals and objectives explicitly. Building trust and successfully managing expectations may be accomplished by involving stakeholders throughout the project's lifespan and giving frequent updates on milestones and progress. Stakeholders must be included in the definition of success process in order for their opinions and needs to be taken into account. Early in the project, success criteria should be defined together with objectives that are specific, quantifiable, and allow for evaluation of progress. Project objectives should be reviewed and reevaluated often to allow for revisions and to make sure they are still relevant and reachable.

Project managers may preserve stakeholder satisfaction and avoid misconceptions by actively managing expectations and clearly communicating any changes or issues. Additionally, setting expectations and defining success depend heavily on good communication. Open lines of communication should be established, as well as ones that promote feedback and rapid resolution of issues. The project's stakeholders may better manage expectations when there is open and honest communication among them. Critical components of project management include setting expectations and determining success. Project managers may successfully manage expectations, align objectives, and produce successful project results by putting into practice tactics that prioritize clear communication, stakeholder participation, and constant review.

REFERENCES:

[1] K. C. DeGeorge, D. J. Ring, and S. N. Dalrymple, "Treatment of the common cold," *Am. Fam. Physician*, 2019, doi: 10.1136/bmj.2.4899.1290-b.

[2] A. Broström, A. Feldmann, and M. Kaulio, "Structured relations between higher education institutions and external organisations: opportunity or bureaucratisation?," *High. Educ.*, 2019, doi: 10.1007/s10734-019-0359-1.

[3] D. Weyer, J. C. Bezerra, and A. De Vos, "Participatory mapping in a developing country context: Lessons from South Africa," *Land*, 2019, doi: 10.3390/land8090134.

[4] B. S. Bernanke, M. T. Kiley, and J. M. Roberts, "Monetary Policy Strategies for a Low-Rate Environment," *AEA Pap. Proc.*, 2019, doi: 10.1257/pandp.20191082.

[5] A. Gerstenecker and R. M. Lazar, "Language recovery following stroke," *Clinical Neuropsychologist*. 2019. doi: 10.1080/13854046.2018.1562093.

[6] K. C. Ireland and A. G. Lalkhen, "Postoperative analgesia," *Anaesthesia and Intensive Care Medicine*. 2019. doi: 10.1016/j.mpaic.2018.12.007.

[7] I. S. Meyer, A. Louw, and D. Ernstzen, "Perceptions of physiotherapy clinical educators' dual roles as mentors and assessors: Influence on teaching–learning relationships," *South African J. Physiother.*, 2019, doi: 10.4102/sajp.v75i1.468.

[8] I. M. F. Oomens and B. M. Sadowski, "The importance of internal alignment in smart city initiatives: An ecosystem approach," *Telecomm. Policy*, 2019, doi: 10.1016/j.telpol.2018.12.004.

[9] R. Elias and O. Odejide, "Immunotherapy in Older Adults: A Checkpoint to Palliation?," *Am. Soc. Clin. Oncol. Educ. B.*, 2019, doi: 10.1200/edbk_238795.

[10] A. Arslanoglu and A. Tabur, "The effect of conscientious intelligence on the ability to manage patient expectations: Example from a university hospital," *Med. Sci. | Int. Med. J.*, 2019, doi: 10.5455/medscience.2019.08.9124.

A BRIEF STUDY ON PLANNING PROCESS

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ABSTRACT:

A key component of project planning and execution is risk management, which aims to reduce possible hazards and guarantee project success. This chapter examines methods and approaches for successfully controlling project risks. It underlines how critical it is to recognize, evaluate, and prioritize risks before coming up with effective mitigation plans.Organizations may adapt to changing conditions, identify new risks, and alter mitigation techniques as necessary by including risk management as a continuous process throughout the project lifetime. The constant assessment and management of risks is ensured by this iterative strategy, which lowers the probability of project interruptions and raises the overall success rate of the project. Project managers may proactively address uncertainties, lessen the impact of threats, and raise the possibility of accomplishing project goals by employing effective risk management strategies.

KEYWORDS: *Management, Project, Project Managers, Risk Management.*

INTRODUCTION

There are always unknowns in life. Risk is what project managers refer to. Think about the following instances:

1. A Los Angeles software business is subcontracted to work on a portion of a Silicon Valley software company's product development project. How will the San Jose project manager ensure that the subcontractor delivers the proper product on schedule?

2. A hospital is thinking about reengineering its procedure for producing and keeping patient information in order to save administrative expenses and speed admissions. When hospital management don't even know what the change would include, how can they accurately estimate the cost of the modification?

3. Lightweight composite materials are specified by a military contractor in the design for a brand-new fighter aircraft. How can the contractor be certain that the new components will withstand the stresses that a fighter plane faces?

The timetable, the budget, and whether the finished product will fulfill criteria are all unknowns in these initiatives. How can we deal with this uncertainty? To maximize the possibility of achieving project goals, uncertainty is systematically addressed via risk management. The essential word here is methodically since a disciplined approach helps us manage and lower risks more effectively. This chapter provides a methodology for identifying particular risks associated with project uncertainty and creating management plans for those risks[1], [2].

The Risk Management Advantage

The unexpected happens on every project, but some project managers are prepared for it. Impossible? This phenomenon is explained using the project risk management terminology:

1. Known unknowns are recognized possible issues, such as the likelihood of a strike when a labor contract ends or an abundance of rain that would cause a building project in Seattle to be postponed during the winter. Although we can't predict precisely what will happen, we do know it might harm our project and can make plans for it.

2. Unexpected difficulties are those that come up without warning.

These are the ones that, in all honesty, you couldn't have predicted. However, experienced project managers do plan for them since they are aware that the unexpected always occurs. The benefit of risk management is that the project team encounters fewer unexpected issues. The project manager just so happens to have an umbrella on standby for any sudden thunderstorm[3], [4]. The capacity to plan for and lessen uncertainty is amply shown in the insurance sector, where risk management has developed into a complex science. Actuaries constantly study the likelihoods of different catastrophes, and this study helps them in determining insurance rates. Insurance firms not only charge us for taking risks, but they also actively work to reduce hazards by urging their customers to behave responsibly. Nonsmokers and vehicle owners with clean driving histories get lower premiums. When customers follow the advice, their rates are reduced by the insurers, who even send people into businesses to educate them on how to prevent accidents[5], [6].

Risk Management is the Basis of all Project Management

Because risk management is their main line of business, insurance firms are more adept at it than the majority of project managers. Few project managers are aware that this is also their main responsibility, but those that are have an advantage since they are always looking out for potential project failure-causing uncertainty. A project manager's main responsibility is risk management, right? Yes, that is true, particularly when seen in this light: Each and every strategy in this book's chapters is really a risk management technique.
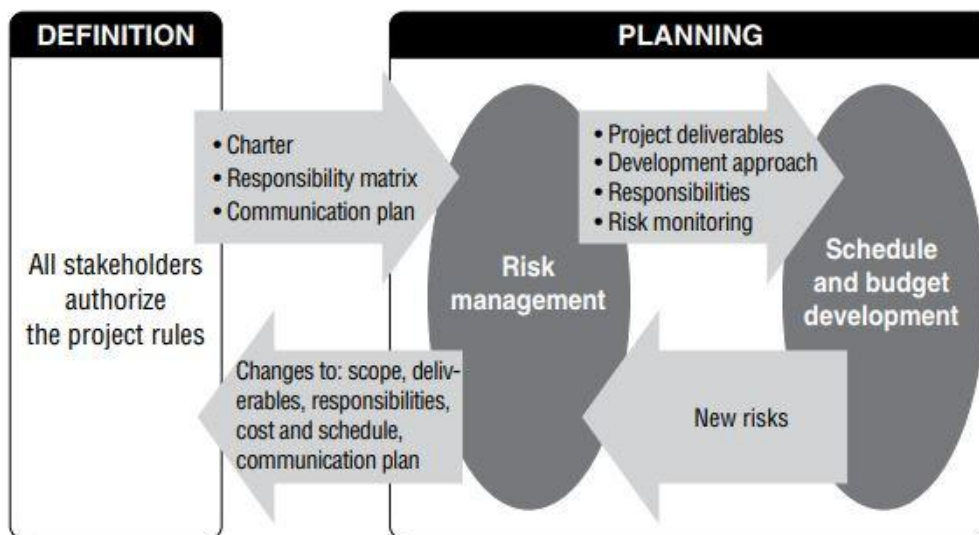
Figure 1: Risk Management Influences the Project Plan and Changes Assumptions in the Project Rules [scribd].

Some methods lessen the possibility of being late. Others lessen the likelihood of going over budget. A few focus on the procedure for guaranteeing the final product satisfies specifications and serves its purpose. Additionally, every strategy aims to boost success possibilities and raise stakeholder satisfaction. Although managing risk may be applied to all project management tasks, the risk management process refers to a series of deliberate actions you'll take to recognize and control project hazards. These are the results of the risk management process, much like project definition. Let's think about the connections between project definition, project planning, and project control activities.Risk Management Influences is shown below in Figure 1.

Definition

As the project is defined, the business case is built, and the objectives for cost, schedule, and product scope are created, the first risks become apparent. These hazards could at first be presented as assumptions, but when it becomes obvious that they really pose real dangers, they are then officially recognized as risks [7], [8].

Planning

Figure 1 depicts the two main parts of planning's function: developing the schedule and budget and managing risks. The specific strategies needed for project management on a daily basis include schedule and budget development. The next three chapters provide instructions on how to create these comprehensive plans. The project manager and team's formal, deliberate efforts to identify hazards and create risk management plans are represented by risk planning. The need of frequent risk planning throughout the project cannot be overstated. To identify any flaws, risk planning critically examines the project's stakeholders, environment, and deliverables. The project team identifies risks and creates plans to mitigate them. The specific action plan will be impacted by those tactics, and it could be necessary to alter the charter, responsibility matrix, or communication strategy[9], [10]. Before project execution starts, risk management and thorough planning are iterated two to four times in a symbiotic relationship. The assumptions are gradually revealed with each iteration, improving the accuracy of the risk management plan, the detailed schedule, and the budget.

Control

Known risks are looked for while the project is evaluated for progress, and new risks are found. The risk planning process is repeated once non-materialized risks are deleted from the risk plan and new risks are introduced. Updates to the charter, budget reserves, progress reports, work breakdown structure, and the many other project management deliverables are produced as a consequence of all of these operations.

Activities Using Agile Methods for Risk

The development of agile frameworks may be seen as a risk reaction to the danger of providing the incorrect product because of changing or ambiguous requirements. Threats and opportunities will be present in releases and sprints. Less real roadblocks that hold us down will result from

integrating risk management operations into the planning and retrospective cycle, as we find in projects that use a predictive development strategy.

DISCUSSION

Project risk vs business risk

In the early 1990s, the City of Seattle purchased a stunning new office skyscraper when the lender defaulted on the original developers. Because so much of the building remained unoccupied, the municipal government was able to purchase it at a steep bargain. When the downtown office market experienced a downturn, the developers who had taken a risk by constructing the skyscraper started to lose money. The lack of demand for office space was not due to cost overruns in the development process.

This is an example of a project that was completed beautifully, on schedule, and under budget, but that ultimately failed as a commercial endeavor. All business operations include some element of risk, but managing that risk is often the owner of the project's duty rather than the project manager's. The appropriate project to choose involves business risk. Project risk is the management of uncertainty to achieve the goals of the stakeholders.

The Risk Management Framework

 A risk management procedure that is applied repeatedly throughout the project:

1. **Identify risks:** Recognize dangers. Identify all the elements that pose a danger to the project's goals.

2. **Assess and set priorities:** Consider each risk's potential harm and chance of occurrence. The majority of initiatives involve a huge array of possible dangers. The team may prioritize risks by calculating the possible harm and the likelihood that they will materialize, directing their attention where it will be most beneficial.

3. **Develop a response:** Make plans to lessen the danger of harm and/or the likelihood that it will occur.

4. **Create reserves:** As well as money for the known risks, set aside extra funds for the project that will be utilized in case certain hazards materialize.

5. **Continuous risk management:** Implement the techniques and keep an eye on how the project is affected by the modifications. As they are put into practice, risk management techniques can need to be adjusted. As new risks are discovered, recognized risks are averted, and risk reserves are depleted, share this information with the stakeholders.

Plan for Ongoing Risk Control

If anticipating risk at the outset of a project is smart, continual risk planning throughout the project is even wiser. Usually, while a project is being completed, additional risks both significant and minor will surface. Only when the stages of risk management are deliberately repeated and applied to all hazards throughout the course of the project is it successful. A specialized risk management plan to be covered later in this chapter or the communication plan is often used to record ongoing risk management planning, which is a component of risk control.

TAJMMR

Step One: Identify The Risks

A military contractor who was worried about the durability of the novel material he was incorporating into fighter jets was the subject of one of the scenarios at the beginning of this chapter. The first crucial step in risk management was carried out in this instance: The danger was recognized. Project management techniques both the art and science of project management must be well understood in order to identify risk. Asking the stakeholders, creating a list of potential risks a risk profile, studying previous, related projects, and concentrating on the risks in the schedule and budget are the four methods for detecting risk. Here, we examine these four methods in-depth and provide suggestions for improving their performance.

Getting Stakeholders' Information on Risk

Ask the team members; they've undoubtedly been compiling their own lists ever since they were given the project if you want to know what May possible go wrong on a project. Here are two strategies for including the team in project risk identification.

1. Think-aloud sessions: It works well to identify hazards using everyone's preferred way for coming up with ideas. Gather the project's stakeholders and any additional participants, then adhere to these fundamental brainstorming guidelines:

a) Make a comprehensive inventory of all potential dangers. Don't attempt to assess the hazards as they are described; instead, let the group's imagination run free.

b) After creating a list of probable hazards, combine related risks and rank them according to likelihood and size. Risks that have a low likelihood of having an impact on the project may be marked off.

c) Don't attempt to address every danger during the meeting. If there are simple solutions, be sure to note them, but maintain the session's emphasis on risk identification rather than response creation.

2. Interviews: It is necessary to use a more organized approach than brainstorming when asking people about risk. Utilizing a risk profile and asking targeted questions will encourage the interviewee to consider all facets of the project.

Using a Risk Profile

Applying the knowledge gained from previous initiatives is one of the finest strategies to guarantee a project's success. A risk profile is used to do this. A risk profile is a series of inquiries that focus on common sources of project uncertainty. These inquiries have been compiled and improved upon from earlier, related studies. The process of developing a risk profile is continuous; after the project's conclusion, the profile will be updated to reflect the lessons learnt.

Good risk profiles adhere to the following fundamental rules:

1. They are sector-specific in nature. Developing a mall is not the same as developing an information system, for instance.

2. They are unique to each organization. Industry-specific profiles are an excellent place to start, but addressing risks unique to a firm or department makes the profiles even stronger.

3. They handle hazards related to both management and products. Product hazards are dangers related to using or creating new technologies. Project management concerns, such if the team is geographically scattered, are addressed by management risk.

4. They gauge how big each danger will be. A more precise evaluation of certain risk variables is made possible by even simple, subjective risk indicators like high, medium, or low. Over a wide range of projects, more granular quantitative indicators provide the chance for higher refinement and accuracy.

Independent of specific projects, a person or group creates and maintains risk profiles. The risk profile keeper takes part in post-project evaluations to find out how well the profile performed and to spot any new hazards that should be included. These profiles may be an effective predictor of project success when maintained current. Their inquiries are alive with the cumulative experience of the firm's prior initiatives. Good risk profiles may even be purchased. They will be sold by consulting companies as a component of their project management offerings. In its Continuous Risk Management Guidebook, the Software Engineering Institute provides a comprehensive set of questions for assessing risk on software projects.

Historical Records

The strongest indicator of the future is still history. A project manager may look at what transpired on comparable projects in the past in addition to the history reflected in the risk profile. You may be able to draw on previously recorded, helpful risk-related information, such as:

1. Records of planned and actual performance that show if the cost and schedule projections were accurate.

2. Issue diaries that show the unanticipated problems and detail how they were overcome.

3. Post-project evaluations that result in the project's lessons learned; while these lessons are sometimes disregarded, they might be crucial to your project's success.

4. Records of customer satisfaction. These kinds of records are becoming more prevalent in our service-based economy. When a prior project resulted in either raving client acclaim or mountains of complaints, you may mine them for the mistakes or successes of your forebears.

Step Two: Analyze and Prioritize the Risks

Not all risks endanger a project. Some of them are little more than pebbles in a pond; the ripple they create swiftly goes away. Others, however, resemble a tsunami caused by an undersea earthquake. Project managers need to understand the distinction between the two. To create a suitable plan to deal with the risk, they must be able to assess the risk's severity. Three steps are involved:

1. Describe the risk, taking into account the severity of the adverse effects.

2. Give the danger a probability. What is the likelihood that this issue will arise?

3. Arrange the hazards by effect and likelihood. The project team is focused on the risks they will handle thanks to this prioritized list.

Initial Risk Prioritization

These risk identification tasks, if diligently carried out, will have produced a lengthy list of possible threats. Many of these risks, however, won't be worthwhile to manage since they'll have low effect, low likelihood, or both. The project manager and team will be able to swiftly filter through and winnow down the risks it doesn't pay to worry about even without doing in-depth research of these hazards. That indicates that a list of recognized dangers that are deserving of further investigation is the result of the risk identification procedure.

Step Three: Develop Response Plans

Up until this point, our focus has been on evaluating and quantifying the risks to a project's success. The time has arrived to create plans for addressing these dangers. Since there are as many methods to minimize risks as there are possible dangers, this is the challenging part. What is the most effective technique to lower a risk? The technique we've talked about for evaluating a risk holds the key to the solution: Reduce the likelihood, the effect, or both. For illustration:

1. If I can get myself ready for a situation that is beyond my control, I will have less of an influence. I always bring a first aid kit camping because of this.

2. Employing a specialist to run complicated equipment lowers the likelihood of an accident. Additionally, since the risk is passed to the equipment owner, an accident's financial effect is diminished.

Risk Reduction Techniques

Accepting the risk, avoiding the risk, preparing for contingencies, transferring the risk, and minimizing the risk are the main five categories of traditional risk response tactics. Let's take a closer look at each of them.

1. Recognize the Risk

When you opt to take no action while knowing the risk's potential repercussions and likelihood, you are said to have accepted the risk. The project team will take action if the danger materializes. When the chances of an issue occurring or its effects are low, this is a frequent tactic. This tactic has reasonable as long as the repercussions are less expensive than the remedy.

2. Reduce Risk

A risk may be avoided by opting not to complete a portion of the project or by selecting a less risky (more foreseeable) method of achieving project goals. This project's deletion of a portion

might have an impact on the business risk in addition to the project itself. Because a scaled-down product can offer lesser income or cost-saving prospects, altering the project's scope might also alter the business case. A common financial term is risk/return: if you want a high return on an investment, you'll likely need to take on greater risk. Low risk, low reward might result from avoiding hazards in projects.

3. Preparedness Measures

Monitor the risk and be prepared with a backup plan if you can't change the likelihood but can at least lessen the effect. Select a predictive indicator to keep an eye on as the project gets closer to the danger point to monitor a risk. For instance, establish periodic status update points early in the project and check on the progress of the subcontractor if you are worried about their performance. Being a member of the test team is the risk management approach.

Step Four: Establish Contingency and Reserve

The idea of having a rainy-day fund is not new. We regularly save money, generally a little sum, in a bank account or sugar bowl that is designated for a rainy day when things don't go as planned. We have the money set aside in case the refrigerator breaks down, the car's transmission has to be replaced, or another unforeseen illness occurs. Others claim it is merely common sense something any reasonable person would do. Some see it as being cautious. These are known as contingency funds and reserve funds in project risk management terminology, and creating these accounts is entirely the project manager's and sponsor's responsibility.

We have determined that the hazards included in our risk register are known unknowns, meaning that we are aware of them but are unable to foresee their exact outcome. We have a number of tactics at our disposal to address these risks, some of which demand for developing a contingency plan a strategy we will put into action if the risk materializes. Since it is statistically improbable that every contingency plan would be carried out, it seems logical that they must be paid in advance, but it is unclear how much money should be put aside. You may use the following four stages to create an acceptable contingency budget:

1. List all of the dangers in the risk register. Your goal is to keep an eye on the risk and create a backup plan.

2. Calculate the extra cost of carrying out the contingency plan for each of these risks. If you add up the price of all the backup plans, that is how much money you would put aside if the chance of each risk was 100%. However, as no risk has a 100% chance of happening, you must calculate the anticipated value of each contingency by dividing the cost of the plan by the likelihood that the danger will really happen expected value of contingency = cost of contingency probability of risk occurrence.

3. For each of these risks, add up the estimated value of the contingency.

    1. That will result in a figure that senior management will find impossible to swallow since they could never have imagined that so many things might go wrong on a project. The negotiations commence at this point.

4. In this negotiation, there is no good man or bad guy. If you set aside too much money, you will be preventing other worthwhile initiatives from receiving funding from which the company may gain. If you don't set aside enough money, you won't be able to respond when foreseeable hazards occur. To prepare for the recognized dangers, all participants to this discussion should have the same objective in mind. Forecasting the future is a task that all parties must overcome.

Step Five: Continuous Risk Management

The continuous risk management actions are what lead to outcomes, no matter how exacting, comprehensive, and meticulous the original risk planning processes were. The best data we have at the time the project starts forms the basis of our risk management strategy. New information becomes available while the project is carried out, some of it positive and some of it not. We are interested in how it impacts our current recognized risks and if any new hazards develop from a risk management standpoint. Schedule the following tasks on a regular basis to stay ahead of risks:

1. Utilize a risk register to track known dangers. Before each project status meeting, each risk in the risk register may be updated to reflect the most current information, even if it just means "no change."

2. At regular status meetings, look out for new hazards. Although this activity won't be as detailed as the first risk identification activities were, the initiative fosters a culture of risk awareness by constantly soliciting new hazards. Team members will be aware of where and when to report risks if they do detect them.

3. Repeat the primary risk identification tasks at the project's predetermined milestones. These might occur periodically, as every six to nine weeks, or they can occur at the start of a new phase. The important thing is that they be organized in advance and carried out; otherwise, it is unlikely that risks would be identified. If the project team members are reluctant to repeat these tasks throughout the project, keep in mind that investing in risk identification is the "ounce of prevention."

4. When new hazards are found, create reaction strategies and determine if there is enough management or contingency reserve.

5. A few hazards don't come to pass. Retire them from the risk register when that occurs, but be sure to note why they didn't come to pass was it good fortune or prudent risk management?

In its simplest form, continuous risk management is the repetition of the main risk management procedures across the course of the project. We consistently identify dangers and eliminate them before they become issues via persistent attention.

CONCLUSION

Project management includes risk management, which helps businesses to recognize, evaluate, and deal with possible risks to the success of their projects. Project managers may allocate resources efficiently, create mitigation plans, and lessen the impact of uncertainty by methodically identifying and prioritizing risks. Project failure is less likely when risks are

identified and understood, allowing for proactive decision-making and backup plans. Engaging stakeholders, promoting open communication, and actively integrating team members in the risk assessment and mitigation process are all essential components of effective risk management. This cooperative method guarantees that all pertinent viewpoints are taken into account and fosters a common awareness of possible risks. Early stakeholder involvement allows project managers to benefit from their knowledge, win their support, and strive toward risk reduction.Risk avoidance, risk transfer, risk reduction, and risk acceptance are a few examples of mitigation measures that should be adapted to the individual project environment and recognized hazards. Project managers may keep ahead of possible problems by putting proactive measures in place, such as routine monitoring, prompt risk response, and contingency planning. Project managers may reduce uncertainty, improve project resilience, and increase the likelihood of accomplishing project goals by using a systematic approach to risk assessment, prioritizing, and mitigation. Practices for proactive risk management encourage a proactive and adaptable project environment, allowing businesses to successfully traverse hurdles and produce desired results.

REFERENCES:

[1]   T. Shimada, J. Ang Soo-Keng, and D. Ee, "Exploring the impact of IS function maturity and IS planning process on IS planning success: an ACE analysis," *Eur. J. Inf. Syst.*, 2019, doi: 10.1080/0960085X.2018.1557373.

[2]   A. Jalal and A. Murray, "Strategic Planning for Higher Education: A Novel Model for a Strategic Planning Process for Higher Education," *J. High. Educ. Serv. Sci. Manag.*, 2019.

[3]   C. H. Häll, A. (Avi) Ceder, J. Ekström, and N. H. Quttineh, "Adjustments of public transit operations planning process for the use of electric buses," *J. Intell. Transp. Syst. Technol. Planning, Oper.*, 2019, doi: 10.1080/15472450.2018.1488131.

[4]   G. P. A. De Lijster, G. Kok, and P. L. Kocken, "Preventing adolescent sexual harassment: Evaluating the planning process in two school-based interventions using the Intervention Mapping framework," *BMC Public Health*, 2019, doi: 10.1186/s12889-019-7808-8.

[5]   V. C. Rentes, S. I. D. de Pádua, E. B. Coelho, M. A. de C. T. Cintra, G. G. F. Ilana, and H. Rozenfeld, "Implementation of a strategic planning process oriented towards promoting business process management (BPM) at a clinical research centre (CRC)," *Bus. Process Manag. J.*, 2019, doi: 10.1108/BPMJ-08-2016-0169.

[6]   J. Liu *et al.*, "Dynamic Evaluation Method of Machining Process Planning Based on Digital Twin," *IEEE Access*, 2019, doi: 10.1109/ACCESS.2019.2893309.

[7]   F. Schlegl *et al.*, "Integration of LCA in the planning phases of adaptive buildings," *Sustain.*, 2019, doi: 10.3390/su11164299.

[8]   B. Heinrich, F. Krause, and A. Schiller, "Automated planning of process models: The construction of parallel splits and synchronizations," *Decis. Support Syst.*, 2019, doi: 10.1016/j.dss.2019.113096.

[9]   D. Short and A. Szolucha, "Fracking Lancashire: The planning process, social harm and collective trauma," *Geoforum*, 2019, doi: 10.1016/j.geoforum.2017.03.001.

[10]   A. Swierczek and N. Szozda, "Demand planning as a tamer and trigger of operational risk disruptions: evidence from the European supply chains," *Supply Chain Manag.*, 2019, doi: 10.1108/SCM-03-2019-0095.

A WORK BREAKDOWN STRUCTURE MAKES A PROJECT MANAGEABLE

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ABSTRACT:

A breakdown structure is a key project management technique that aids in organizing and breaking down big projects into more manageable parts. This chapter discusses the idea of a breakdown structure and how crucial it is for managing projects. It talks about the several kinds of breakdown structures that are often used, such the organizational breakdown structure (OBS) and the work breakdown structure (WBS), and how they help projects succeed. A breakdown structure promotes efficient planning, resource allocation, and monitoring of project progress by dividing projects into smaller, more manageable components. The importance of a well-defined breakdown structure in attaining project goals and producing good results is emphasized in this study.The project is divided into manageable work packages by the work breakdown structure (WBS), which enables project managers to assign resources, establish deadlines, and monitor the accomplishment of certain tasks. A visual depiction of the project's scope is provided by this hierarchical structure, facilitating efficient project planning, coordination, and control.

KEYWORDS: *Breakdown Structure, Project, Project Management, Work Breakdown.*

INTRODUCTION

It may not need much preparation if you drive to a town that is less than 100 miles away. Get in the vehicle, check the fuel level, and drive away. However, if you were planning to go by car from the Florida Keys to Anchorage, Alaska, you would likely take some time to study maps and plan your route. You would fragment the lengthy journey in some way. Perhaps you would use state borders or other geographical boundaries for this. Or you may plan it based on the potential daily distance. But regardless of your strategy, breaking down a journey this huge is the only way to correctly plan it[1], [2].

For projects, the same holds true. At a high level, you could have a good enough grasp of a project to balance the cost-schedule-scope equilibrium, but you also need to be able to deconstruct it to comprehend the total project by comprehending its constituent elements. The technique for disassembling a project into its constituent elements is the work breakdown structure (WBS). It is the cornerstone of project planning and one of the most significant project management approaches. It might end up being the key to effective project management if done well. The WBS is perhaps the most effective method in this book [3], [4].

The Work Breakdown Structure is Defined

All of the tasks in a project are listed in the work breakdown structure, which is also known as a task list. It divides the job, which was formerly a single, complicated, possibly perplexing effort, into several smaller, more manageable ones. The WBS establishes the activities that serve as the cornerstone for all future planning by using the outputs from project definition and risk management [5], [6]. Both graphic and outline formats may be used to create work breakdown systems. They detail the numerous duties involved in each case. For instance, planning and installing a new grass with a sprinkler system and a fence requires a variety of jobs. The outlined WBS is more useful since it allows you to list hundreds of activities, many more than can be stated using the graphic method. The graphic WBS produces a picture that makes it easier to grasp all the components of a project. Several project management actions benefit from the WBS's clarification and provision of relevant information. Creating a WBS facilitates:

1. Give a thorough explanation of the project's scope. Even if the charter provides a conceptual definition of scope, a WBS is the only tool that can provide a thorough analysis of a project's scope.

2. Follow developments. Since each job on the WBS is a quantifiable unit of labor, they serve as the foundation for tracking progress.

3. Produce precise cost and schedule projections. Each task's equipment, labor, and material expenses will be specified in the WBS.

4. Create project teams. Each team member wants to know exactly what their responsibilities are and how their work fits into the bigger picture. Good WBSs combine the two. By including the team in the WBS's creation, you may strengthen their commitment to the strategy.

Understanding the WBS

The WBS separates all of the project's work into discrete tasks (also known as activities). A WBS has two different types of tasks: work packages and summary tasks. For a lawn, "install sprinkler system" is a summary job since it encompasses a number of subsidiary chores. A sprinkler system installation may include multiple of these different, ancillary operations, such as trenching or pipe installation. A work package is the term used to describe each of these distinct jobs. You complete a summary job by completing each of these straightforward work packages.

DISCUSSION

The WBS on an Agile Project

We distinguished between iterative, incremental, and predictive development strategies. For iterative development, when the project scope is gradually expanded, agile approaches have been created. The work breakdown structure is undoubtedly well-suited to a predictive, or waterfall, development strategy where the scope is established prior to the start of the job. In an agile methodology like Scrum, a product backlogthe prioritized list of features that the client has recently requested is the similar idea. However, there is a significant distinction between a WBS and a product backlog, thus the two are not interchangeable. However, both indicate the product

and project scope[7], [8]. The WBS may be used by hybrid development methodologies to display the large picture. Phases like the preliminary architectural design will manifest similarly to a predictive method. The project won't be split down too much into its iterative delivery-based components.

Building a Work Breakdown Structure

Everyone on the team can easily grasp their position thanks to a proper WBS, and it also makes managing the project much simpler. But don't be deceived; creating an effective WBS isn't always simple. An effective WBS may be created using three stages as a guidance [9], [10].

WBS Step One: Begin at the Top

A WBS identifies all the activities necessary to produce the deliverables specified in the project charter and breaks down the project into decreasing degrees of complexity. The primary deliverables or the high-level tasks from the scope statement may be included on the first layer to start the breakdown process. Tier one includes the design, grass, and fence, which are the three main deliverables. Even though the landscape design is not an end product like the grass and fence, it is nonetheless recognized as a key deliverable. Both end and intermediate deliverables may be included in the charter. The WBS lists every deliverable from the charter.

The high-level activities listed in the scope description may also be used as tier-one tasks as an alternative starting point. The WBS is basically a thorough illustration of the project's procedures since it includes all project tasks. In order to depict the main stages or phases of a development life cycle, tier one might be put up as a perspective of these activities. However, layer one still displays a deliverable for each step even when utilizing this strategy. Your WBS will be connected to the charter in any case.

Introduction to the WBS

Starting a work breakdown structure might sometimes be the most difficult step. The WBS contains so much information that it may seem daunting. Reviewing the work you did during project definition and risk management is a smart place to start.

WBS Step Two: Name All the Tasks Required to Produce Deliverables

A task name identifies an action that results in a finished good. If a WBS for a landscaping project, for instance, specifies "lawn" or "shrubs," you will need to add verbs to each job name so that "lawn" becomes "put in lawn," "shrubs" becomes "plant shrubs," and so on. The next stage is to separate each activity into the more specific, lower-level tasks needed to complete the product. It seems simple, doesn't it? Be not fooled. Due to the WBS's precise definition of the product's construction process, breaking it down might be the most challenging phase in the planning process. For instance, a high-level assignment could appear simple to comprehend, but after breaking it down, the project manager might discover that they are unable to identify all the specific activities needed to do it. It's time to start include additional team members with a variety of talents in the planning process at this stage. In reality, it makes sense to assign each job to a subject-matter expert who would subsequently break it down into work packages when designing a big, interdisciplinary project. A small team should first develop the top two tiers of the WBS. When these specialists are finished, the core team may assemble them to create the

whole WBS. In addition to producing more precisely described job breakdowns, this kind of participatory planning may also foster greater levels of project commitment.

Creating a WBS may be particularly challenging if the project involves exploring new territory. Here's an illustration: Tom, a human resources manager for a business with roughly 10,000 employees, was in charge of a project to develop a new method for predicting the company's labor needs over a three-year period. He rapidly found that he was unsure of the steps to take in establishing the new process when he started to put together his WBS. Tom and his team had to spend time coming up with a fresh plan since there wasn't a precedence for this sort of project in his organization. The high-level managers who would utilize the system to predict their people requirements were the project's clients, and they were shown the finished plan. The management team gave their approval to the plan, but in this instance they were also giving their approval to the new strategy that Tom and his team had developed. They were also embracing their duties as specified in the plan since a large portion of it described how this management group would take part in creating the new system. "We spent at least two weeks planning this project, and the majority of that time was spent on the WBS," Tom said after his team had finished their plan. That went on for approximately two weeks longer than I had anticipated. But I can see that we really saved a ton of time by taking the effort to develop a thorough plan. Imagine how many dead ends we would have gone down without this strategy if it took us two weeks to find out how to manage this assignment.

WBS Step Three: How to Organize the WBS

It is feasible to rearrange the job packages after they have all been recognized. The overall project will stay the same even if the work packages are organized differently in this scenario if you put them under several summary task headers, for instance. The exact same job packages are divided up into several summary tasks. Different work package structures may highlight various project elements. For instance, one arrangement of work packages may emphasize the many parts of a new product, whilst another would focus on the key stages of the product's delivery. This type of distinction occurs when the first WBS offers top-level view on the two key parts of the widget. The second WBS, in contrast, offers high-level visibility on the key stages of the new release. Because the emphasis of either arrangement may speak to the interests of certain stakeholders, both may be helpful for communicating with the different parties participating in the project.

Criteria For a Successful Work Breakdown Structure

People often believe that a good WBS is simple to create because it is simple to read. This is untrue, however, since a significant number of erroneous and subpar job breakdown structures are created each. However, you may be certain that your WBS will be helpful in planning, communicating, and monitoring your project provided it satisfies the following assessment criteria. Three requirements for a successful WBS are as follows:

1. The WBS has to be broken down from top to bottom. This breakdown occurs top down. You must ensure that the work packages you create are divisions of the summary tasks. The evaluation is easy: Asking "Is this task a subset of the task above it?" as you go up the hierarchy from any work package at the beginning.

TAJMMR

This guideline enables you to:

a) Make use of customary project management tools. If you use the program in any other manner, it will just provide you with rubbish at the summary level.

b) Provide pertinent project data at the level of the summary task. For instance, the costs of all subordinate jobs are simply added up to get the prices for summary tasks. This allows you to keep track of the project at the work package level while still utilizing the summary tasks to provide your sponsor with more useful information about the project's progress.

2. The aggregate of the work items must equal the summary job. Not include important tasks in your plan is one of the most annoying planning errors. By being particularly cautious while adding up the results of all the work packages underneath any summary job, you may prevent this issue. Together, these supporting tasks need to result in the outcome specified by the summary job.

3. A product-producing activity must be identified for each summary task and work package. This entails naming each task in a way that is descriptive and has both a powerful verb (the action) and a powerful noun (the result). The work becomes unclear without them. Two examples will do:

a) Open-ended assignments. We all understand what "perform analysis" or "do research" mean, but because no tangible result is created, these tasks are endlessly repeatable. Tasks with titles like "Define hardware requirements," "Write a problem statement," or "List candidate vendors" are better since they reflect the outcomes of the study or investigation. The work and the team have a defined goal since they are focused on generating a product, which makes it simpler to estimate and monitor the task.

b) Activities with no set finish. This year, "database" will be a job in hundreds of projects, but what action is necessary?

From design to load to test, there are numerous potential causes. That's the problem—it's not apparent what this work entails. Add an action to the job to clarify it, such as "Test the database."

Package of Work Size

The biggest issue with projects that go far over budget is that the work packages are so big that they may spiral out of control. It is not a task; it is a subproject if a job is anticipated to take 8 months and 3,800 labor hours (i.e., three individuals working full-time on the task)! This is the type of assignment that goes exactly according to plan for seven months before hitting a tough patch in the eighth month and taking twelve. This work has become unmanageable due to its scale. The issue would increase significantly if the whole project were designed in the same way. Use these general guidelines to make sure the work packages are the right size.

1. The 8/80 principle. There should be no work that requires less than 8 labor hours or more than 80. This means that you should limit the length of your work packages to 1 to 10 days. Clearly, this is a recommendation rather than a firm rule.

2. The rule of the reporting period. The maximum length of a job is the distance between two status points. In other words, no work should last more than one week if you have weekly

status meetings. The benefit of this rule is that you won't have to hear about task statuses that are 25, 40, or 68 percent complete when it's time to report schedule status. Tasks will be reported as either complete (100 percent), begun (50 percent), or not started (0%), depending on whether you adhered to a weekly reporting criteria. For two consecutive status meetings, no job should be at 50% completion.

3. The "if it's useful" principle. There are three reasons to further divide down jobs when you decide whether to do so:

a) It's simpler to estimate the work. Smaller activities often have less uncertainty, resulting in estimates that are more precise.

b) It's simpler to delegate the assignment. Large tasks with a large number of participants lose responsibility. It may be easier to determine who is accountable if the work is broken down. Another advantage is that you may have more freedom in arranging the work and the resource if you allocate smaller projects to fewer employees.

c) It's simpler to monitor the work. The reasoning for the reporting period requirement still holds true. You will have more accurate progress reports since fewer jobs provide more observable status points. Don't split a job down if doing so isn't helpful, i.e., if doing so won't make it simpler to estimate, allocate, or track.

Criteria for Completion

The following two crucial issues regarding each work package are addressed by the completion criteria: What does it imply to have finished this task? How can we be sure it was done properly? Early on in the development life cycle is the best time to ask these questions. However, they may be the undertakings with the most elusive outcomes. How are a problem statement or business case tested? Although it may not be simple, it is crucial. The project manager and team must look to the best practices in their sector when determining completion criteria. Here are some examples of completion standards:

1. **Peer reviews:** When there is nothing concrete to test in the early stages of a product development life cycle, they are typical in many industries. The idea behind peer reviews, often called walkthroughs, is that having three to six different perspectives is preferable than having just one. Even while passing the review does not ensure that the final product will be flawless, experience has shown that putting jobs to peer reviews produces noticeably better outcomes early in the development life cycle, which results in more efficient work later on.

2. **Checklists:** For instance, procedures for assessing new drawings have been devised by the engineering department of an aircraft corporation. A lead engineer will use the checklist to assess another engineer's drawing. The checklists encompass the standard tests each design must pass. In this instance, "passing the checklist" is a requirement for a drawing's completion.

3. **Systematic testing:** Almost often, tests need to be performed later on in a product's life cycle. Manufacturers of airplanes, for instance, have huge test facilities where they can replicate the pressures that an aircraft faces while flying. Completion requirements may be outlined as passing stringent, systematic testing.

Completion criteria enhance both quality and our comprehension of each work, leading to more precise estimates and greater success rates.

Breaking down Large Programs

A program manager in charge of a billion-dollar contract won't start breaking the program into one-week chunks right away. The contract will be divided up into projects, each of which will be further divided up into smaller projects. The task will eventually be divided into smaller work packages that will each take between 8 and 80 hours to complete. This top-down approach to a project inside a project within a program is the foundation for this endeavor.

Various WBS Guidelines

Summary task and work package are concepts that were introduced in this chapter and are often utilized. The technique of identifying all tasks using powerful words and verbs is similar. But you'll also discover various principles given the huge diversity of project sizes and kinds. Observe the following two:

1. The WBS that is deliverable-focused. This school solely utilizes nouns to describe each element of the WBS, as opposed to verbs. The WBS clearly depicts the elements of the final delivery, and in this program, it also serves as a representation of the organizational structure. Defense contractors and the Project Management Institute are supporters of this strategy.

2. Work packages as groupings of activities or as subprojects. When a project costs $50 million, $500 million, or $5 billion, it might be quite beneficial to break it up into much larger portions that will take much longer than 80 hours to complete! A work package on these projects may cost up to $100,000. In this situation, all of the WBS recommendations in this chapter may be used to breakdown the work package itself.

CONCLUSION

A breakdown structure is a crucial tool that makes challenging tasks easier to handle and raises project success rates. A breakdown structure offers a clear and organized framework for project management by dividing a project into smaller components, such as tasks, activities, or organizational units. The work breakdown structure (WBS) and organizational breakdown structure (OBS), two popular forms of breakdown structures, provide efficient planning, resource allocation, and project progress monitoring. The organizational breakdown structure (OBS) focuses on segmenting the project according to the organizational units in charge of certain duties or deliverables. It facilitates effective communication and teamwork by identifying roles, responsibilities, and reporting lines within the project. By giving clarity, assuring thorough coverage of project components, and lowering the complexity involved with big projects, a well-defined breakdown structure makes it easier to manage projects. It improves the project team's capacity to recognize possible hazards, handle dependencies, and efficiently allocate resources.

REFERENCES:

[1]   E. Safapour and S. Kermanshachi, "Identifying Early Indicators of Manageable Rework Causes and Selecting Mitigating Best Practices for Construction," *J. Manag. Eng.*, 2019,

doi: 10.1061/(asce)me.1943-5479.0000669.

[2]   D. J. Mallinson, "Teaching environmental policy by having students write case studies," *Case Stud. Environ.*, 2019, doi: 10.1525/cse.2018.001776.

[3]   J. M. Ríos and N. Pedreira-Souto, "Approach of agile methodologies in the development of web-based software," *Inf.*, 2019, doi: 10.3390/info10100314.

[4]   D. L. Pells, "Six Fresh Eggs: A half dozen new ideas for managing projects in a rapidly changing VUCA world.," *PM World J.*, 2019.

[5]   G. Falco *et al.*, "A Research Agenda for Cyber Risk and Cyber Insurance," *Work. Econ. Inf. Secur.*, 2019.

[6]   N. Naik and P. Jenkins, "A web based method for managing PRINCE2® projects using trello®," in *ISSE 2019 - 5th IEEE International Symposium on Systems Engineering, Proceedings*, 2019. doi: 10.1109/ISSE46696.2019.8984516.

[7]   G. D. Montemayor, "Recovering subsidized housing developments in northern México: The critical role of public space in community building in the context of a crime and violence crisis," *Sustain.*, 2019, doi: 10.3390/su11195473.

[8]   J. Wittwer, "Gantt Chart Template for Excel," *06 February*, 2019.

[9]   P. Bots, E. Van Daalen, and S. Dopper, "The PRESTO Project relay: Open, Asynchronous Learning in Virtual Peer Groups," *EDEN Conf. Proc.*, 2019, doi: 10.38069/edenconf-2019-ac-0050.

[10]   B. Caruso, "Innovation instruction in the academic library: A new focus," *J. Electron. Resour. Librariansh.*, 2019, doi: 10.1080/1941126X.2019.1597445.

A BRIEF STUDY ON REALISTIC SCHEDULING

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ABSTRACT:

A key component of project management is realistic scheduling, which entails setting realistic deadlines and efficiently assigning resources. The importance of realistic scheduling in project planning and execution is examined in this chapter. Effective resource management prevents bottlenecks and delays by ensuring that the required employees, equipment, and materials are available when needed. Additionally, doing a comprehensive risk assessment allows proactive planning to reduce risks and helps identify possible obstacles. It looks at the essential elements of realistic scheduling, such as precise job estimate, resource accessibility, and risk assessment. Organizations may increase project performance, raise stakeholder satisfaction, and reduce possible delays and interruptions by putting realistic scheduling standards in place.

KEYWORDS: *Project, Project Management, Stakeholder, Work Package.*

INTRODUCTION

When individuals are asked what factors contribute to a project's success, "a realistic schedule" often comes up on top. However, when you press them for further details, some traits of a realistic plan become apparent[1], [2].

A Reasonable Timetable:

1. Contains a thorough understanding of the job to be done.

2. Has task sequences that are well arranged.

3. Takes into account outside restrictions that are beyond of the team's control.

4. Can be completed on schedule if sufficient resources, including competent labor, are available.

Finally, a realistic timeline takes into account all of the project's goals. For instance, a timetable could be ideal for the project team, but if it significantly misses the customer's deadline, it's obvious that the whole project has to be reevaluated. A thorough, step-by-step procedure must be followed in order to create a project plan that has all the required components and strikes a realistic balance between cost, schedule, and scope. The next five planning phases are explained in this chapter. Each phase of the planning process builds on the one before it and adds a new component to the overall strategy [3], [4].

A Significant Leadership Chance

After you have mastered the strategies in this chapter, creating a workable timetable may seem as simple as algebra. Prior to employing this bottom-up, step-by-step scheduling method, the business case and charter were used to assign the calendar milestones as a response to external deadlines or using high-level forecasts. In other words, it's possible that your timetable milestones are both inaccurate and too optimistic.

Two significant leadership possibilities arise from the planning process:

1. A great deal of specific information is needed to build a precise strategy. A disciplined procedure will help your team as they estimate tasks and establish resource assumptions. In fact, a team could get bogged down by the intricacies in the absence of a systematic procedure. Keep the team focused on one planning phase at a time by using the procedure described in these two chapters [5], [6].

2. This bottom-up approach may provide results that vary from the initial timetable milestones in your business case and charter. This strategy is supported by careful reasoning, math, and assumptions. Have faith in your team and your planning process, and be sure to communicate the outcomes of your sessions to your most influential stakeholders, such as your sponsor and customer. A traditional project management difficulty is facilitating a discussion of trade-offs with your stakeholders that leads to a reasonable cost-schedule-scope equilibrium that is closely related to the project's desired value. When done correctly, it serves as a powerful example of your leadership[7], [8].

A Overview of Planning

Here is a concise summary of the procedures involved in project planning. The first two steps might be regarded as preplanning activities since they provide the foundation for planning. The last five phases create the specific strategy.

Preplanning Activities

1. Write a definition for the project. The project charter, which outlines the project's goals, objectives, and deliverables as well as the team's duties, is created by the project manager and the project team.

2. Create a risk management plan. The project team assesses the potential roadblocks and develops a plan to balance budget, time, and scope.

Preparation Steps

1. Create a work breakdown framework, first. The group determines every job needed to create the desired deliverables. The project's limits are defined in part by the scope description and goal.

2. Define the connections between tasks. Work packages, which are the specific tasks, are organized in the right order.

3. Calculate work-package costs. There is an estimate created for each of these specific activities that includes the time required, the quantity of manpower and equipment required, and other details.

4. Determine the first schedule. The team determines the overall time of the project after calculating the length of each work package and taking into account the order of tasks.

5. Distribute and grade materials. In order to take resource limitations into consideration, the team modifies the timetable. Rescheduled tasks maximize the usage of personnel and resources on the project.

These actions provide all the data needed to comprehend how a project will be carried out. Despite being methodical, the steps don't always lead to the "correct answer." Finding the ideal balance between cost, schedule, and scope may require repeating these processes many times. Let's look at the problem of determining the best cost-schedule-scope equilibrium for a project. Making a work breakdown structure is the first step, which was discussed in the previous chapter. Step Two, which entails determining the connections between the various activities, is where we begin.

Planning Step Two: Identify Task Relationships

The link between the tasks determines the order in which specific tasks work packages are completed. Take a look at the next five jobs from the previously outlined landscaping project to demonstrate this concept. These work items are a part of that project:

1. Acquire lawn materials

2. Remove debris

3. Prepare soil

4. Plant lawn seed

5. Plant shrubs

The question: What is the right sequence? Emerges when the homeowner and the adolescent children who will be working on this project consider these chores. There will always be sequence limitations when a succession of jobs is carried out, meaning that some tasks must be finished before others. The connections among various tasks determine sequence restrictions. For instance, before to planting the grass seed, rocks, weeds, and other waste must be taken out[9], [10].

The seed would be lost if these chores were done in the opposite sequence since the weeds would be removed first. The most typical method for displaying task dependencies is a predecessor table. In fact, this is precisely how the connections are recorded in the majority of project management programs. Either one may be completed first, or if there are enough individuals, both can be finished simultaneously. Concurrent jobs are those that may be carried out simultaneously.

When using a network diagram to graph task interactions, there are just two fundamental principles to remember:

1. Only specify task connections inside work packages. Keep the sequence restrictions at the work package level, even if a project may contain hundreds of work packages and several levels of summary tasks. Remember that summary tasks are merely collections of work packages, thus it would be absurd to establish a task link between a summary task and the work package that contains it. The lone exception to this rule is that networks may be made to depict project connections at the summary level on rare occasions on extremely big projects.

2. Resource restrictions should not be reflected in task connections; only the sequence constraints between work packages should be. The most frequent mistake made while creating network diagrams is changing one due of resource limitations. It doesn't matter in this case if there aren't enough personnel or other resources to work on many jobs at once. The tasks must be completed in the same sequence regardless of resources.

Milestones Are Useful Markers

Many project managers find it helpful to highlight crucial moments in a project's life while building up the timeline of events. Work breakdown structures and network diagrams often employ these milestones. Since milestones have no length, adding them to a project has no impact on its timetable. Use milestones for the following three excellent reasons:

1. Project start and conclusion dates serve as helpful network anchors. The project is unaffected by the milestones, however many individuals feel that the network diagram is simpler to comprehend as a result.

2. Milestones may be used to indicate contributions from different parties. Many projects have external dependencies, meaning they rely on inputs from certain outside sources. An environmental impact study for an electric utility, for instance, could be published by a government body on a certain day. That publication date may be used as a milestone for a project inside that electric utility.

3. Significant occurrences that are not already captured by a work package or summary task might be expressed by a milestone. For instance, milestones might be used to display payment points if a company gets progress payments depending on work completed.

While milestones are valuable for highlighting significant advancements, the thorough work packages continue to be the true indications of success. Every work package contains specified completion requirements and a measurable outcome, which serves as the most accurate measure of progress.

Planning Step Three: Estimate Work Packages

Building a cost and schedule estimate for each work package is required to establish the total cost and duration of a project; this process is known as bottom-up estimating. Since the process of estimating generates a lot of data, it is crucial to systematically record it. The time from start to finish is tracked in the task's schedule estimate. Typically, this estimate is referred to as the task's duration. It's crucial to account for the whole amount of time that the work will take when creating a timetable estimate.

For instance, ordering the supplies could just take a day, but if it takes 10 days to get them, the work would take 11 days overall. Similar to the previous example, even if a particular choice may only take 2 hours to make, it could be more accurate to estimate the time needed at 5 days if the decision-maker is anticipated to be busy throughout that period.

Four sources provide cost estimates:

1. Labor projections: These forecast how much labor will be required to complete a job. The estimated labor time will be 72 hours if three workers each work eight hours each day for three days. The labor involved in tiny job packages is calculated in hours. (At the project level, labor is sometimes stated in years since it might be a significant cost.) You must also note the necessary expertise in addition to the labor estimate. For instance, a job can expressly call for an electrician to work for 3 days, 8 hours each day. List each skill type if it is necessary to have more than one.

2. Equipment projections: The work package level needs to determine the equipment requirements. These projections then serve as the foundation for determining the project's overall equipment cost.

The term "equipment" in this context refers to the instruments required to do the operation, such as cranes and specialized software. Do not bother to mention typical instruments like hammers, copy machines, or word processors. Equipment utilization should also be measured in hours, just like labor.

3. Material budgets: The cost of the project's materials may be a significant factor or almost nonexistent. While raw materials may account for a significant amount of the entire cost of a construction project, there are no raw materials involved in the implementation of new hiring standards. In contrast to information system projects that install commercial off-the-shelf (COTS) software, software development projects do not need the use of raw materials. Despite the fact that materials prices might account for a significant amount of the project's expenses, the overall cost of materials should be evaluated using the product specifications rather than the work breakdown structure, which estimates costs from the bottom up. Including supplies in the work package estimate helps in determining the precise dates that each of the items will be required; order and delivery dates will then be determined by these schedule requirements.

4. Offers at a certain cost: The three previous cost sources may be swapped out for fixed-estimate costs. For instance, a vendor or subcontractor may submit a fixed-price proposal that covers labor, tools, and supplies. With fixed-price bids, the vendor is responsible for costs; in the event of overruns, the project's cost will not vary. Is it really vital to focus on expenses while attempting to create a realistic schedule? It is because every expense denotes a resource limitation. The timeline will be constrained by expenses like recruiting subcontractors and buying supplies. The schedule will later be modified to take these resource limitations into account (this is the fifth phase of planning), but first we must define all of the resource needs, one work package at a time.

DISCUSSION

Amount of Labor Relates to Duration

The number of persons allocated to a work often determines how long it takes to complete. The quantity of labor that is readily accessible is often taken into account when estimating the length of a job. For example, when a training manager added one extra technician to a task requiring a software update, this increase and extended working hours reduced the assignment's duration from five days to two. An example of how adding more workers might shorten the time it takes to complete a job is provided in the work package estimates for the home landscaping project. The homeowner and the three family teens who were part of the project team agreed that endeavor 10, "Remove debris," would be a time-consuming and unpleasant endeavor if they attempted to complete it alone. So they enlisted some of the local youth group's members to assist them for a few days. The job can be finished in four days with eight persons working on it.

Productivity Relates to Duration

You must take their productivity into account when determining the number of workers required for a job. Simple jobs are always completed faster when more individuals are involved. When the total work hours do not vary when the number of persons allocated to the job changes, productivity is said to remain constant. But when it comes to jobs requiring knowledge workers, increasing the number of employees does not necessarily lead to higher productivity and shorter task durations. For instance, if two engineers are working on a challenging issue, adding three more might actually slow down the process and result in little to no improvement in the final product's quality. When a consequence, productivity suffers noticeably when labor costs rise while maintaining the same level of output. When gauging productivity, it's also important to keep in mind that those who focus exclusively on one task tend to be more successful than those who divide their time between many tasks. The analyst believes that being able to give one assignment her whole concentration will allow her to work more efficiently and in fewer hours and days.

It is often not essential to determine precisely what time of day your part-time project employees will be working on your project when determining the number of hours they will be compensated for. You may proportionately raise the estimates for the task's length by applying a resource-level assumption, such as "two hours per day," to all of their duties. With this strategy, each team member may choose when to start working on the assignment for themselves. It doesn't matter whether they begin working on it right away or wait until the very last minute. Giving them a start time and a finish time is all that is required to build a comprehensive strategy. As you can see, there are a lot of factors to take into account when determining the expenses and length of work packages.

Planning Step Four: Calculate an Initial Schedule

One of the most well-known yet underutilized project management approaches is creating a timetable. Large undertakings may be very time-consuming and laborious when done by hand. However, it is essential to creating and keeping to realistic timetables. As was previously mentioned, the start and end dates for each job as well as for the overall project are determined using the network diagram and the length of each work package. To create an initial schedule,

the network and task duration may cooperate. Every work package receives a collection of comprehensive schedule data from schedule calculation, as seen in the following:

1. **Early start:** The earliest time a job may start, taking into account those that come before it.

2. **Early completion:** The earliest time a job may be completed, given the tasks that come before it.

3. **Late start:** The latest time a job may start without pushing back the project's completion deadline.

4. **Late finish:** The latest date a job may be completed without pushing back the project's completion deadline.

It takes three steps to calculate the timetable in order to identify these four dates.

Step One: Forward Pass

You may choose the early start (ES) and early finish (EF) for each activity with the aid of the forward pass. Its name comes from the fact that it entails going through a network diagram from beginning to end. The reverse a backward pass is the subsequent action. Because each activity is distributed over the calendar and a time scale is used across the top, it is known as a time-scaled network. The early start dates are all the same, as you can see.

Step Two: Backward Pass

The late start and late end dates are determined by the backward pass. We have all performed this computation many times every time we set an alarm. The backward pass's objective is to assess how late every job may begin or conclude by essentially working backward from the project's completion date. Calculations are made for the late start (LS) and late finish (LF).

Step Three: Calculate Float

While certain jobs may be completed at any time within the timetable, some cannot, other tasks can be completed at any time. This kind of scheduling adaptability is known as float. (Slack is another often used word.) By deducting early start from late start, float is computed.

Gantt Charts and Time-Scaled Networks

There are a thousand words in a picture. The network diagram is crucial for determining the timetable, but for a big project, it may be quite challenging to understand. Thankfully, there are two excellent options that show both the calendar details and the links between the tasks. Henry Gantt invented Gantt charts in the early 1900s, and they are named after him. Gantt charts are now the most used way to show a project timetable. All non-critical activities display float, indicating that they are all presently scheduled at their early start date. The Gantt chart's clarity is a major benefit: The timetable is shown on the horizontal axis, while the work breakdown structure is listed on the vertical axis.

The timescaled network is another fantastic image for showing a timetable. The capacity to fit the network into less paper gives this diagram a benefit over the Gantt chart. On big projects, Gantt charts may become too large to publish, but the time-scaled network, which groups several

jobs on a single line, can be designed to be half to 10 times as tall as a Gantt chart. The initial schedule combines job order and task length, however it is referred regarded as an initial schedule since it doesn't account for resource and equipment constraints. The next stage of planning compares the original timetable to the project's resources as a starting point.

Planning Step Five: Assign and Level Resources

Resource leveling seeks to make the best possible use of the personnel and tools committed to the undertaking. It starts out with the premise that, if feasible, constant, continuous usage of the fewest resources is most effective. In other words, it tries to prevent constantly adding and subtracting resources throughout the project. The last stage in resource leveling Establishing a practical timetable. It accepts the fact that there are fewer personnel and resources available and modifies the timetable accordingly. We can observe how resource leveling makes a project schedule more realistic by using the home landscaping project as an example. In terms of job scheduling, the network demonstrates that it is feasible to install the grass and construct the fence simultaneously. However, when we take into account that the family only has three adolescents that are available to work on the project, it only leaves them with a total of 24 labor hours each day (3 teenagers x 8 hours per day).

It is unreasonable to try to install the grass and construct the fence at the same time since doing so would need each youngster to work far longer than eight hours per day for more than half the project. The timetable will be adjusted as a result of resource leveling to keep the teenagers occupied at a regular, appropriate pace. Resource leveling not only eliminates excessive overtime from their project but also keeps the teenagers working for a longer period of time at a constant pace. Generally speaking, any project team would benefit from it.

Let's look at a few of the challenges that project managers confront throughout this resource leveling procedure. Every endeavor must contend with the realities of scarce personnel and resources. Avoiding both over- and under-allocation is the goal. The house landscaping project serves as an example of how having too many jobs going at once may exhaust available resources. The youths were overworked during the first part of the project, for instance, since the first timetable called for them to work on the fence and the grass at the same time they would have needed to work more than eight hours a day to accomplish this pace.

Whether its adolescents mowing the grass, bulldozers, or programmers, project managers must keep in mind that there are seldom many spares on hand. Project managers may over-allocate resources if they believe they have an abundant supply of a scarce resource, such as the boundless time of the only subject matter expert in the organization. In this situation, a crucial resource may have been overwhelmed in addition to the timeline being unreasonable.

CONCLUSION

Realistic scheduling is essential to project management because it guarantees that tasks are performed on schedule and within budget. Setting realistic project timeframes requires accurate task estimating, taking into account variables like work complexity, dependencies, and resource availability. Organizations may increase the success rates of their projects by using realistic scheduling procedures. Realistic timetables provide attainable objectives, decreasing the

possibility of missed deadlines and expense overruns. Realistic timetables control expectations and build confidence by committing to on-time delivery, which increases stakeholder satisfaction. Realistic scheduling also enables project managers to appropriately distribute resources, maximizing efficiency and avoiding resource shortages or overutilization. Better risk management is also made possible by realistic scheduling. Project managers may create backup plans and deploy the right resources to reduce or handle risks by recognizing possible hazards early on. This proactive strategy improves the project's overall resilience and lessens the effects of unanticipated catastrophes.

REFERENCES:

[1]   A. Brezoňáková, "Realistic scheduling agreement: Defining principles and objectives," in *Transportation Research Procedia*, 2019. doi: 10.1016/j.trpro.2019.12.030.

[2]   H. Golpîra and E. B. Tirkolaee, "Stable maintenance tasks scheduling: A bi-objective robust optimization model," *Comput. Ind. Eng.*, 2019, doi: 10.1016/j.cie.2019.106007.

[3]   R. Elhabyan, W. Shi, and M. St-Hilaire, "Coverage protocols for wireless sensor networks: Review and future directions," *J. Commun. Networks*, 2019, doi: 10.1109/JCN.2019.000005.

[4]   H. Khaloie, A. Abdollahi, M. Rashidinejad, and P. Siano, "Risk-based probabilistic-possibilistic self-scheduling considering high-impact low-probability events uncertainty," *Int. J. Electr. Power Energy Syst.*, 2019, doi: 10.1016/j.ijepes.2019.03.021.

[5]   D. Wang, H. Qiu, C. C. Wu, W. C. Lin, K. Lai, and S. R. Cheng, "Dominance rule and opposition-based particle swarm optimization for two-stage assembly scheduling with time cumulated learning effect," *Soft Comput.*, 2019, doi: 10.1007/s00500-018-3525-y.

[6]   L. An, J. Duan, M.-Y. Chow, and A. Duel-Hallen, "A Distributed and Resilient Bargaining Game for Weather-Predictive Microgrid Energy Cooperation," *IEEE Trans. Ind. Informatics*, 2019, doi: 10.1109/tii.2019.2907380.

[7]   M. D. de Souza Dutra, M. F. Anjos, and S. Le Digabel, "A realistic energy optimization model for smart-home appliances," *Int. J. Energy Res.*, 2019, doi: 10.1002/er.4454.

[8]   S. Limmer, "Evaluation of optimization-based EV charging scheduling with load limit in a realistic scenario," *Energies*, 2019, doi: 10.3390/en12244730.

[9]   G. P. Babu and D. A. K. Tiwari, "Energy Efficient Scheduling Algorithm for Cloud Computing Systems Based on Prediction Model," *Int. J. Adv. Netw. Appl.*, 2019, doi: 10.35444/ijana.2019.10055.

[10]   K. Li, P. Zhang, G. Li, F. Wang, Z. Mi, and H. Chen, "Day-Ahead Optimal Joint Scheduling Model of Electric and Natural Gas Appliances for Home Integrated Energy Management," *IEEE Access*, 2019, doi: 10.1109/ACCESS.2019.2941238.

MANAGE AGILE DEVELOPMENT WITH SCRUM

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ABSTRACT:

Agile development has become a well-liked and successful method for overseeing software development projects. This chapter examines management techniques for Agile development, emphasizing fundamental ideas, best practices, and difficulties. It emphasizes the value of cross-functional teams, regular communication, iterative and incremental growth, and flexibility. Organizations may boost productivity, collaboration, and the production of high-quality software products by adopting Agile methodology and putting the right management practices in place. Organizations may manage software development projects efficiently and provide high-quality products that satisfy customers by adopting Agile concepts and practices. Agile's iterative and incremental design makes it possible to continuously improve, get regular feedback, and react quickly to changing needs.

KEYWORDS: *Agile Development, Product, Project Management, Scrum Team.*

INTRODUCTION

If you could go back in time to 1999, the last year of the twentieth century, and access the Internet, you'd discover a website and company called Amazon.com that are considerably simpler than they are now. But if you have been a consistent Amazon customer since then, it is doubtful that you can recall the exact moment when "everything changed." Instead, they made gradual changes to the site's operation and features[1], [2]. Many of the properties of incremental delivery are comparable to how projects are traditionally understood. A team working together on a deadline produces something fresh and worthwhile. There are, nevertheless, some distinctions. In the Amazon example, one can see several separate teams working tirelessly to enhance the website's features and functionality as well as the related customer-facing services. It doesn't fit the conventional paradigm of a project that can be accepted, defined, planned, carried out, and closed out since the change is so continual and unending[3], [4].

Every delivery step offers the chance for feedback and course modification. When the client determines that what has been supplied is enough for achieving the business objective under certain situations, the project may ultimately come to an end. Therefore, how do we handle these incomplete projects? In specifically for software, agile is a paradigm for incremental delivery. It comprises of methods that make it possible to repeat the requirements-design-develop-test-deliver cycle. Scrum is one of these methodologies. A management strategy for incremental delivery is called Scrum.

Because more businesses manage changes with incremental delivery than simply software projects, Scrum belongs in a book on project management. Purely agile, incremental

development projects have shown the efficacy of Scrum's ideas and methods. Any project management professional who is familiar with Scrum will see possibilities where these methods provide an alternate method of organizing and managing work in a world where change is accelerating [5], [6].

Scrum Focuses on Team Management and Customer Feedback

We outlined the advantages of employing an agile framework as well as the situations when incremental delivery is a wise course of action. Benefits comprise:

1. The ideal solution is eventually decided upon by the development team and the client. The best technique to find the most desired goods is via quick trial and error.

2. A consumer experiences a benefit as soon as they obtain a functional product.

3. Incremental delivery could narrow the scope of the final product. The client may determine that the current product is "good enough" and direct project resources to other projects if the most crucial feature is delivered first. The best deal is a "good enough" item that saves time and money[7], [8].

The product itself must be able to be planned and delivered incrementally for agile frameworks to remain relevant. Delivering a "good enough" product presumes there won't be a cost associated with giving up before all requirements have been satisfied. Agile software development methodologies focus primarily on how to design, build, and test a product that is constantly growing. Scrum is centered on how a team collaborates and engages with the client. Although it provides a framework for managing iterations, it does not have any plans for incremental design or delivery[9], [10].

Scrum is a Framework

The Scrum community is cautious to distinguish Scrum from other methodologies by calling it a framework. Roles, objects, actions, and rules make up the framework. Scrum is an effective illustration of the discipline needed for agile development. The advantages of agile and incremental delivery are closely correlated with the rigor with which the Scrum methodology is implemented, despite the fact that this may seem obvious. The Scrum framework, which has been developed over the last 20 years and is supported by the Scrum Alliance (www.scrumalliance.org), is presented in this chapter.

DISCUSSION

Scrum At A Glance

In order to offer a product progressively, three steps are necessary:

1. A choice on the product increment to be delivered.

2. A team to rapidly develop and deliver that increment.

3. Customer comments on the use of the incremental product.

All of these components are included in scrum. The real increment development takes place in a "sprint." This is a targeted product development activity that happens over a little period of time,

often one to four weeks, as the name suggests. Scrum teams link together numerous sprints, each of which adds value incrementally. The length of each sprint is the same.

Prior to the sprint, the choice on the increment to be developed is made. The "product owner," a customer representative, informs the development team of the most significant prospective upgrades. The term "product backlog" refers to this collection of possible upgrades. The development team discusses what they can achieve by the end of the sprint and makes a promise to the product owner. The team presents what they've created to the product owner at the conclusion of the sprint. The product owner has the option to accept it or reject it and provide their reasoning.

The product owner, the development team, and a crucial facilitator known as the "Scrum master" are all given clear definitions in the Scrum framework. The main Scrum roles are those. The sprint and particular meetings before, during, and after the sprint—sprint planning, daily Scrum, sprint review, and sprint retrospective—represent the main Scrum activities. The Scrum team utilizes certain artifacts, such the product backlog, throughout the activities.

Scrum Roles

One of the guiding principles of Scrum is to provide the development team the freedom to work intently and effectively at a speed that suits them. Scrum establishes three distinct roles—product owner, scrum master, and development team—to achieve this objective. The Scrum team is made up of these three positions.

Product Owner

The product owner's responsibility is to prioritize the list of possible changes and to clearly define what the product should accomplish in order to optimize the value of each sprint. As a result, the product owner must be able to fully comprehend what the product's users and consumers want. A person not a group with the power to determine the priority in the product backlog must also be the product owner.

Scrum Master

Understanding and promoting Scrum roles and practices inside the Scrum team and across the wider company is the first and most crucial responsibility of the person acting in the position of Scrum master. The "master" is the servant of the product owner and development team, which may seem counterintuitive in the job. Scrum masters put their primary attention on empowering people, coordinating meetings and communication, mentoring the development team, and eliminating obstacles to productivity. Protecting the development team from getting sidetracked or losing focus due to communication from stakeholders or management is a critical duty of the Scrum master. The Scrum master or product owner is the conduit for all communications with the development team. We will go further into each of these responsibilities in the context of Scrum activities.

Development Team

The development team is responsible for producing the final product. The development team must have all the necessary abilities to do the task since incremental delivery requires that each increment must be understood (requirements improved), conceived, produced, and tested. With one Scrum team and one sprint at a time, the Scrum development team is similarly laser-focused. The members of this team are responsible to one another and are mature enough to make and maintain promises to the product owner. According to Scrum principles, development teams should consist of less than 10 individuals and be both big enough to include the necessary cross-functional expertise and small enough to allow for informal communication and collaboration.

Stakeholders

The Scrum team does not work in a vacuum. Scrum is aware that a lot of other individuals engage in interaction with these three primary roles. Scrum, on the other hand, contends that when these three roles cooperate while adhering to its rules, they create a potent unit of production, and as a result, it concentrates all of its rules on what the Scrum team does. Stakeholders are anybody with an interest in the project who is not a member of the Scrum team.

Scrum Activities: Before, During, and After the Sprint

While Scrum itself focuses on adherence to certain particular structures and procedures, agile development promotes flexibility and reactivity. The sprint, which is the central Scrum activity, as well as the activities that take place in and around the sprint, make this contradiction clear.

A Release Is a Series of Sprints

We've shown that iterative development has a number of advantages, one of which is that it helps us serve consumers more rapidly. The solution is improved with each iteration, or sprint, but if the product is big or complex, it may take many sprints before the client receives a fully functional product. In Scrum lingo, such run of sprints is referred to as a "release".

The Sprint

A sprint adheres to extremely strict rules:

1. There are no factors that might cause the sprint's duration to vary; it is determined at the beginning of the sprint. It is referred to as a "timebox." A sprint ought to last one to four weeks. The duration is a planning horizon, meaning it is the farthest point in time that the development team can reasonably foresee. Planning for more than a month at a time is impossible since iterative development is applicable to projects with significant levels of unpredictability.

2. The scope of a sprint is predetermined. The sprint planning meeting, which is the first activity of the sprint and results in a sprint objective, is explained below. The sprint aim, which stays the same during the sprint, is the focus of all activity.

3. The development team works to complete the scope during the sprint. If necessary, the product owner is accessible to explain needs.

4. A sprint planning meeting and a sprint review and retrospective are held before each sprint. These meetings are precisely timed, much like the sprint itself.

5. After finishing one sprint, you may start another.

The four Scrum meetings listed below help to concentrate and organize the sprint's work.

Sprint Planning

Every sprint must start with a strong commitment to the objective and a strategy for achieving it. The sprint planning meeting is held with that goal in mind. Each member of the Scrum team brings something unique to the team's work.

1. The product owner is the only person with the power to decide which products should be developed during the sprint and sets the priority of the product backlog. The decision of how much scope should be tackled during the sprint rests entirely with the development team. In order to assess the amount of work needed for each product, they talk with the product owner about the top priority items.

2. The development team then focuses on organizing their work by breaking down products into short jobs, often lasting less than a day, and identifying any activities that must be completed before others.

3. The facilitation of sprint planning and mentoring of the development team and product owner are the Scrum master's primary contributions.

The development team may demonstrate what they'll generate and how they'll approach it to the product owner and Scrum master as a consequence of the sprint planning meeting. A two-week sprint may be planned in four hours, while a four-week sprint can be prepared in a maximum of eight hours. The timeframe for sprint planning is related to the length of the sprint itself.

Daily Scrum

The daily Scrum serves as an example of a fundamental Scrum tenet: the development team is capable of managing its own workload and does not need instruction from anybody with higher authority. The meeting is held at the same time every day, and the daily Scrum timebox is 15 minutes. The development team members have only enough time to report to one another and work together to decide on the direction of the day's work. Each participant in the conference discusses three issues:

1. Achievements since the last meeting.

2. The day's primary tasks.

3. Any obstacles that were experienced.

This meeting's facilitation should be handled by the team, not the scrum master. The Scrum master, however, makes sure that the meeting occurs and, if required, may provide team coaching. The meeting is also attended by the scrum master, who might depart with a list of issues to address after learning about potential barriers to the team's productivity.

Sprint Review

The component of client input for incremental delivery is provided by the sprint review. A sprint review and retrospective are conducted at the conclusion of each sprint. The goal of the review is to present the sprint's outcome to the client, who will then have the opportunity to approve or reject it and provide comments to the team. The Scrum team may evaluate their performance at the retrospective, which is discussed next, and make changes before the next sprint. A timebox for the review exists, and its size is proportionate to the sprint: A one-week sprint's review lasts an hour, while a four-week sprint's review lasts four hours.

In all of Scrum, this meeting is the most inclusive and transparent. Any interested stakeholder, especially those who can provide comments on the direction of the product, is invited to participate in the review together with the Scrum team. The development team emphasizes that incremental delivery really entails producing a genuine product when they demonstrate it during presentations. Each item from the product backlog that was chosen for this sprint is presented, providing the product owner the chance to approve it or reject it and put it back on the backlog for the next sprint. There is time for stakeholders outside the Scrum team to raise further questions or contribute fresh information to assist shape the product after all the products have been approved or rejected. Participation in the review provides these stakeholders with an accurate picture of the overall progress as measured by the deliverables and the items still on the product backlog.

Sprint Retrospective

The Scrum team has a chance to reflect and evaluate its own performance at the conclusion of each sprint. A Scrum master may need to play a bigger part in guiding this conversation during the first few sprints. Additionally proportionate to the length of the sprint is the timebox for this meeting. Using a three-hour meeting for a four-week sprint, plan for the retrospective to take around three-quarters as long as a sprint review. At this meeting, you may talk about team procedures, tools, and interpersonal communication all aspects of team productivity. How much of the sprint product commitment was completed, and what variables aided or hindered productivity, are always essential topics to discuss. A list of altered behaviors for the next sprint is the end result of the retrospective.

Managing the Product Backlog

For a minute, let's go back to the core idea of agile: produce value rapidly. The main instrument for identifying value increments and prioritizing them such that the most valuable ones are delivered first is the product backlog.

A Product Backlog Is the List of Requirements

What are the objectives for the product? How will the product be used by the user? The answers to these queries are mostly specified during the requirements phase in a conventional, linear (waterfall) system development process. However, as agile practitioners often point out, as the product is planned and produced, the list of needs expands. Some criteria are left out as "nice to haves" and stored as potential candidates for future improvements, even under the waterfall methodology. Agile methodologies accept this fact rather than trying to overcome the difficulty of constantly changing needs. The requirements only truly need to be crystal clear for the product

increments that the team is working on during the current sprint since the product will be delivered gradually. It is more acceptable for a condition to be wide and abstract the lower its importance.

"User stories" are used to establish the agile requirements. Even while various agile practitioners and proponents have varied definitions for user stories, they all usually agree that a user story outlines a particular encounter or activity the user will have with the product. You'll see that this structure resembles the business requirements that serve as the basis for a project's business case. The user and the value the product will provide are its main priorities. The technology is not discussed in the article. User stories are significantly more specifically focused on a very particular user demand, despite the framework being identical. As a result, a product backlog represents all anticipated user categories and outlines in business terms that should be understandable to users what each of them hopes to achieve. The product backlog is continually prioritized in order to reflect the most recent assessment of what would make the product the most useful via discussion and negotiation with all the stakeholders.

An Evolving View of the Product

Agile presupposes that a product may be enhanced continuously, hence the product backlog need list may constantly expand. Along with growing stakeholder demands, user stories may be dropped when stakeholders' perceptions of how the product would be most beneficial change. The product owner is questioned by the development team during sprint planning meetings to determine the goal and approval standards for each user story at the top of the product backlog. Everyone's comprehension is improved by this conversation. The product owner and stakeholders may observe the product taking shape when each user story is delivered during the sprint review. So a sprint review can result in the creation of brand-new, high-priority user stories.

The Product Owner Manages the Product Backlog

The product owner is the only person with the power to add user stories or modify their priority. The stakeholders outside the Scrum team provide the product owner with a knowledge of the needs and the product vision, but it is the product owner's duty to negotiate, prioritize, and make clear the requirements. Only the most crucial user stories are selected during a sprint, therefore the product owner must possess the ability and perseverance to balance the needs of all stakeholders.

Make The Plan Visible: Task Boards And Burndown Charts

The development team has selected user stories and broken those stories down into tasks as a consequence of the sprint planning process. These tasks may be in one of three stages during the sprint: Not Started, In Process, or Complete. The daily Scrum should update the work board. Tasks are moved on the task board when individuals report. Because it's important for work to be visible, task boards are often actual places on walls where sticky notes or index cards are used. In order to personalize the task board for their own teams, users may add color to separate user stories from tasks or include columns labeled "In Process" to indicate certain types of work. A column with the caption "Verify" is often included between In Process and Complete. This

column demonstrates that before the work of another team member may be deemed complete, one team member or the product owner verifies it.

Project Management And Scrum

Through use in several sectors over the last seven decades, the discipline of project management has developed. Scrum, as it is described in this chapter, has origins that date back to the middle of the 1980s, although it didn't see significant expansion until the introduction of agile software development in 2001. The methodologies will be recognizable to project management professionals who don't work in agile software development, but they will also raise some issues about how Scrum integrates with project management. There is no project manager job in the Scrum framework, according to the formal definitions of Scrum provided by the Scrum Alliance. You may check if scope, schedule, money, risk, and resources are being managed by thinking back on the tasks, roles, and artifacts covered in this chapter. Scrum is very committed to using sprints to achieve incremental value. But what takes place before to the first sprint? Who determines if a project is necessary and when it should begin? How are the individuals filling the various Scrum roles chosen? It is obvious that Scrum cannot handle the complete development life cycle. Although Scrum is the most well-known agile methodology, there are others as well. Once that job starts, it performs the crucial function of overseeing the development process. One has to broaden their knowledge of Scrum to include agile software development.

CONCLUSION

By offering a flexible and adaptable approach to project management, agile development has completely transformed the landscape of software development. Cross-functional teams that closely interact amongst people with different skill sets encourage innovation, information exchange, and effective problem-solving. Agile development requires effective communication because it fosters alignment, transparency, and prompt decision-making. Regular stand-up meetings, retrospectives, and other Agile rituals improve teamwork and communication. As it pushes teams to adapt to shifting client wants, market dynamics, and technology improvements, agile management also places a strong emphasis on flexibility. Frameworks are provided for managing workloads, monitoring progress, and prioritizing tasks by agile approaches like Scrum or Kanban. Organizations may increase productivity, enhance product quality, and shorten time-to-market by managing Agile development well. The difficulties of managing Agile projects include juggling client requests, keeping the team motivated, and resolving any disagreements. To meet these problems, an effective corporate culture, engaged stakeholders, and strong leadership are necessary.

REFERENCES:

[1]   C. J. Pardo-Calvache, P. R. Chilito-Gómez, D. E. Viveros-Meneses, and F. J. Pino, "Scrum+: A scaled Scrum for the agile global software development project management with multiple models," *Rev. Fac. Ing.*, 2019, doi: 10.17533//udea.redin.20190519.

[2]   S. Chaouch, A. Mejri, and S. A. Ghannouchi, "A framework for risk management in Scrum development process," in *Procedia Computer Science*, 2019. doi: 10.1016/j.procs.2019.12.171.

[3]   N. Ganesh and R. C. Narayanan, "Challenges faced in the enterprise resource planning material management section when transitioning towards agile software development," *Int. J. Eng. Adv. Technol.*, 2019, doi: 10.35940/ijeat.F9521.088619.

[4]   P. Verma and A. Agrawal, "Breast cancer dataset classification using neural network," *Int. J. Eng. Adv. Technol.*, 2019, doi: 10.35940/ijeat.F9522.088619.

[5]   M. A. Korimbocus, T. Singh Towokul, and S. D. Nagowah, "Scrum Meeting Tool for Knowledge Capture and Sharing," in *2nd International Conference on Next Generation Computing Applications 2019, NextComp 2019 - Proceedings*, 2019. doi: 10.1109/NEXTCOMP.2019.8883672.

[6]   G. S. De Aquino Junior and A. M. Dantas, "An agile approach applied to intense maintenance projects [Uma abordagem Ágil aplicada a projetos de manutenção intensa]," *ACM Int. Conf. Proceeding Ser.*, 2019.

[7]   G. S. De Aquino Junior and A. M. Dantas, "An agile approach applied to intense maintenance projects," in *ACM International Conference Proceeding Series*, 2019. doi: 10.1145/3330204.3330255.

[8]   G. Hernández, Á. Martínez, R. Jiménez, and F. Jiménez, "Scrum and peopleware: Key elements for software development management," *RISTI - Rev. Iber. Sist. e Tecnol. Inf.*, 2019.

[9]   S. Naeem *et al.*, "Excellence through," *Int. J. Prod. Res.*, 2019.

[10]   G. Hernández, Á. Martínez, R. Jiménez, and F. Jiménez, "Scrum y Peopleware: elementos clave para la gestión en la construcción de software," *Revista Ibérica de Sistemas e Tecnologias de Informação*, 2019.

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ART AND SCIENCE OF ACCURATE ESTIMATING

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ABSTRACT:

In many industries, including project management, construction, and finance, accurate estimation is essential. It entails forecasting the expenses, schedules, and resources needed for a particular activity or project. In order to provide trustworthy estimates, the art and science of accurate estimating integrate subjective judgment with objective analysis. In order to do accurate estimation, there are a number of procedures, strategies, and factors that must be taken into account. These factors include domain expertise, historical data, and expert opinion. Practitioners may improve their capacity to provide exact estimates, which will improve decision-making and project results, by using a balanced approach that includes both qualitative and quantitative aspects.

KEYWORDS: *Estimate, Life-Cycle, Product, Project Team.*

INTRODUCTION

Every year, discussions of this kind take place on tens of thousands of projects. Despite being straightforward, it highlights some of the major problems with precise estimates. First, note how Kris attempted to explain the request before speculating. Second, observe that guessing wasn't acceptable; his guess was only accepted seriously once he converted it to an estimate. By estimating, one attempts to foresee the future and determine how much time and money will be required to achieve a goal[1], [2]. It shouldn't be shocking when an estimate proves to be inaccurate since predicting the future is a risky endeavor. However, the majority of project stakeholders won't accept a false estimate; notably buyers expect the product delivered on schedule and within the estimated price range. As a result, we must concentrate on making accurate estimates in order to be able to forecast the future in an unpredictable environment[3], [4].

Professional estimators, or those who provide cost and schedule estimates for a job, have created a variety of techniques for forecasting the future. When you think about how many formulas and computations these experts use, it seems sense to classify estimating as a science. But as we will see, the function of art in estimation is crucial. It's possible that people who have exceptionally precise ways for forecasting the future have moved away from the dull world of project management and are using their skills in places like Wall Street or Monte Carlo, where the results of their work are more immediately apparent and palpable. The challenge of predicting

the future is addressed in this chapter. We investigate the reasons why our estimations are inaccurate and give suggestions for improving them [5], [6].

Estimating Fundamentals

All initiatives are distinctive, as we have often noted. In actuality, the more unique they are, the harder it is to assess them; the less unique, the simpler. For example, since research and development (R&D) programs aim to tackle brand-new challenges, they are very challenging to estimate. But because each project will result in a distinct product, several task combinations will be used. On every project, there are also often a number of other distinctive or unexpected factors:

1. The manager may not be familiar with the members of the project team. Their individual knowledge and abilities will, however, have an impact on their productivity, and the more difficult the jobs, the more important this productivity component is.

2. The dependability of new technology and the team's learning curve are concerns for projects that rely on it.

3. Wrong timing projections will cost money since estimations are used to coordinate operations and anticipate resources. You may have to pay the subcontractor to wait around if the job is behind schedule when they arrive. This vendor may not be accessible when required if it is so far behind schedule that it must be shipped away.

Avoid the Common Errors

It's not always easy to use common sense. Even if common sense may caution us to avoid certain errors, many of us appear to make them. These are the most typical [7], [8].

Making "Ballparks in Elevators"

When a senior manager or client approaches you in an elevator, hallway, or break room and requests an estimate, you invariably give an impulsive, optimistic guess that you immediately regret because of their authority or the fact that you were caught off guard. If that manager is also heading to a meeting where your "estimate" will be discussed, the issue is made worse. The issue with this is that it is hard to take into account all the factors necessary for an accurate assessment when traveling between the fourth and tenth levels. However, the issue is how to steer clear of this naive assumption. Here are some recommendations:

1. Address the manager with a serious, worried look and say, "There are many factors that will impact the effort required." List a handful of these elements after that and conclude by saying, "I wouldn't want to mislead you by offering a guess on that."

2. Offer to fetch a piece of paper and record the manager's specific request on it. List the inquiries that must be addressed concurrently in order to get a meaningful estimate. The management should recognize that there are too many unknowns to provide an accurate estimate if you can produce multiple questions that they can't answer and they have trouble being explicit about what they want.

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3. If all of these strategies are unsuccessful and the manager or client keeps pressing you, it's time to practice the art of "ballparking." Using this method, there are three potential responses:

i. Provide your best estimate in your response, taking into account every potential flaw. People that you can trust to not use this information against you later should respond with this.

ii. Double the result of your best prediction. Next, multiply it by two. The boss or client is scarcely acting rationally by asking you for an estimate in the elevator, thus it is evident that this is not a logical manner to create estimates.

iii. Refuse to provide an estimate in the absence of more details and planning time.

DISCUSSION

Providing an Estimate Without Full Specifications

When asked to estimate a building job without a plan, a contractor could commit an error of this kind. Realistically, this error is seldom repeated by developers and contractors. On the other side, it seems that this error is often made in initiatives involving new product development, process improvement, and information systems. Someone comes up with a concept, it gets accepted, given a price tag and a timeframe, and then it is implemented! They don't appear concerned that they won't know the details of carrying out the plan until they are around halfway through the project. This error is seductive because it gives the impression that team members are following ethical standards; after all, the new endeavor does come with a budget and timeline. However, without thorough specifications, it is unclear what the project will produce, making it impossible to provide an accurate estimate[9], [10]. Projects for new products, process enhancement, and information systems all have the trait of first identifying a problem, then developing a solution. Even agile software projects need to exercise caution when starting a new project without having a clear idea of the final product. A business case with estimates should be the first step in each of these initiatives. Putting too much faith in the first estimate when there are more assumptions than facts is the problem.

Confusing an Estimate with a Bid

Estimates and bids are not the same. An estimate is a prediction of the cost and duration of a project, while a bid is the timetable and cost a subcontractor proposes to complete the project. The bid will most likely consist of estimations, but it will also contain the subcontractor's profit margins. An estimate is a forecast of what it will really take to deliver, while a bid is intended to be both lucrative for the bidder and desirable to the consumer. The best bids are also excellent estimators because they satisfy both their clients and themselves.

Padding the Estimate

There are numerous good reasons to increase the time or cost of an estimate. To account for risks found throughout the risk management process, additional contingency funds may be contributed. Usually, extra time is provided to account for unavoidable delays brought on by sickness or vacation. However, inflating the estimate is something else. It is not legal nor fruitful

to increase the estimate's time and cost only to finish the project earlier and on schedule. The greatest approach is to provide accurate, thorough estimates. If they are reduced, you may then argue for acceptance of the initial estimate using the project's actual performance statistics. This straightforward approach will eventually help you establish a reputation as an honest estimator who keeps his or her commitments. A worthwhile project may not be authorized in the first place because the inflated estimate makes it seem like a poor investment. Second, if the project's budget is authorized with an inflated amount, it will be funded at the expense of other initiatives that could be more worthwhile.

Follow the Golden Rules

There are some golden standards that always apply to all projects, just as there are common estimating errors to avoid. These guidelines stress the proper mindset for estimating.

Have the Right People Make the Estimates

The suitable persons are determined by three criteria:

1. The estimators need to have prior knowledge of the job they are estimating. No matter what methods are used, estimating is always built on a knowledge of the job that has to be done.

2. The individuals who will really carry out the task have to be included in the estimation process. They will understand their limits the best. For instance, they will be aware of how much time they have available to devote to this project given their schedule and if they need to through a lengthy learning process in order to be effective. Most importantly, when someone estimates their own task, they are often more driven to do it than when someone else provides an estimate.

3. The estimators need to be aware of the purposes and methods of estimation. Even when someone is aware of the job at hand, they shouldn't be permitted to estimate their own work until they have learned how to estimate as well as the purpose of estimating, which is to come up with realistic estimates that will really happen rather than optimistic forecasts of the greatest performance.

Estimate based on experience

Although no two projects are the same, there are often enough similarities that performance information from completed projects may be used to estimate those already underway. Professional estimators continuously improve their estimating models using fresh performance data. It is beyond the purview of a single project manager to create this kind of database; the company must be in charge of it. Project estimates may become more and more precise using this sort of information. Without it, every project team is forced to start again and depend only on their own recollections and gut instincts. Each estimate method in this chapter will be improved by past performance data.

Don't Negotiate the Estimate Negotiate the Equilibrium

There are practical methods for thwarting efforts to interfere with an estimate. Think about the situation that follows. An accurate project estimate has been created by skilled estimators utilizing historical performance information from other projects that are comparable to this one.

The project manager presents the estimate to management or the client, and they start to reduce the timeline and cost. Or maybe they'll even pull out a cleaver and slice off a sizable portion of both. The project manager first maintains her position but eventually buckles under mounting pressure, allowing the completion date to advance and the budget to shrink. This estimate indicates a reasonable balance of cost, schedule, and scope and was developed from the product requirements. Dickering over cost or timeline alone upsets the balance of the overall estimate. No estimate will escape criticism, but the right response is to show how the estimate is related to the work breakdown structure and product specification. When estimates are created properly, the only way to lower them is to alter the product or the employees' productivity.

Three Levels of Accuracy

Although everyone wants precise predictions, precision is expensive. Therefore, it makes sense to employ several estimate approaches for the various project decision points. Detailed planning required for official project approval, for instance, shouldn't need as much time and effort or money as the first appraisal of a project proposal. Let's examine three degrees of accuracy at various project phases.

Idea Assessment or a Ballpark Calculation

We all attempt to avoid offering this estimate. Ballpark figures may be as much as 90% inaccurate, yet they are still helpful for rough scaling. These estimations are made instantly and are the outcome of an expert's intuition. Their accuracy is dependent on the estimator's expertise. An approximate estimate should only be used to determine if it would be beneficial to get a more precise estimate.

Project Selection or Order of Magnitude

This estimate, usually referred to as ROM, for rough order of magnitude, has a large range but is based on extrapolations from previous projects rather than the hunches of the ballpark estimations. A few hours of work comparing the new project to previous projects may make up the majority of the difference between a rough estimate and an order-of-magnitude estimate. For instance, a builder may discover that a planned structure is about twice as large as a building of a similar design he has already completed, and as a result, estimate the cost of the new one at twice as much. He could add additional 10 to 20% if he determines that the new building's planned location would provide greater difficulties. This kind of comparison is referred to as an analogous estimate. If an order-of-magnitude estimate is deemed acceptable, a project may be officially began, a project manager chosen, account codes established, and work on the project's definition and planning may start. The actual job of producing a precise estimate will be done at this planning phase.

Complete Estimates

Because they are based on all the different project planning processes, detailed estimates are sometimes referred to as bottom-up estimates. A thorough estimate (discussed later in this chapter) contains a projection of a project's budget and cash flow in addition to all schedule and resource information.

This estimate will be used to project management and success assessment

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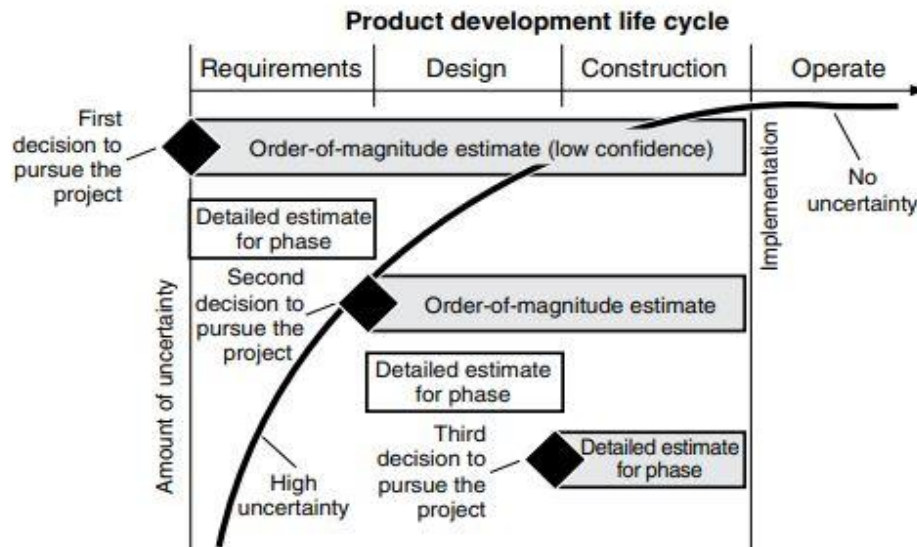A peer reviewed journal

A comprehensive estimate is far more accurate than an order-of-magnitude estimate since it is based on the availability of essential resources and requires a thorough grasp of the product. Between the order-of-magnitude estimate, which is used when there are no specifications, and the detailed estimate, which is based on specifications, a tremendous amount of effort goes into defining the product requirements and design work. Large time and financial investments are needed for this effort, but these resources are not used until the project's viability has been determined by the cheap ballpark and order-of-magnitude estimations.

Estimation Methods

Since correct estimates need time and effort to produce, good project managers pick from a number of estimating techniques to get the precision they want. There is an abundance of knowledge in this area. On estimating alone, several volumes have been written. Exclusive methods used in computer-based predicting models may run into the hundreds of dollars. Software project estimation, construction project estimation, and pharmaceutical project estimation are all covered in-depth in whole seminars. Our goal is to help you grasp the dynamics of correct estimating by offering a selection of recognized estimating techniques—the fundamental building blocks employed by all professional estimators—rather than making a thorough presentation of all these estimating approaches in this book.

Iterative Estimating

Project managers like phased estimating because it only calls for cost and schedule commitments for one stage at a time. The phased estimating technique is aware that asking for a comprehensive estimate at the start of the product life cycle is impracticable. The product development life cycle outlines the work necessary to produce a new product, whereas the project life cycle focuses on managing the work. Instead, it divides the whole product life cycle into stages, each of which is seen as a project. The creation of a new product may require a number of initiatives. Phased estimating requires senior management to renew authorization for the project using current estimates and revisits the original business case as each phase comes to a close. Phased estimating is depicted in Figure 1.

Figure 1: Illustrate the Phased estimating.

Every development life cycle begins with a great deal of uncertainty, but as the project moves forward and more data is obtained, this uncertainty decreases. The client demands a precise time and cost estimate for the whole development life cycle more than any other stakeholder, which creates a conundrum. Because the consumer is attempting to decide on an investment, this demand is simple to grasp. When the product development effort is initially discussed, there is so much uncertainty that it is hard to provide an accurate cost and schedule projection.

This inability is acknowledged by the phased estimation technique, which instead divides the whole product life cycle into stages, each of which is treated as a separate project. Here is how this procedure appears:

1. The first phase begins with a thorough estimate for the first phase and an order-of-magnitude estimate for the whole development life cycle. The project team views this comprehensive estimate as a commitment; this commitment signifies the end of the uncertainty that surrounds a new project. The team is more focused and effective when they agree on a specific strategy with a set due date.

2. Next the conclusion of the first phase, a fresh permission for the next phase restarts this cycle. Along with a thorough estimate for the second phase, a new order-of-magnitude estimate is created for the remaining stages of the product life cycle. The initial development phase has taught us a lot, so the new order-of-magnitude estimate will be a lot more precise than the previous one. At each phase gate, this cycle of phase authorization will be repeated, improving the order-of-magnitude estimate with each iteration.

Phased estimating is popular among project managers and teams because it only requires them to commit to cost and schedule estimates for one phase at a time, or what we refer to as a "realistic planning horizon." It's not always obvious how the initiative will benefit the individuals sponsoring it. At each phase review, it seems to them that the project team is just requesting additional resources without regard for project budgets and timelines. But this client group must understand that phased estimating is a risk-reduction strategy that also benefits them. Everyone will be at risk if the project team is forced to commit to a cost and schedule estimate for the whole product development life cycle before it has adequate knowledge about the product. This is due to the team's likelihood of producing an unreliable estimate at this early stage.

Customers often think that obtaining a strong commitment from the project team would protect them against escalating costs; nevertheless, in this situation, they are misinformed. Without a realistic budget, unanticipated expenditures are likely to surface as the project develops, and the client will be responsible for covering them. Even if the project team is an outside company on a fixed-price contract, this will still be the case. If these overruns get out of hand, this crew could just quit, choosing reputational harm above financial ruin. The project will still be unfinished at this time, and the client will have lost money. Both parties will lose without a precise assessment. On the other hand, if the client and project team are employed by the same company, as is the situation with many product development projects, it is clear who will be responsible for covering cost overruns: the business that both parties are employed by. No amount of pressure from above can convince the project team to reach the initial estimate if it was too low. Once again, there is no winner.

When customers realize that every new phase provides them the chance to fully reevaluate the effort, or even cancel it if it appears too costly, they will appreciate phased estimating. This is the apparent opportunity to choose another team if they like the product but not the project team. Considerably while they will not get a return on their investment if they cancel, at least they will have stopped an impossible endeavor before it costs them considerably more. Construction projects usually use phased estimation. No contractor would agree to a bid if you were planning to construct a home before you knew the site and had a blueprint. You can discover that the price of the home was too costly after the design was finished and decide not to go forward with the project.

It required money to discover the site, as well as time and effort to pay for the house's design, so its realization wasn't free. However, it was shrewd of you to complete your research before breaking ground on a property you couldn't afford! Every stage of the development life cycle is approached as a project by effective project managers. Throughout the course of the product development life cycle, they formally examine the cost-schedule-scope equilibrium multiple

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times using the phased estimate technique. The main benefit of this approach is that it enables the project to be led by a series of discrete, well-informed choices rather than a single, hasty one.

Sources of Data for the Detailed Budget

A budget's actual computation is rather simple; all that is required is simple addition of numbers. Any spreadsheet application will work well for calculating the entire budget. Making the numbers that are used in the entire computation is difficult. The budget computation is based on the following categories. Remember that these are high-level classifications. Depending on the scope and magnitude of any project, certain categories may need to be dropped or reorganized to be more precise.

Internal Labor Cost

The company's internal labor expenses reflect the work put in by its employees. All labor estimates are thoroughly researched by calculating the individual jobs. A realistic picture of how many people are needed is shown by including the sequence limits and leveling the resources. The effort as a whole is represented by the resource projection. To get the overall internal labor cost for the project all that is left to do is multiply each resource by its hourly rate or daily, weekly, or monthly rate. The estimated total resource used, which was calculated using the project's labor cost, labor rates, and detailed timetable.

Use the Burdened Labor Rate

Salaried workers' real hourly wage varies from person to person, sometimes for no apparent reason. However, it is uncommon to need to include real salary when calculating labor expenses. Instead, depend on the finance division to determine a uniform burdened labor rate for each category of work. The average cost of an employee to the business is known as a burdened rate. Payroll costs, benefits, and overhead are included. Overhead is the collective term for the many fixed expenditures that apply to all projects, including functional management, workplace amenities, and non-project expenses like training. A project manager doesn't need to calculate this rate since almost every business has a burdened labor rate on file.

CONCLUSION

In many different sectors, the art and science of precise estimating are essential because they help businesses make wise choices, efficiently use their resources, and complete projects successfully. An overview of the procedures and strategies used in correct estimation has been offered in this work, with a focus on the value of a balanced strategy that incorporates both subjective judgment and objective analysis. Expert judgment, historical data, and domain expertise all stood up as having a significant impact on estimate accuracy. Practitioners may improve their estimation skills and reduce the risks of project overruns and delays by taking both qualitative and quantitative elements into account. The accuracy and dependability of estimates will be further enhanced by ongoing research and developments in estimating tools and technologies, leading to better project planning and execution in the future.

REFERENCES:

[1]   C. J. Torney *et al.*, "A comparison of deep learning and citizen science techniques for

counting wildlife in aerial survey images," *Methods Ecol. Evol.*, 2019, doi: 10.1111/2041-210X.13165.

[2]   C. Giardino *et al.*, "Imaging Spectrometry of Inland and Coastal Waters: State of the Art, Achievements and Perspectives," *Surveys in Geophysics*. 2019. doi: 10.1007/s10712-018-9476-0.

[3]   A. Doulah, M. A. Mccrory, J. A. Higgins, and E. Sazonov, "A Systematic Review of Technology-Driven Methodologies for Estimation of Energy Intake," *IEEE Access*, 2019, doi: 10.1109/ACCESS.2019.2910308.

[4]   C. Boisvenue and J. C. White, "Information needs of next-generation forest carbon models: Opportunities for remote sensing science," *Remote Sensing*. 2019. doi: 10.3390/rs11040463.

[5]   D. C. Rypkema, C. C. Horvitz, and S. Tuljapurkar, "How climate affects extreme events and hence ecological population models," *Ecology*, 2019, doi: 10.1002/ecy.2684.

[6]   S. Helleringer *et al.*, "Improving age measurement in low- and middleincome countries through computer vision: A test in Senegal," *Demogr. Res.*, 2019, doi: 10.4054/DEMRES.2019.40.9.

[7]   O. L. Pescott, T. A. Humphrey, P. A. Stroh, and K. J. Walker, "Temporal changes in distributions and the species atlas: How can British and Irish plant data shoulder the inferential burden?," *Br. Irish Bot.*, 2019, doi: 10.33928/bib.2019.01.250.

[8]   M. C. S. Lima, G. M. Cordeiro, E. M. M. Ortega, and A. D. C. Nascimento, "A new extended normal regression model: simulations and applications," *Journal of Statistical Distributions and Applications*. 2019. doi: 10.1186/s40488-019-0098-y.

[9]   R. Alizadeh-Navaei *et al.*, "Activity-based costing method to determine the cost of educational services at Mazandaran University of medical sciences in 2015," *Pakistan J. Med. Heal. Sci.*, 2019.

[10]   G. Van Hoey *et al.*, "Methodological elements for optimising the spatial monitoring design to support regional benthic ecosystem assessments," *Environ. Monit. Assess.*, 2019, doi: 10.1007/s10661-019-7550-9.

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BALANCE THE TRADE-OFF AMONG COST, SCHEDULE AND SCOPE

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ABSTRACT:

The idea of balancing the trade-offs between cost, scheduling, and scope in project management is examined in this essay. The cost, schedule, and scope triangle depicts the interdependence of these three key elements that have a major impact on a project's success. Effective management of these factors is crucial to attaining project goals within the limits of time, money, and intended results. This research investigates several methods and techniques for balancing the trade-off and emphasizes the significance of prioritizing project objectives and coordinating stakeholder expectations.Project managers need to be flexible and adaptable in order to effectively negotiate these trade-offs.

KEYWORDS: *Cost, Project Management, Stakeholders, Schedule, Trade-Off.*

INTRODUCTION

Recently, I switched my job's emphasis. I look after my six-week-old daughter while working part-time from home. The costs of becoming a parent have exceeded my own budget. As a result, I am running late on this assignment [1], [2].In addition to learning about the responsibilities of fatherhood, this new father has succinctly encapsulated the problem of limited finances. No matter what we do, we have a limited amount of time, money, and access to the people, tools, and supplies we need to do our work. Beyond questions of production or efficiency, this issue of scarce resources is problematic. No of how effective they may be, project managers and new parents must both recognize their limitations and make decisions [3], [4].

But wouldn't effective project management enable us to do more tasks faster and for less money? This is a legitimate inquiry. In comparison to poor project management, good project management does produce more for less money. Still, there are boundaries. Realistic expectations from stakeholders continue to be the strongest indicator of project success. Both inappropriate client requests and unrealistic project team expectations must be restrained by the project manager. The outcome of letting these expectations and demands dictate a project will almost surely be expense and schedule overruns and later on, terrible disappointment. Instead, project managers must set reasonable expectations by logically analyzing the data. To balance the project scope against the following three most typical project constraints, they must use the definition and planning methodologies discussed in earlier chapters:

1. **Time:** The project won't be completed in the period specified in the project regulations because of how it has been defined.

2. **Money:** The project can complete on time and produce the expected results, but the cost is too expensive.

3. **Resources:** Although the estimated cost is reasonable, the timetable asks for personnel, tools, or supplies that aren't readily accessible. Although there aren't any to employ, you might afford them.

If any of these restrictions apply, the project will need to be balanced, which means that the cost, schedule, and product scope will all need to be taken into account. This balance may occur on a variety of levels.

Three Levels of Balancing A Project

Depending on the kind of change required, balancing a project may be done at one of three distinct levels of authority in an organization:

1. Project: Making adjustments to keep the project on track for its initial cost, time, and scope goals is necessary for project-level balancing. The project manager and team should have the power to make these choices since these three aspects of the project equilibrium won't alter.

2. Business case: The balance between these three criteria has to be reevaluated if the project is unable to meet its cost-schedule scope objectives. This necessitates a review of the project's business case[5], [6]. The project manager and team cannot make this choice if any of the project's objectives are changed. Consider the following to see why the choice to alter the cost-schedule-scope balance must be taken at the company level:

a. Cost objectives and profitability goals are connected. Reevaluating the profit objectives entails raising the project's cost aims.

b. The business case and the schedule are intertwined. Late delivery of projects often results in some loss of profit, either via lost opportunities or real financial penalties specified in the contract.

c. Changing the product's features and performance level has an impact on the final product's value.

d. All stakeholders must agree in order to balance the project to the business case, but those who may be impacted by changes to cost, time, or scope are especially important.

4. **Enterprise:** The project is balanced at the enterprise level when the project and business case are in balance but the company must decide which initiatives to pursue. The business might be a division inside a larger corporation, the complete business, or a government organization. Although they will be active participants in the decision-making process, the sponsor and the functional managers may even have more authority over this matter than the project manager and team. Even though it involves project management information, deciding which projects to undertake and how to divide limited resources among many projects is largely a business management choice[7], [8].

DISCUSSION

Balancing At The Project Level

As there are projects, there are as many different methods to balance them. The most well-known options for balancing at the project, business case, and enterprise levels are presented in this chapter. Each choice is provided with its benefits and drawbacks as well as the optimum application—the most effective approach to employ the technique—because choosing the best alternative relies on whatever balancing issue is present[9], [10].

The methods for balancing the project at the project level are as follows.

1. Reestimate the Project

It's the "optimist's choice." This entails verifying the work package estimates and the project charter's initial assumptions. Perhaps when you learn more about the project, you'll be able to lower your negative predictions. The following are potential effects of this kind of checking:

Positive: The project cost and maybe the schedule estimations will decrease if certain estimates can be justifiedly lowered, increasing the accuracy of your estimates.

Negative: Avoid wishful thinking until there is fresh evidence to support improved projections.

Best application: Verify all of your estimates. Ensure that all of your estimate assumptions including those related to productivity, the availability of skilled labor, and the difficulty of the tasks are consistent and accurate. However, it's crucial to avoid giving in to pressure and lowering the estimates to appease management or clients while you're making modifications. The second phase of estimation should, if anything, provide an even solid factual basis for cost, schedule, and resource predictions.

2. Increase Project Participation

This is an obvious method of project balancing since it shortens the timeline. The number of tasks that can be completed concurrently may be increased by adding team members, as can the number of persons working on each job.

Positive: Because more effort is put into the project each day, the timetable is compressed.

Negative: The title of Fred Brooks1's seminal book, The Mythical Man-Month, encapsulated the risk associated with this approach. Although adding additional employees to the project may shorten the timeline, it will cost more to coordinate and communicate. This phenomenon is known by economists as the law of declining marginal returns. This option needs certified resources; you can't merely add another warm person to a project in this way. Many project managers have requested more personnel only to have the most readily accessible (and often least capable) individuals allocated to their projects. Adding unskilled people to a project may slow production to the point where cost and schedule are practically likely to increase.

Best application:

Certain tasks encourage piling on, or including additional individuals to complete the task more quickly. When adding employees to a project, it is important to take task independence and the

product development strategy into account. The benefit of hiring additional workers is constant inversely proportional to the degree of job independence.

As an example, a transportation authority intends to repave a 100-mile section of road. If they had enough skilled contractors to manage 10 projects simultaneously, they could divide the repaving job into 10 separate, 10-mile tasks and complete them all at once. (They could even divide it into 20 5-mile subprojects if tightening the timetable were really necessary and there were enough road paving contractors.) It is feasible to overlap all of the subprojects because of their independence. Even if it took ten times as many supervisors from the highway department to coordinate the project, these costs would remain constant because the duration would be reduced by 90%. Trying to coordinate that many people and that much equipment would require additional project management work. On a project like this, there are additional factors to take into account, such as whether all the different contractors will share the same roads, gravel pits, and equipment parking. However, they are only resource limitations. Additionally, Fred Brooks makes the point that a software development schedule is not always directly proportional to the team size.

But large teams may be needed when creating software products. A new commercial airplane also takes thousands of engineers to produce. By adhering to sound product development principles like the following, projects that use knowledge workers may add individuals to their teams to help them shorten their schedules:

1. The structure of the project team is consistent with the product design. Similar to how the overall product is divided into parts or subproducts, the overall project must be divided into teams and/or subprojects. Because all the disciplines necessary to build a component of the product are paired together, manufacturing businesses refer to this organizational model as integrated product teams (IPTs).

2. The product is created top-down, and design synchronization points are included in the timetable. Top-down design entails first defining the general design criteria of the product, then continually decomposing it into components and subcomponents. Scheduled synchronization points are opportunities to concentrate on component interactions and reassess if the whole product is fulfilling the requirements of the overall product design.

3. Only once the design for a component has been synced and stabilized with the design for interface components can actual building of that component start. To replace the requirement for physical mock-ups of the airplane, three-dimensional engineering software is often used by aircraft makers. This software actually simulates the interplay of various components. These parallel jobs provide chances to expand the project's workforce and shorten its total length.

4. Unit testing and regular integration testing are part of component development. When a component is produced, its functionalities are tested as a unit using unit tests. The most recent versions of finished components are assembled for frequent integration testing to ensure that they function together. Because it is impossible to test and efficiently debug all conceivable interface failures, frequent integration testing has become a necessary development practice for products with multiple components.

Last but not least, keep in mind that by adding personnel to the project in an effort to shorten the timeline, cost risks are raised. The cost of each delay per day increases with the number of individuals who are kept from working due to unplanned delays.

3. Boost Productivity by Making Use of Internal Experts

The fact that some individuals are more productive than others is not a secret. I've seen the best computer programmers produce ten times as much as the team's least effective worker. Every sector has workers that are just better at what they do, even if the ratio may not be 10 to 1. Why not include as many of them into your project as you can? Technical proficiency, problem-solving abilities, and an optimistic outlook are all traits of great achievers. Your project will most likely meet or exceed all of the initial cost and schedule performance assumptions once they have reestimated it.

Positive:

This team will not only meet the deadline with the finest performance possible, but it will also save money. Although these top achievers sometimes produce twice as much as the ordinary team member, it's uncommon for them to get compensated accordingly. Additionally, their knowledge will probably result in a superior product.

Negative:

For the company, this may be an ineffective approach. Because they are all working on the same project, all of these A-listers will likely be doing tasks that are considerably below their level of expertise and that a junior staff member could perform just as quickly. Another drawback is that the stars will be redistributed when other projects start to suffer, which will cause the stellar project to gradually slip behind schedule.

Best application:

Top talent is dispersed among several projects so that their skills and knowledge may boost productivity among other workers. When you accomplish two things, you'll have a greater chance of obtaining the ideal mixture of mediocre and outstanding players. Start by developing specialists within the team by assigning the same individuals to comparable responsibilities. For instance, the project manager assigned one person to be in charge of decisions affecting the maternity ward, another to be in charge of decisions affecting the pediatric ward, another to be in charge of decisions affecting the pharmacy, and so on. This was done when a team of business analysts was working with a hospital to redesign the hospital's methods for keeping records of patients. Even though these tasks didn't necessarily improve their analytical abilities, each individual did end up becoming the project's subject matter expert. Because it preserves specialized information in one location, this method is even more crucial when there are many employees who won't be working on the project full-time. Next, pinpoint the jobs that need top talent by utilizing the work breakdown structure, network diagram, and work package estimates. Here are several signs that a star will provide you a significant reward:

A. *Cost:* The best rewards from top achievers come from the most difficult assignments. Tasks of this kind result in productivity rates of 10:1.

B. *Schedule:* Put the best workers on jobs that are essential to finishing the project on time because of their speed.

C. *Superior:* By making significant design choices and devoting time to debating work with younger team members, top performers are effective technical leaders.

Most importantly, include high performers in project management tasks including estimation, risk management, and personnel assignment.

4. Boost Productivity by Consulting Outside Experts

This alternative follows the same rationale as the one before it, with the exception that it aims to attract the top talent from outside the company. The procedure is the same whether you employ a company to carry out specific activities or a person as contract labor: Utilize the WBS to determine how to effectively apply their skills, then manage them as an integral part of the team.

Positive:

Some tasks are so specialized that hiring trained staff members to do them is not cost-effective. The speed and quality of the job done by the outside professionals will more than make up for the increased fees paid. To get the most value out of their labor, offer them assignments that are time- or quality-sensitive, just like you would with internal company expertise.

Negative:

This choice has two drawbacks: vendor risk and lost knowledge.

A. *Vendor risk:* Including a third party in the project increases unpredictability. Unfortunately, not all experts provide; they may not fulfill their claims. Even with the additional fees, you can discover that the project is behind schedule by the time you realize your expert isn't being productive. Finding a competent vendor or contract worker may also be time-consuming; if it takes too long, it could constitute a scheduling block.

B. *Lost knowledge:* Every contract worker or subcontractor who leaves the project at the end carries some knowledge with them; this issue is made worse if the task involves "brain work." In this situation, the project manager must ensure that the work has been accurately documented and recorded.

Best application:

When it seems that using outside specialists' specific expertise can advance the project more quickly, hiring them is beneficial. Don't allow these specialists become isles, working alone and avoiding contact with long-term workers; instead, expect them to attend team meetings and take part in product development discussions. They need to be involved in project management and other high-impact tasks, just like the internal specialists. Whatever they generate should be tested and recorded before they leave the project.

The project's enhanced productivity from outside resources must exceed the time and effort required to recruit and employ them. A long-term partnership with a special services company whose staff has shown their ability on prior projects is the perfect scenario.

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5. Outsource the Project in Full or in Major Parts

In order to balance a project, a piece of it is divided off and sent to an outside company to oversee and finish. This choice is particularly appealing if this project's component calls for specific expertise that internal staff members do not have.

Positive:

This transfers a significant amount of the workload to specialists, whose talents should lead to increased productivity and a compressed timeline.

Negative:

This change in accountability increases risk. The project manager will have less control over how the job is done, and if the external experts turn out to be incompetent, it could be too late to "switch horses." Even if the project is successful, the outside business won't leave much of its experience with your company.

Best application:

At the top end of the risk/return scale is outsourcing. Modern business techniques may perform miracles when they work, but when they fail, they can cause actual disasters. Finding suitable suppliers and establishing clear agreements before the job starts are the keys to effective outsourcing. The different tools in this book, including as the responsibility maps, job breakdown structures, network diagrams, and Gantt charts, must be used to construct these agreements.

Reducing Product Performance Is Not an Option

Functionality and performance are the two aspects of product scope. Performance explains how effectively the functionality functions, whereas functionality specifies what the product accomplishes. Another strategy for project balance is to lower the performance of the final product. By eliminating the testing and quality control activities and working more swiftly and less thoroughly on other jobs, time and money may be saved.

Positive: Due to our reduced work on the project, the cost and timeline may very possibly be decreased.

Negative: The idea of Philip Crosby's3 book, Quality Is Free, is that doing something incorrectly the first time is far more expensive than doing it well the second. Costs increase when performance is reduced for a variety of reasons, such as these:

A. Rework, or doing the same thing again because it wasn't done correctly the first time, may increase costs and postpone project completion.

B. Rework done after the project has been completed is significantly more costly. The high cost of correcting the product cancels out any possible development cost savings.

C. Failures brought on by subpar product performance may be astronomically costly. The cost of notifying customers and correcting or replacing the product is always borne by the company conducting the recall. Even lives may be lost as a result of defective products, such as falling bridges and broken medical equipment.

D. A company's reputation is harmed by poor product performance, which eventually lowers demand for the company's goods.

Best application: Never! It is less expensive to accomplish something once than to do it twice, as Crosby argues. The only valid justifications for reducing performance are provided in the next section's first option, "Reduce the Product Scope."

CONCLUSION

To produce effective project results, project managers must navigate the difficult trade-off between cost, time, and scope. Throughout the project lifespan, careful planning, ongoing monitoring, and wise decision-making are required. This chapter has covered a number of approaches to deal with this trade-off, including setting project objectives in order of importance, controlling stakeholder expectations, and using effective resource management. It is clear that most initiatives will inevitably need making trade-offs between cost, timing, and scope. However, project managers may successfully manage these trade-offs and reduce the detrimental influence on project results by setting clear project goals, creating realistic timetables and budgets, and routinely engaging with stakeholders. Additionally, using project management tools like risk analysis, change management, and good communication may assist find solutions to problems and lessen the influence of trade-offs on project outcomes.

REFERENCES:

[1] M. C. Siple, T. E. Essington, and É. E. Plagányi, "Forage fish fisheries management requires a tailored approach to balance trade-offs," *Fish Fish.*, 2019, doi: 10.1111/faf.12326.

[2] T. M. Shashidhar and K. B. Ramesh, "An efficient computational approach to balance the trade-off between image forensics and perceptual image quality," *Int. J. Electr. Comput. Eng.*, 2019, doi: 10.11591/ijece.v9i5.pp3474-3479.

[3] C. D. Rakopoulos, D. C. Rakopoulos, G. M. Kosmadakis, and R. G. Papagiannakis, "Experimental comparative assessment of butanol or ethanol diesel-fuel extenders impact on combustion features, cyclic irregularity, and regulated emissions balance in heavy-duty diesel engine," *Energy*, 2019, doi: 10.1016/j.energy.2019.03.063.

[4] M. Tan *et al.*, "Mnasnet: Platform-aware neural architecture search for mobile," in *Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition*, 2019. doi: 10.1109/CVPR.2019.00293.

[5] E. Fallan and L. Fallan, "Corporate tax behaviour and environmental disclosure: Strategic trade-offs across elements of CSR?," *Scand. J. Manag.*, 2019, doi: 10.1016/j.scaman.2019.02.001.

[6] T. Yu, J. Guo, W. Li, H. J. Wang, and L. Fan, "Recommendation with diversity: An adaptive trust-aware model," *Decis. Support Syst.*, 2019, doi: 10.1016/j.dss.2019.113073.

[7] C. Zhang, Y. Zhu, and S. C. Zhu, "MetaStyle: Three-way trade-off among speed, flexibility, and quality in neural style transfer," in *33rd AAAI Conference on Artificial Intelligence, AAAI 2019, 31st Innovative Applications of Artificial Intelligence*

Conference, IAAI 2019 and the 9th AAAI Symposium on Educational Advances in Artificial Intelligence, EAAI 2019, 2019. doi: 10.1609/aaai.v33i01.33011254.

[8]   V. Vielzeuf, A. Lechervy, S. Pateux, and F. Jurie, "Multilevel Sensor Fusion with Deep Learning," *IEEE Sensors Lett.*, 2019, doi: 10.1109/LSENS.2018.2878908.

[9]   Y. Shi, B. Xu, Y. Tan, D. Kirschen, and B. Zhang, "Optimal Battery Control under Cycle Aging Mechanisms in Pay for Performance Settings," *IEEE Trans. Automat. Contr.*, 2019, doi: 10.1109/TAC.2018.2867507.

[10]   C. Song, A. Omalley, S. G. Roy, B. L. Barber, J. Zydlewski, and W. Mo, "Managing dams for energy and fish tradeoffs: What does a win-win solution take?," *Sci. Total Environ.*, 2019, doi: 10.1016/j.scitotenv.2019.03.042.

MANAGING CREATIVE PROJECTS: INSIGHTS FROM MEDIA AND ENTERTAINMENT

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ABSTRACT:

Due to its dynamic nature and the intrinsic creativity involved, the media and entertainment business offers special problems when managing creative initiatives. This chapter attempts to shed light on efficient project management techniques that are particularly suited to imaginative initiatives in the media and entertainment industry. This chapter covers important factors, methodologies, and approaches that help improve the effective execution of creative initiatives in this field, drawing on a mix of academic research and industry best practices. Project managers may successfully traverse the challenges of managing creative activities and enhance the overall success of their projects by comprehending and putting these ideas into practice.In this unstable business, the value of risk management, which includes emergency preparation and proactive problem-solving, cannot be emphasized. Utilizing technology and digital tools may also improve productivity by streamlining project procedures.

KEYWORDS: *Creative, Media Entertainment, Projects, Project Management.*

INTRODUCTION

Every film, television episode, music recording, and video game release is the outcome of a project that generates a special deliverable. However, owing to their highly creative character, these media and entertainment initiatives vary greatly from the majority of commercial and governmental undertakings. By listening to seasoned experts in the media and entertainment sectors, this chapter offers a window into this artistic realm while also collecting thoughts on how to build and manage a creative process [1], [2].This distinct perspective is made possible by Lester Frederick, the chapter's author, who works at Full Sail University.

For the media, arts, technology, and entertainment sectors, Full Sail offers degree programs. He has access to successful Full Sail alumni and business leaders, which allows him to get a behind-the-scenes look at the production of movies, television shows, and other media [3], [4].

Three major concepts are explored in this chapter:

1. What value does project management provide to these sectors, and how does the job of the project manager manifest itself there?

2. What development procedures and methods do they use in their quest for originality? Do they use waterfall, agile, or a combination?

3.   What can we learn from their teams' successful use of creativity?

The chapter will conclude with the presentation of a framework created to build a common language for media and entertainment product creation after the industry-specific training. The first lesson is that there might be a definite conflict in certain media and entertainment initiatives between the method required to get outcomes and the flexibility required for creativity. This is a never-ending struggle, according to Heather Chandler, who over the course of 20 years directed the creation of video games at large studios and wrote books on the topic. "Game developers sometimes skip adopting a formal software engineering process in favor of jumping immediately into production without clearly deciding how to manage the development cycle, maybe out of a fear of restricting the team's creativity. Today's developers are conscious of the need to manage the development cycle more effectively. This chapter will demonstrate how to create a repeatable, appropriately organized method that allows for creative expression on all kinds of projects.

Lessons From Film, Television, And Video Production

There is always someone whose duty it is to strike a balance between the timeline and budget with the artistic intent of the screenplay, whether it be for 30-second commercials, Emmy Award-winning television shows, or blockbuster feature films. Unit production manager, line producer, and producer are just a few of the titles that are associated with this duty in the film and television industries. The bigger the project, the more individuals and titles are involved. In his more than 30 years of experience working in cinema and television, Stewart Lyons has handled a range of positions relating to production. Lyons developed the schedule, budget, and staffing for the television series Breaking Bad, for which he won an Emmy Award. He was also in charge of making choices on the set to assist the actors and director. He sets up his duty in the following way: "You have to respect the script. Making your actors and directors appear as fantastic as you can while staying under budget is the best approach to do it [5], [6].

Film, Television, and Video Production Life Cycle

High-caliber creative work may be found at every stage of film and video production, yet this work can be organized in a conventional, linear life cycle. The choices that most closely resemble project management are made at the preproduction stage, when it is planned how to complete the script's objectives within the allowed time and money. Jerry Ziesmer, a seasoned assistant director, commented on the significance of planning, structure, and concentration. Steven Spielberg and Brian de Palma reviewed the number of shots they would need for each scene in order to complete the day's work. It required hours of careful focus. This procedure is slowed down for the live-action videos and documentaries that Edge of Cinema's founders Jeremy Schmidt and Matthew Scura produce for their clients. "We have translated that cinematic strategy into the business realm. Every single preproduction step is carefully planned out throughout our highly structured preproduction process. As a result, when we finally get on set, we can get things done quickly. Most of the time, we can do a full day's worth of work in a half day, saving the customer money[7], [8].

The Role of Project Management in Success

To keep projects under their allocated budgets, Lyons will examine the production timeline. He use tools created expressly for dissecting a screenplay and gathering the materials required for each shot. It enables us to redistribute resources to the action to maximize our return on investment. And if required, he suggests making script adjustments. Lyons gives a scenario from a current production as an illustration[9], [10]. "Weapons were concealed by a covert operative in a foreign bus station. He intended to enter the airport, go to a row of lockers, remove a duffel bag containing weapons, exit the building, get in his vehicle, and leave. Lyons is aware of the expenses involved in producing this photo. "You have to travel to a different nation, put signs up in every shop you see, alter every license plate, make sure the vehicles are what you want, and then fill everything in with hundreds of extras. There was no conversation and simply a half page of narrative. As an alternative, Lyons proposed that the agent conceal the guns in a locker buried in the desert. We can do it in two hours and save $250,000 in the process. And they accepted the concept.

Leading in a Dynamic Environment

Lyons asserts that the most effective producers can prioritize. "The circumstances are changing. People get ill. Locations disperse. The weather shifts. I'm here to assist people put on a better performance by thinking of the best solutions to the problems while you keep in mind the concerns of each department. It manages to concurrently keep all those balls in the air. Projects and priorities are balanced by Digital Brew's owner, Michael Cardwell. For his clients' marketing initiatives, Digital Brew creates animated explanatory movies that have won Emmy Awards. His projects have deadlines, and he depends on client input to keep them on track. The timetable slips if it doesn't happen. "Because of that, our pipeline is a living thing; attempting to grasp water in your hands would be impossible. Simply said, it doesn't remain there for very long, and you have to constantly refill it. The team employs visibility boards so that everyone can observe the progress of each project rather than utilizing software to update project schedules on a regular basis. They may see who is accessible, who is busy, and which projects require attention. This implies that Cardwell can keep his staff busy even while the client-dependent project schedules are outside his control.

An Industry Driven by Projects That Pioneered Its Own Management Techniques

Since the beginning of the movie industry more than a century ago, it has been crucial to accomplish the script's objectives on schedule and within budget. It honors the same capacity for leadership in a dynamic setting and appreciates the same procedures and discipline as contemporary project management.

Lectures Learned From Making Video Games

Huge sums of money are made from popular video games. To create a game that grabs the public's imagination and brings in millions of players, established studios and up-and-coming developers compete. Former Fortnite producer Grant Shonkwiler has worked as a project manager on blockbusters from both large studios and independent companies. Yes, there is a lot of project management going on, but producer is the position that is most often employed. For

comparison, a large game may need a development staff of 100 to 200 content developers and up to three years. This enormous crew will be divided into many groups of around 10 individuals. The ten-person teams collaborate with the producers.

Game Development Life Cycle

The main phases are followed by a typical life cycle for designing and publishing a game. Agile and waterfall methodologies are combined. Shonkwiler places a strong emphasis on preproduction's highly iterative, creative labor and stresses getting it done fast. For instance, he will rapidly put an idea on paper, send it to the team for input, and get their comments. "I cannot create the ideal game while seated in a room. I must give it to someone and watch as they puncture it. We then iterate. Paper is affordable. Conceptual art and writing are affordable. As soon as I hire a full-time programmer, artist, or designer, I begin accruing large expenses. He estimates that the preproduction stage of a two-year video game development project will take about three months. By the conclusion of preproduction, the main concept for the game has been decided. A studio working on a new game must reach this milestone since the firm is likely seeking to get funds to release the game.

The size of the team has an impact on how formal project management activities are, just as it would in any sector. The majority of traditional project management procedures may be avoided by a small game development team at a startup business as needless expense. Since everyone is seated next to one another at laptops, they can all see what is happening at all times.

Shonkwiler provides an understandable description of the production stage for every business software developer. A game that is developed using agile software development principles expands sprint by sprint, is constantly tested, and has new needs chosen from a product backlog. Risks are identified and monitored. Scrum or Scrumban techniques are widely used. Flexibility is emphasized in Shonkwiler and Clinton Keith's book Creative Agility Tools. Because they see Scrum as a set process, many teams find it difficult to accept it. The finest Scrum implementations in businesses ultimately evolve into something distinctive.3 Shonkwiler stressed that the practices must meet the demands of the team when talking about the process. "We worry first about the people, then about how we're making a good game, and then about how process can support that."

His attitude to crunch, the gaming industry's euphemism for grueling workweeks that may total up to 100 hours, is an example of putting people's needs first. Shonkwiler disapproves of this kind of ongoing overwork but acknowledges its advantages when used judiciously and in a manner that strengthens teams. "We really gel and move forward if we spend a little bit of time hyper-focused on a goal, and everyone works two hours extra per day for a week—two weeks at most."

Quality Includes User Appeal

What distinguishes one game from the next in popularity? That type of client happiness is hard to measure but very crucial. Shonkwiler use a variety of tactics to strike this objective. Agile routines often include product reviews at the conclusion of sprints. In a town hall structure, the smaller teams involved in game development individually showcase their work to the larger

group. Everyone may see the game's development. The exercise fosters teamwork, inventiveness, and a shared understanding of the changing game. External criticism is crucial. "We begin inviting individuals to participate and provide comments. We concentrate on making sure that the feedback becomes overwhelmingly favorable once it begins to trend favourably. This cycle is repeated until either the numbers are what we want them to be or we have to ship.

Balancing Creativity, Scope, Schedule, Cost, and User Experience

In order to generate an engaging product while remaining under budget and meeting deadlines, a creative team must be highly engaged for months or years at a time. This is the magic of directing video game development. The whole complement of project management, agile development, and team leadership tools are used by effective producers to accomplish this.

Lessons From the Production of Music

Projects for recorded music may be of any size and complexity. Within one day, a gifted musician may create, record, and upload a song on their website for their audience. An album by a celebrity may take a year to record. Where is there a place for project management? Although there are undoubtedly individuals whose responsibility it is to oversee a recording production, formal project management is far less essential given the small, creative teams that are often engaged. Inversely, the market rewards innate project management skills. Project management in the music business is a topic that Jonathan Feist writes and teaches. One obstacle to using formal project management in artistic undertakings like music is that many artists have a cultural allergy to the structure and accountability of a regulated environment. Many creative types like to "wing it" while producing their work. Project management is the complete opposite of winging it.

At major record companies, the position of Artist and Repertoire (A&R) manager/director serves as an illustration of a formal project management function. At EMI Gospel, Brandon Egerton served as an A&R executive for nine years. "The A&R is in charge of project management for developing album projects. They are responsible for managing the project's budget, timeline, and creative process as well as guiding it to conclusion.

Cycle of Music Production

As there are artists, there are as many different methods to plan and create an album. Indie bands may hire a recording studio for a brief period of time in order to make a breakthrough. It's common for well-known performers to compose and collaborate while they're recording, surrounding themselves with lyricists, studio musicians, engineers, and producers.

demonstrates a realistic sequence that an independent producer or A&R manager like Egerton might use as a model for creating a single or an album. Popular hit-making composer and producer Oak Felder is in demand. Felder said, "creating a song used to be as simple as sitting at a keyboard, pulling out a pad, and creating a tune. Production is what it is right now. You take out a laptop, use the keyboard, and create a song.

The Role of Project Management in Success

Project managers typically play the role of supporting the success of others. Egerton gives the example of a very gifted young vocalist who was signed when she was in her teens and came

from a long line of great musicians. "So now we have this artist who has her own professional goals but who hasn't had to perform at the level of an artist working with a big record company who has their own set of goals. I struck a balance between needing to allow her the artistic freedom she deserves and assisting her in certain aspects of the financial side of the music business. Of course, the artist did all the work. She co-wrote the songs and sung all the words, after all. But even simply having that knowledgeable somebody there throughout the procedure may assist mentor and advise the artist and contribute to the project's success.

It really is a team effort. There was a Grammy nomination as a consequence. Recording, mixing, and mastering engineers, as well as producers, who have the talent for getting things done are rewarded by the freelance nature of working on recording projects. One of the top recording artists in popular music is Jordan "DJ Swivel" Young. His quick rise from assistant engineer to mixing engineer to producer and entrepreneur is partially attributable to his teamwork and organizational abilities. I am quite well-organized. I put a lot of effort into keeping up with things. I simply put forth a lot of effort.

Swivel refers to important team members of an artist as "making it happen" when they go above and beyond their responsibilities as mixing or recording engineers. For a budding band that hired Swivel initially as a co-producer to serve as a sounding board while the group produced its first album, Swivel's ability to manage a process was essential. They had a deadline they had to meet. The CD was included in the cost of the tickets for the band's performance tour, so they had to be prepared. Swivel essentially assumed the position of A&R, guiding the record through final processing and release preparations.

Make Space for Creative Magnificence

Music projects, which accept the friction between their creativity and their restricted budget and time, provide obvious lessons on guiding the creative process. Egerton emphasizes the need of teamwork and trust. In this business, connections and the requirement or need to find solutions to issues that develop play a significant role in the process. Both the business and artistic sides are present. It's also akin to oil and water. The business side generally doesn't comprehend the complexities involved with the creative side, and the creative side typically doesn't want to engage with the business side. It is crucial to foster a collaborative environment where outstanding talent may naturally flourish. My responsibility as an A&R man is to complete the finest product possible on schedule and within budget. To prevent the artist from feeling that pressure to the point that it destroys the creative atmosphere, I must have their trust.

Feist uses his experience in both music and software to provide advice on how to manage the creative process. "You have to understand that the creative process requires some room to spread its wings and wander about in any venture where you're trying to be unique. And for that, you sometimes have to put up a battle. You need to preserve human ingenuity's ember. You must take the human soul into account.

Project Management Behind the Scenes

Feist puts it like way: "Successful musical ventures depend on effective project management. But often, it doesn't seem to be project management as it is used in corporate contexts.

Learning To Manage Meta Projects (Media, Entertainment, Technology, And Art)

Students that are passionate about their creative expression enroll at Full Sail University. They have a ton of ambitions, including the desire to create video games, music albums, and animated superheroes for full-length movies. Students quickly discover that creating movies, video games, and recorded music requires managing projects as they hone their creative and technical abilities.

Media, Entertainment, Technology, and Art (M.E.T.A.) Life Cycles			
Eclectic Product Development (EPD) Life Cycle	**Film/TV/Video Production Life Cycle**	**Game Development Life Cycle**	**Music Production Life Cycle**
Define	Development	Initiation	Conceive
Analysis. High Concept Doc	Green-lit Script and Package	REQS. High Concept. Pitch	Lyrics, Rhythm, Melody, etc.
Design	Pre-production	Pre-production	Compose & Arrange
(UX) Design Doc. Lo-Fi Sample	Script Breakdown Sheets	GDD & Lo-Fi Prototype	Harmony. Scratch Recording
Develop	Production	Production	Record & Edit
MVP. Med-Fi Prototype	Raw Audio Visual Footage	First Playable. Alpha Build	Demo. Enhanced Song(s)
Detect (Test)	Post-production	Testing	Mix
Iterative Hi-Fi Proto Product	Digital Cinema Package	Bug Tracking/Fixing & Beta	2-Channel Stereo Track
Deliver	Distribution	Release	Master & Release
Final Product. Implementation	Final Motion Picture or Video	Gold Master Build	Cohesive Hi-Fi Song/EP/LP
Debrief & Determine	Debrief	Postmortem	Debrief
Lessons Learned & Evaluation	On-going Dailies In Production	Project Review Notes	On-going Discussions
Title for the project manager role			
(Digital) PM, Producer, Team Lead, or Agile Coach	(Line) Producer or (Unit) Production Manager	Game Producer	A&R Manager or Music Producer
Key Activities, Deliverable(s) or Milestone(s)			

Figure 1: Emphasizing the critical activities and deliverables of each phase [srcibd].

All creative undertakings adhere to a variety of growth life cycles, as this chapter has shown. distinct projects and industries might have distinct project life cycles and phase names. That leads to frustration and unneeded misunderstanding. Lester Frederick thereupon developed the Eclectic Product Development (EPD) Life Cycle. For managing M.E.T.A. projects, particularly those including digital storytelling, the EPD Life Cycle is a hybrid life cycle that may encourage effectiveness, consistency, and originality. It's a well-balanced combination of recent and successful ancient methods. By using the same procedure to many project kinds, students get practical experience and repetition of the most crucial ideas and skills. Figure 1 depicts the EPD Life Cycle stages that correspond to the typical stages of video game, film/TV/video, and recorded music productions.

Using a Replicable Process to Manage the Project and to Develop the Product

"Start your process guides at a high level and allow the user to add more details when needed," said Michael Leser.8 The goal of any effective development process is to provide a consistent

language for all project stakeholders and a common framework for viewing every project inside the business. Frederick's Fusion PM Methodology accomplishes this.Frederick highlights that the lean, waterfall, and agile processes are all integrated into the Fusion PM Methodology. To reduce waste and increase value, it is intended to increase uniformity and efficiency. It is flexible and adaptable, and it may be used for any M.E.T.A. project. For instance, moves from the Define to the Design phases using a linear and systematic manner (waterfall/predictive). When it comes to iterating between the Design, Develop, and Detect (Test) stages, it then adopts an incremental and iterative approach (agile). Finally, from the Deliver phase to the Debrief and Determine (Evaluate) stages, it returns to a linear approach. To encourage uniformity and clarity, the phase names for the EPD Life Cycle and the Fusion PM Methodology are the same.

Fusion might benefit from the addition of a Kanban board to track work progress. By using the Fusion PM Methodology to tailor the project management and product development processes, new colleagues might be onboarded more rapidly. A fresh animator, for instance, may collaborate with an integrative team on a film or game production and better comprehend the many steps and procedures. Students that use this practice discover that it may close frequent barriers in cooperation and communication

CONCLUSION

In order to effectively manage creative initiatives in the media and entertainment sector, one must adopt a sophisticated, flexible strategy that takes into account the particularities of the business. This research has emphasized a number of crucial insights to improve project management efficiency in this situation. First and foremost, it's essential to set precise project goals and objectives while allowing for flexibility and creative experimentation. The success of a project depends on the team members' ability to communicate and work together, including artists, technicians, and management. Additionally, using iterative techniques like agile approaches may promote ongoing improvement and adaption throughout the course of a project. Last but not least, sustaining a motivating and exciting work environment that encourages innovation and creativity is crucial for the project team's engagement and motivation. Media and entertainment professionals may successfully manage creative projects and create successful results in this thriving business by using these insights and customizing them to their own project demands.

REFERENCES:

[1]   S. Cunningham and D. Craig, "Creator Governance in Social Media Entertainment," *Soc. Media Soc.*, 2019, doi: 10.1177/2056305119883428.

[2]   A. Nurhayati, "A Survey on Big Data in the Media and Entertainment Industry," *ITEJ (Information Technol. Eng. Journals)*, 2019, doi: 10.24235/itej.v4i2.50.

[3]   X. Zhang, "Ethics Reflections on Media Entertainment," *Acad. J. Humanit. Soc. Sci.*, 2019.

[4]   S. Karthika and A. Muthusamy, "Money related execution of media and entertainment organization," *Int. J. Sci. Technol. Res.*, 2019.

[5]   J. Harrison, "Ten opportunities and threats for media and entertainment companies,"

EY.com, 2019.

[6]   S. A. Gloria and S. Akbar, "The Impact Of Social Media Usage To Academic Performance," *J. Pendidik. Kedokt. Indones. Indones. J. Med. Educ.*, 2019, doi: 10.22146/jpki.45497.

[7]   P. Torre, "U.S. Entertainment Media," in *World Entertainment Media*, 2019. doi: 10.4324/9781315106298-3.

[8]   D. Floegel and K. L. Costello, "Entertainment media and the information practices of queer individuals," *Libr. Inf. Sci. Res.*, 2019, doi: 10.1016/j.lisr.2019.01.001.

[9]   S. Tripathi, "Blockchain application in Media and Entertainment," in *SMPTE 2018*, 2019. doi: 10.5594/M001857.

[10]   S. Edgerly and E. K. Vraga, "News, entertainment, or both? Exploring audience perceptions of media genre in a hybrid media environment," *Journalism*, 2019, doi: 10.1177/1464884917730709.

BUILD A HIGH-PERFORMANCE PROJECT TEAM

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ABSTRACT:

The creation of a high-performance project team is essential for success in the cutthroat business world of today. The main elements and techniques for assembling a high-performance project team are examined in this essay. It talks about how crucial it is to have clear objectives, good communication, role clarity, diversity, and ongoing learning. The relevance of establishing a strong and cohesive team and the favorable effects it may have on project results and organizational performance are highlighted in the abstract.The ability to continuously acquire new information, skills, and best practices is crucial for the development of both individuals and teams. This helps the team be flexible and agile in overcoming obstacles and capturing opportunities.

KEYWORDS: *Ground Roles, High-Performance, Organizational, Project Team.*

INTRODUCTION

There has been an unstated assumption made as we have described the science of project management in earlier chapters: that the members of the project team would collaborate well to create plans, manage risks, carry out tasks, and commit themselves to achieving the clearly stated project goals. However, that isn't always the case. Some teams struggle to communicate effectively despite having thorough planning and regular status meetings. The frustration of cooperation, which is marked by squabbles, fruitless meetings, and a joyless slogging as the project slips farther behind schedule, is something that most of us have at some point or another. Consider the fact that project teams are transient entities that exist just as long as the project does. How can we expect the team members to dedicate themselves to the success of this project? It is no secret that without the dedicated, collaborative effort of a strong team, the science of project management cannot produce successful projects[1], [2]. A team is defined as "a group of people working interdependently to produce an outcome for which they hold themselves mutually accountable" in order to properly explore this subject. Another feature of project teams is that they will only exist for the duration necessary to complete the task at hand, after which they will disperse[3], [4].

This chapter's goal is to provide suggestions for assembling a productive project team. It is a lengthy chapter since the subject is broad. So it will be simpler to absorb all the information if the chapter's structure is briefly explained. The introduction establishes how the dynamics of the project team influence project success. By comprehending the two main challenges that all project teams have, we'll also start to address the issue of creating a cohesive team in these first

few pages. Next, we'll utilize a model or framework to illustrate the elements that make up a high-performance team. At first, a high-level description of the framework is given.

The rest of the chapter then thoroughly examines each part of the framework. We determined that the project manager's principal responsibility is to lead stakeholders, and that every chapter in this book offered resources for doing so. We restrict the topic of this chapter to the difficulty of assembling a strong team from a group of individuals who have been given an assignment to complete. By outlining the qualities a team must have and the procedures a project manager must take to construct the team, we will give a framework for creating a high-performance project team. We won't discuss managing particular people or specific performance issues, despite the reality that one or two disruptive individuals may ruin a whole team [5], [6].

The Importance of Project Team Dynamics

A poor, unwilling team is not only ineffective, but it may also make your work a daily struggle marked by animosity and frustration. Negative interpersonal dynamics on teams drive people to burn out, explode, or leave their employment. On the other hand, when describing how they managed to complete a project when everything appeared to be going wrong, many individuals mention the power of a team or their wonderful coworkers. This chapter has the most potential to alter the way you and your team interact at work on a regular basis out of all the subjects covered in this book [7], [8].

Every Project Leader Must Foster a Sense of Team

Every project team requires a leader who will intentionally invest in developing a solid, harmonious, and competent team. Regardless of whether the project manager gets to choose the team members, it is always their duty to maximize performance. Just as important as project conceptualization and planning is team formation[9], [10].The labor of numerous individuals might be needed to complete a job without them having to work together as a team. For instance, organizing a large conference may involve hundreds of individuals to perform at precisely the right time and in the correct location, yet many of these individuals won't communicate with one another prior to, during, or after the meeting. Despite playing important roles, caterers, conference speakers, audiovisual technicians, and trade show exhibitors are often controlled alone by the conference management team with minimal interaction between them. In other circumstances, the project team does need periodic meetings and communication, but individuals are able to do their own tasks without consulting the rest of the team. Take into account these two factors while determining your personal team's cohesiveness need.

1. For tasks to be completed, people must work together.

2. Rather of producing separate parts, the team is responsible for the whole product or service.

All the criteria mentioned in this chapter assist your team to the extent that they are true. You'll still need to follow the science of project management—knowing the objectives and limitations, monitoring progress, and coordinating activities—if these conditions don't present, but coherence won't be as crucial. The dependency of the team members may be used by the project leader to determine how much effort should be put into maintaining team cohesion.

The Challenge of Building Project Teams

Why is it so challenging to make a team click? It may seem strange, the consequence of chance, and undoubtedly unexpected to a beginning project manager. However, the happiness and productivity that come with a high-performing team are too significant to depend on chance. In actuality, there are two main difficulties that any project team must overcome in order to succeed as a high-performing unit:

1. Complex problem-solving project teams are formed, and they must work together to find solutions.

2. Because project teams are transient, they must develop their interpersonal skills.

Knowing these two difficulties helps explain why some teams succeed while others never do. Throughout a project, teams that are able to make choices efficiently and effectively together become closer and more successful. These two challenges are addressed by the framework that is presented in this chapter. Prior to introducing the framework, it is important to comprehend the two issues that our teams must conquer since doing so will help us be more prepared to do so.

DISCUSSION

A Series of Problems to Solve

You may be surprised to learn that your project can be seen as a set of challenges to be solved, but think about these common tasks you'll encounter on both big and small projects:

1. Establishing the project's objectives and success standards.

2. Choosing between costs, schedule, and scope trade-offs.

3. Creating a product, or even a component inside a component, from scratch.

4. Designating a date and location for a milestone celebration.

To complete any work, a team of individuals is required. Some of these choices can be simple to make, while others might be trickier. But when projects are evaluated in this light, it is evident that there are many issues to be resolved. So called knowledge workers anyone from engineers to lawyers to administrators who rely on their minds rather than their bodies to do the task face a greater problem. Knowledge professionals often take on challenging, abstract issues. A set of choices must be made when creating a marketing campaign, an airplane wing, or a salary and benefit structure.

Humans have a propensity to solve issues in a number of ways. While some of us think logically, others think intuitively. While others concentrate on the larger picture, other people examine the specifics. While some of us feel at ease discussing issues and potential solutions aloud and developing our opinions as we talk, others won't say a word until they have carefully considered the facts and developed an opinion. While any of these strategies may work well for us individually, combining them in a team setting may lead to confusion, which breeds resentment and mistrust.

Utilizing a varied team's capacity for problem-solving is difficult as a project leader. The tips and tricks in this chapter will assist you in creating a team that enjoys problem-solving and generates

really synergistic outcomes, such as choices and products that are better because they were developed by a team with a variety of skills and personalities.

Temporary Teams

Project teams also start and finish as projects do. Teams are not only transient, but the tendency toward teams that span corporate, national, and even functional lines makes it more likely that a new project team will be made up of individuals who have never collaborated before. It takes time to establish mutual respect, trust, efficient communication styles, and the capacity to sustain healthy relationships despite conflicts. Most importantly, the project team leader must make a deliberate effort. This chapter outlines specific steps you may take to transform a team from a disorganized group of people into a functional one.

Recognizing the issue lays the groundwork

The chapter has thus far addressed the reasons why it is important to consider the project team's well-being as well as the difficulties we will encounter in doing so. We then go over a broad Framework for comprehending the ideal team members. The next sections of the chapter are divided into closer examinations of each of those elements.

A Framework for Building High-Performance Teams

So far, we've discussed the value of a solid team and the difficulties in building one. But just what do we mean when we refer to a high-performance team? In this part, we look at the characteristics of such a team and provide a framework for creating one.

Teams with high performance go beyond just being very productive. When a team of talented, experienced individuals works together, they may be quite effective until they encounter a roadblock or an unforeseen difficulty. This is the time when the team either demonstrates its strengths or weaknesses.High-performance team framework is depicted in Figure 1.
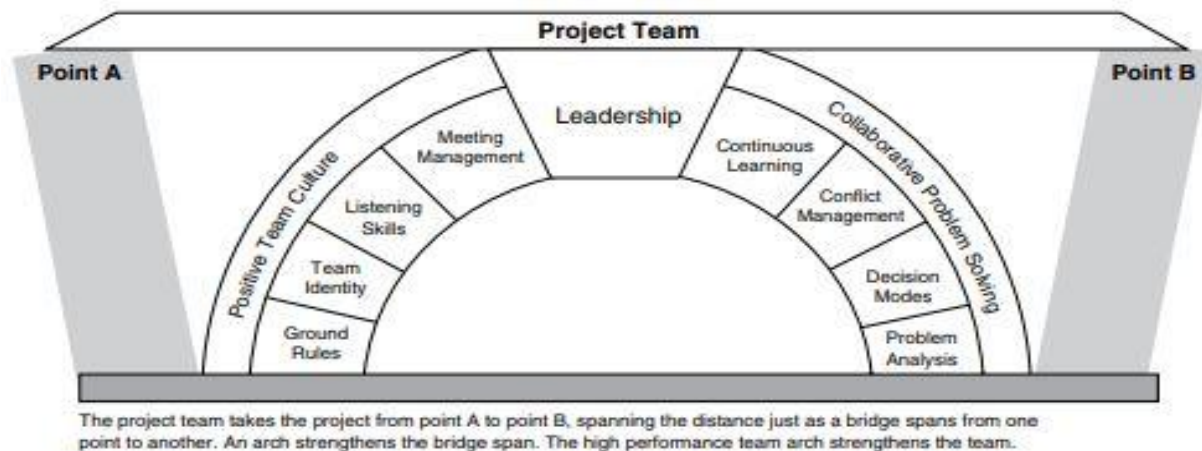

The project team takes the project from point A to point B, spanning the distance just as a bridge spans from one point to another. An arch strengthens the bridge span. The high performance team arch strengthens the team.

Figure 1: High-performance team framework [scribd]

We may divide the elements of a good project team into three categories, as the figure illustrates, and they cooperate in a similar manner to how an arch supports a bridge. The characteristics of our collaborative arch are similar to those of a structural arch:

1. Each component is necessary for a strong team.

2. The way the parts fit together gives the arch its strength.

3. The strength of one component cannot make up for the weakness of another component.

Think of your project team's objective as traveling from point A to point B. The project team acts as the bridge in the model, connecting points A and B. For easy tasks, you could just gather a group of individuals, throw them into the project, and they would manage to go from point A to point B without any extra focus on team development. Similarly,throwing a few sturdy planks over a small ditch may quickly and simply create a rudimentary bridge. That's OK for basic projects and simple bridges, but if the weight of a complicated project is to be supported by the bridge, it must be sturdy. The arch's main function is to provide a team carrying a big weight the strength and support they need.Here, we introduce the three main elements of our model positive team culture, cooperative problem-solving, and leadership along with each of its constituent elements. Later in the chapter, each component is explained in further depth.

A Positive Team Culture

Through more productive work habits, a good culture fosters respect and trust among team members and improves performance.

The following four things are necessary to create this culture:

1. Team ideals and work habits are outlined in the ground rules. The team's principles are reflected in the ground rules, which are clearly stated standards concerning personal conduct.

2. A collective identity based on dedication to a common objective. Clarity on the project's goals and scope, evidence of the project sponsor's support, and knowledge of the talents and contributions of each team member are all necessary for this commitment.

3. The capacity to hear. Exchanges of ideas are necessary for problem-solving, but they can only happen if team members make an effort to hear viewpoints that vary from their own.

4. The capacity to successfully run meetings. Meetings are where a lot of cooperation gets done (or at least it should!). A meeting must be actively guided toward the objectives, much like a project, and it must start with goals and a strategy.

When a good culture is broken down into these components, we can see that it is not just an idealistic state; rather, it is a collection of abilities and observable behaviors that a project manager can foster. Additionally, this supportive atmosphere yields two crucial qualities of the high-performing team:

1. Individual ownership of the group objective. Each team member evaluates their personal accomplishments in light of the team's objective. We've found a potent source of drive and resolve when team success becomes a question of pride in oneself and one's work.

2. Solid interpersonal connections built on mutual respect and trust. Many people who have worked on high-performance teams find that the friendships formed throughout the project were far more fulfilling than actually completing it. Because it reproduces itself, this ingredient is both the most important and the hardest to find. Respect fosters respect, and trust grows trust. Because they enable us to rely on one another, trust and respect are crucial for individuals who work in interdependent teams because the total must be greater than the sum of its parts.

Collaborative Problem-Solving Capability

We've established that project teams need to learn how to collaborate in order to address a variety of difficulties. Focus on the following four team skills to develop this collaborative capability:

1. The ability to solve problems using a recognized approach. A team made up of people with different talents and working methods has to come to an understanding on the procedure they will use to solve all kinds of issues. Each team member may adapt their working style since they all understand and trust the problem-solving method.

2. Being aware of and using various decision-making processes. The project manager alone makes certain choices, while the team as a whole makes others. Only these two decision-making processes are examples. Understanding the many decision-making options and intentionally selecting the best one for each choice are necessary for efficient decision-making.

3. Techniques for resolving disputes. Superior decision-making requires inventiveness, which always results in conflict. Teams that have reached maturity embrace and respect disagreement as inevitable. They know how to use disagreement to obtain the greatest outcomes while preserving solid connections.

4. Ongoing education: The team's culture must support a certain level of risk-taking when creativity and ground-breaking ideas are needed, and it must be able to enhance its own performance throughout the project by learning from both success and failure.

The team can improve each of these skills, albeit not all of them are easy. Together, they provide a really synergistic outcome: choices and outcomes that are greater because they were produced by a team with a variety of learning styles and abilities.

Leadership

The leader, who unites the team by emulating the abilities and qualities found in the two legs of the arch, is the cornerstone of our high-performance architecture. Without one or more individuals proactively addressing the team's health, no team will be able to attain its full potential. The team's skills are the main area of concentration of the framework. Because of this, we will confine our discussion of leadership to the steps a leader must take to develop and use these skills.

Knowledge Is Important

In the medal rounds of the Winter Olympics in 1980, the U.S. Olympic hockey team defeated the powerful Soviet Union squad and went on to win the gold medal. The fact that the considerably younger, all-amateur American team defeated the seasoned Soviet squad that was much expected to win was the ideal illustration of the strength of a coherent, unified team. Herb Brooks, the coach who oversaw the event that became known as the "Miracle on Ice," had this to say about it years later: "We could not defeat the teams we beat merely on skill. We would not have succeeded if we had ignored the importance of teamwork and depended just on individual brilliance.

Every business has its share of underdog tales stories in which the strength of a cohesive team results in unexpected, often miraculous, outcomes. Each tale serves as evidence for the chapter's topics. Never lose sight of the fact that these underdog teams weren't comprised of well-known stars, but they also weren't made up of amateurs, incompetents, or people with attitude issues. The highperformance team structure makes use of your team's abilities, but don't anticipate a miracle if such talents don't exist. Determine the talents necessary for the project in a realistic manner, and ensure that the team is either equipped with these skills or is able to acquire them throughout the project.

Responsibilities of Leadership

In this chapter's section, we emphasize leadership the cornerstone of our high-performance team structure in the context of how a project manager affects the core team's performance. The four areas covered in this section include the leadership behaviors that support a high-performing team.

Attend to the Health of the Team

Allocating time for the team to develop the talents outlined in this chapter is the first necessary leadership action. Although the action is straightforward, the thought is not. Our days as project leads are jam-packed with status conferences, troubleshooting, and finishing our own work. Being on schedule, within budget, and following instructions are the benchmarks by which we judge our success. Almost no one will request your high-performance team development strategy or insist that you invest time and money into creating one. Team development demands personal belief that team health genuinely influences the project's outcome in the face of these seeming priorities. We put this belief into practice by devoting team and leader time to assessing and enhancing the performance of the team's constituent parts.

Early on in the project, team building is crucial, but it's also crucial to pay constant attention to the team members. For better or worse, remember that the people on your team are real people with sentiments, egos, hobbies outside of work, and long-term career objectives. Their motivation, trust in the project leadership, and the respect they get will all have an impact on how well they perform personally.

Recognize their accomplishments and efforts. Be careful not to exhaust them by working them too hard. More respect should be shown to them than you would like for yourself. Your shown

care for them as people will be a decision element in whether the project requires an above-and-beyond effort, and it will determine if that effort is made.

Display Your Support for Accountability

Execution is essential for initiatives to succeed. Plans are useless if the team doesn't follow them through. Leaders set the tone by following through on their commitments and fulfilling their duties, and they demand the same of every team member. Holding team members responsible may call for frank discussions and concrete penalties for poor performance. Although it is not the most enjoyable element of a leader's responsibilities, we have a duty to the team to ensure that the efforts of some are not undermined by the underperformance of others.

Personal Drive to Lead by Example and Inspire the Team

You lead by example for the team. Rarely do the team's enthusiasm, attitude, and dedication surpass those of the leader. Keep in mind that everyone is watching you, and then act like an inspiring leader.

Leadership Synopsis

The foundation for high-performance teams is built upon the leadership roles we've discussed in this part. The other elements of the framework would be much weaker without leadership.

Ground Rules

Beginning with the first meeting of the team, constructive culture-building is started. To clarify that teams don't start off in high-performance mode, we added Bruce Tuckman's Stages of Team Development. They change. The team seeks organization throughout the Forming period, as Tuckman said. By creating ground rules, we satisfy that team need and get started building our team's culture. The team's beliefs and expected behaviors are outlined in the ground rules. Making these expectations clear achieves three objectives:

1. Team members are aware of their responsibilities as dependent individuals.

2. The team has the chance to create and control its culture.

3. You provide the framework the team needs.

Although they may apply to a wide range of situations, ground rules often fall into two categories:

1. **Team principles:** By highlighting actions or attitudes that uphold a value, ground rules strengthen that value. A project to reform a company's pay plan is an example where the team would wish to stress the value of secrecy.

2. **Meeting conduct:** Setting ground rules for meetings is a traditional use of ground rules. Since we often discuss options, give new tasks to one another, and engage in other creative activities, it is crucial that our actions show respect for one another while also maximizing the time we have together.

Although certain ground rules, such "listen to and respect other points of view," may appear to state the obvious, the truth is that such plainly desirable behaviors don't always occur on teams.

The team leader may use ground rules to get everyone on board with what is expected of them, and they also act as a reminder of those expectations. Post the guidelines for the first several project team meetings and make use of them as necessary. It may not be essential to publicize this set of plainly apparent principles if it is evident that the team has assimilated them.

CONCLUSION

Building a high-performance project team is a complex process that needs careful consideration of several important elements. Goals that are precise and well-defined provide the team members a feeling of purpose and direction, promoting cooperation and dedication to the project's objectives. Sharing information, settling disputes, and fostering a collaborative work atmosphere all depend on effective communication. Role clarity makes it possible to assign tasks effectively and helps team members understand their duties. Incorporating diverse viewpoints, experiences, and talents within the team fosters increased creativity and problem-solving ability. Achieving great performance depends on putting together a team of outstanding people with complementary talents and knowledge. Talent draws talent, and a strong team with a supportive culture and a set of guiding principles encourages motivation, engagement, and production. A better project outcome, such as on-time delivery, high quality, and customer happiness, is the end result of a high-performance project team that ultimately helps a business succeed.

REFERENCES:

[1]   I. Moura, C. Dominguez, and J. Varajão, "Information systems project teams: factors for high performance," *Team Perform. Manag.*, 2019, doi: 10.1108/TPM-03-2018-0022.

[2]   A. Petty, "How to Build a High-Performance Project Team," *Balanc. Careers*, 2019.

[3]   C. Unterhitzenberger and D. J. Bryde, "Organizational Justice, Project Performance, and the Mediating Effects of Key Success Factors," *Proj. Manag. J.*, 2019, doi: 10.1177/8756972818808984.

[4]   S. M. Alavinia, S. L. Hitzig, F. Farahani, H. Flett, M. Bayley, and B. C. Craven, "Prioritization of rehabilitation Domains for establishing spinal cord injury high performance indicators using a modification of the Hanlon method: SCI-High Project," *J. Spinal Cord Med.*, 2019, doi: 10.1080/10790268.2019.1616949.

[5]   E. Glikson, A. W. Woolley, P. Gupta, and Y. J. Kim, "Visualized automatic feedback in virtual teams," *Front. Psychol.*, 2019, doi: 10.3389/fpsyg.2019.00814.

[6]   N. Dixon and L. Wellsteed, "Effects of team-based quality improvement learning on two teams providing dementia care," *BMJ Open Qual.*, 2019, doi: 10.1136/bmjoq-2018-000500.

[7]   J. K. Parrish, T. Jones, H. K. Burgess, Y. He, L. Fortson, and D. Cavalier, "Hoping for optimality or designing for inclusion: Persistence, learning, and the social network of citizen science," *Proc. Natl. Acad. Sci. U. S. A.*, 2019, doi: 10.1073/pnas.1807186115.

[8]   P. Cauwelier, "Building high-performance teams through action learning," *Action Learn. Res. Pract.*, 2019, doi: 10.1080/14767333.2019.1562693.

[9]   W. Y. Wu, A. Amaya Rivas, and Y. C. Chen, "The role of team reflexivity as a mediator between project management skills, task familiarity, procedural justice, and product performance," *J. Manag. Organ.*, 2019, doi: 10.1017/jmo.2017.34.

[10]   A. Adriansyah, "Faktor-Faktor Berpengaruh dalam Penerapan Critical Chain Project Management dan Building Information Modeling (BIM) 4D pada Pekerjaan Struktur Gedung Hunian Bertingkat Tinggi," *Rekayasa Sipil*, 2019, doi: 10.22441/jrs.2019.v08.i1.03.

BUILD TEAM RELATIONSHIPS BASED ON UNDERSTANDING STRENGTHS AND DIVERSITY

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ABSTRACT:

Success in every firm depends on developing solid team connections. This chapter examines the value of understanding team members' talents and differences and how these affect productive teamwork. Teams may access a wide variety of abilities and perspectives by identifying and using individual strengths, which improves problem-solving, creativity, and overall team performance. The significance of open communication, respect, and inclusion is emphasized in this chapter's main tactics for creating a culture within teams that values diversity and recognizes individuals' individual abilities. By putting these tactics into practice, companies may establish a setting that recognizes and capitalizes on each team member's distinct contributions, leading to greater results and stronger team bonds.

KEYWORDS: *Listening, Project, Problem-Solving, Team Members.*

INTRODUCTION

When an army colonel was chosen to head a task force that included soldiers from every branch of the armed forces, he knew his success would be hampered if he couldn't persuade the team members to put the team's aims above the goals of their particular branch. Gaining each team member's commitment to a single objective that everyone will hold themselves responsible to is a challenge that all temporary teams must overcome. The four components of developing a team identity that are discussed in this section have a significant role in fostering this commitment. To add to the supportive team culture, everyone works together to create this new element [1], [2].

We Learn Through Repetition

The team's purpose is made clear to all members when the project objectives are presented at the first team meeting. This is significant because the objective ought to serve as the team's North Star, a point of reference that guides all teamwork. Each team member must thoroughly understand and internalize the aim in order for it to have that degree of effect, which can only occur via repetition. As the project manager, you may use the following simple steps to effectively repeat the goal:

1. Put the objective at the top of the agenda for each meeting. Even though you won't necessarily need to bring it up, having it there at every meeting will serve as a constant reminder.

2. When presenting the project to a new team member or stakeholder, start with the project aim.

3. During early meetings, bring up the objective regularly, especially while making decisions. For example, say, "Let's remember that our ultimate goal is to have the right products on hand and to decrease excess inventory; therefore..." You will demonstrate to the team how the objective is connected to every team action.

Identify the Organizational Alignment for the Project

Give the project's internal organizational context. What kind of connections are there between this project and other projects? How will this project impact the strategic objectives? Exist defined priority between these projects if this project shares staff and other resources with them? Even while we as project managers often think of our individual projects as being important, we must be realistic about how they fit into the bigger picture. Some details on the value this project brings to the company are included in the project charter and business case. A source of knowledge will also be your sponsor[3], [4].A project's organizational alignment may be intricate or ambiguous. Similar to the project aim, it could take some time and practice for the team to fully comprehend. You could invite other project stakeholders to a project meeting in addition to yourself to discuss how the project will affect their operations. For instance, it is usually advantageous for information technology project teams to interact with the users of their systems [5], [6].

Demonstrate Management Support for the Project

The role of a project sponsor is to support the project manager and project team. A temporary project team requires the strength and influence of a sponsor to get over organizational challenges, as was covered in Chapter 6. In order for the team to recognize that it is not working alone to complete the project, it is also necessary for the team members to feel essential to the business. Sponsorship indicates that the team and the project are important [7], [8].

Look for chances as the project manager to include the sponsor or other engaged executives in team activities. Ask your sponsor and top management how they would want to engage in the project, especially to show support for the team, while you are working with them. Here are some traditional sponsor events:

1. Attend the launch meeting to discuss the project's significance and purpose.

2. To appreciate the work of the team, keep showing up to project team meetings as needed throughout the project, especially after noteworthy achievements.

3. Call or visit a team member to express gratitude for their contributions to the team's performance.

The project team will get more enthusiastic as a sponsor expresses interest in it. Early visible management participation generates interest; ongoing visible involvement generates commitment.

DISCUSSION

Build Team Relationships Based on Understanding Strengths and Diversity

Strong teams depend on connections that are constructive and effective amongst team members—relationships that the project manager may actively nurture. Positive, effective relationships in a project team do not always imply that all team members will be close friends who like to socialize outside of the office. Instead, these connections acknowledge that, as coworkers with a shared objective, everyone will succeed more if they treat one another with respect, work together, and take responsibility for the team. There are a number of characteristics that we might attempt to develop in these partnerships [9], [10].

1. Everyone in the team is aware of their contributions and skills. Each of us contributes a variety of skills to the project team, including technical experience, client understanding, business acumen, and other skills. This understanding makes us more dependent on one another.

2. We are aware of the advantages and dangers associated with mixing introverts and extroverts, big picture thinkers and detail-oriented individuals, task-oriented people and those who are people-oriented, etc.

3. We have faith in our coworkers to fulfill their commitments and uphold their word.

4. In addition to being coworkers, we also see one another as people.

Humans have a wide variety of feelings and events outside of the job, including becoming ill, going on honeymoons, celebrating birthdays, becoming stressed out by family-work trade-offs, and overall having a range of emotions and experiences.These elements, especially trust, may be challenging to develop, but the team leader can start by giving members of the team early opportunity to get to know one another. Try out a few of these things:

1. As each new team member joins, do an interview with them to learn more about their history, areas of expertise, and specific project objectives. Introduce that individual to the team at the next team meeting. If you know in advance what you'll be asking individuals to say during the meeting, you may also ask each participant to come prepared to introduce themselves.

2. Feed attendees during meetings. Even better, arrange a working lunch where the cost will be covered by the project. The act of sharing a meal together is a powerful symbol, and the downtime will allow for closer relationships.

3. Hold frequent in-person meetings, if practical. While every meeting should have a goal and be fruitful, keep in mind that getting together for a cause fosters identification and a feeling of community within the group.

4. If the group is geographically dispersed, it is best if they can meet together as soon as possible. Early on in the project, a single day-long brainstorming session will hasten relationship development far more quickly than teleconferences or any other technological medium.

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These are all easy chores that may be completed alongside other project responsibilities. Each helps individuals learn about and understand one another. Of course, there are a lot of project teams whose difficulties justifiably warrant spending hours or even days engaging in activities whose only goal is to strengthen working relationships. These illustrations highlight the breadth and range of options we have:

1. A variety of personality and behavioral evaluation instruments have been created to aid individuals in understanding their own preferences and working methods. Of these instruments, the Myers-Briggs Type Indicator is arguably the most well-known, although there are many more to choose from. Each makes an effort to aid in our understanding of ourselves, others, and how our various working styles impact teamwork. We could set out a few hours as team leaders to train our teams on how to use such a tool.

2. Physically demanding team-building activities have been created to help teams concentrate on their interpersonal relationships. These activities, which are often led by specialists, include learning to sail a boat, rappelling down a cliff, and traversing a rope bridge that is 40 feet in the air. These activities specifically aim to highlight the value of the presence (or absence) of trust among team members. The teams want to apply the skills they gain from working together in these difficult situations to their everyday job.

Early attention to team dynamics accelerates team development, yet relationships are dynamic. It is the responsibility of the project manager to keep this issue in mind throughout the duration of the project and to deal with any deteriorating relationships.

An overview on creating team identity

The process of developing a team's identity is organic and gains strength via repetition and focus. Remember Tuckman's phases of team development as you try to integrate these components into your project team, and modify your communication style as necessary. When the team is only forming, the structure of your early efforts to define the objectives and scope and give the project a solid start will be appreciated. Similar to how early efforts to build connections may be welcomed and may seem successful, more focus may be required when the team enters the Storming phase. If you invest in building a strong team identity, you'll see that your team moves quickly from Norming to Performing.

Team Listening Skills

Strong communication skills are used when groups of people get together to tackle a shared problem and succeed in doing so with imagination and persistence. No communication ability is more crucial in such a dynamic problem-solving setting than listening since it is only through hearing that we can appreciate the worth of another person's perspective. Additionally, while participating in the give-and-take of creation, excellent listening fosters respect and creates trust. I treat you with respect as I try to comprehend your concept, which fosters trust and makes it more likely that you will regard my views equally.

A personal communication skill is listening. Each team member must possess this in order to effectively solve problems in groups. Project managers are responsible for modeling, imparting, and coaching this competence. Here, we've highlighted a few well-known rules that you and

your team may adhere to. As your team members gain this ability, it will help to achieve the overarching objective of creating a supportive team culture.

Active Listening

Active listening suggests that it takes work and expertise to listen to others and really absorb their intended message. It is simple to see why when you think about some of the innate barriers to listening.

1. We may be physically distracted from a speaker by things like a hot, stuffy conference room, a phone, or a computer screen with an email inbox.

2. Having prior knowledge of the topic gives us preconceived notions about what the speaker will say. Whether we have a lot or little knowledge, our own opinions may obstruct the speaker's message.

3. When a speaker's speaking style or ability differs from our own, we may get perplexed. Not everyone is adept at expressing thoughts succinctly or with clarity. Jargon and idioms exclusive to one organization or region must be translated for outsiders.

4. Distractions in our minds might come from other issues we are dealing with, prior interactions with the speaker, irritation, or impatience with the meeting. As a result of our brains' capacity to think nearly twice as quickly as we talk, we often find ourselves mentally wandering while listening to a conversation.

Even more talent is needed to listen during team meetings than during one-on-one interactions. Meetings often have a lot of inherent barriers to listening. Naturally, whomever is in charge of the meeting should also be in charge of the active listening, but that may not be enough. In order to grasp just one person's point of view in an open discussion, numerous participants may need to adopt active listening strategies, such as summarizing or asking clarifying questions. This emphasizes how crucial it is for every member of the team to possess these abilities.

The Most Important Skill: Suspending Judgment

The physical exercises I just mentioned help us focus our body and show that we are paying attention, but true listening only occurs when we refrain from judging what we are hearing before we react. For instance, someone may say, "The best vacation is in Phoenix in the summer." Do you hear yourself saying, "Hah! Phoenix's summertime temperature reaches above 100 degrees every day; don't go there for a vacation. The voice may also have said, "Phoenix in the summer. I don't comprehend. I'd best pay careful attention. You have just put your judgment on hold in an attempt to comprehend whether the voice in your brain leans more toward the latter. If your voice sounds more like the first statement, you have already formed a judgment without having all the information. Which reaction would you desire from your team or a team member when you introduce a fresh idea?

Suspending judgment is a discipline that must be actively practiced on a personal level. By using this ability, we decide to postpone having an opinion or responding to what the speaker has to say. Instead, we work on developing our active listening skills until we can confidently say that we do comprehend. This ability is even more useful when the speaker is having trouble

expressing their point. If we don't put in the effort, we won't comprehend, whether it's because the topic is delicate, the speaker feels uncomfortable speaking in front of the group, or the speaker doesn't have the language skills. This ability becomes considerably more potent when those in positions of authority use it. We shall convey that we appreciate the speaker's input by being patient and respectful. Respecting one another strengthens the wonderful environment we're aiming to create for our team.

Teach Your Team to Listen

Your team as a whole needs to practice effective listening. By taking a few steps early on in the project, you may hasten its development.

1. Recognize the team's talent level. That will inform you of how officially and promptly you should approach the talent.

2. Schedule the skills-teaching time. It is appropriate to devote some attention to the team's effectiveness throughout the project. Show a film, distribute and debate a worthwhile article, or invite a qualified trainer to educate the group.

3. As the project manager, you may show others how to listen effectively by setting an example for them.

4. Keep an eye out for the team's members who listen well. When summarizing a team meeting, call attention to them and emphasize how active listening improved the conversation.

5. Specify in your ground rules that active listening is a preferred habit.

If talks turn into disputes during meetings, bring up the ground rules as a reminder. Learning how to listen together quickly pays dividends. Although it is not a tough talent, it does need practice and a deliberate effort to become better.

Listening Is a Team-Building Activity

Our project teams briefly get together to address a number of issues. They will probably argue often as the group attempts to discover fresh answers and learns to work together. Even while this kind of confrontation or disagreement is a sign of a good conversation, not everyone is accustomed to it or feels comfortable with it. With the listening abilities we've discussed here, individuals may have polite dialogues about ideas and pursue the best answer all while keeping connections. If a team leader is able to impart these abilities, the squad will be able to advance through Tuckman's Storming phase more swiftly. Last but not least, listening abilities play a unique function in the framework for high-performance teams since they are a prerequisite for all other capacities.

Meeting Management

In meetings, a lot of teamwork is done. We collect and disseminate information, organize work, identify new issues, allocate responsibilities, and make choices. Meetings, where we come together to advance mutual objectives, also serve to strengthen team identity. Successful meetings exhibit all the traits of a high-performance team and result in a product that is superior

to what any team member could generate on their own. The fourth and last item we'll cover deals with the high-performance aspect of a healthy team culture: meeting management.

Unfortunately, we have all been to meetings that were unsuccessful and just led to boredom and irritation. We establish the rules for conducting project meetings as the team's leader, whether we do it ourselves or someone else does. The section that follows lists acknowledged best practices for facilitating productive meetings. Every element of the highperformance team structure is in use throughout the meeting, and any weaknesses will manifest as behavior that reduces the effectiveness of the meeting.

Meeting Structure and Stages of Team Development

Team meetings' formality and format inevitably evolve during the course of a project team's existence. The team will appreciate the structure that agendas, action items, and meeting minutes give throughout the Forming stage. It will probably become harder to keep a meeting on track as the team Storms, which is all the more incentive to employ these meeting management tools. The advantages of organized meetings will start to emerge when team members develop productive meeting habits once the Norming stage starts. Now you may start delegating meeting leadership, which you'll enjoy more and more as the team advances to the performing stage.

Building a Positive Team Culture: A Review

We want the members of our teams to hold one another responsible for achieving a shared objective. The team members want mutual respect and to be able to trust one another. They also want success so they may see the fruits of their labor and abilities. As indicated on the left side of the arch in our highperformance team model, ground rules, listening skills, meeting management, and the behaviors that foster team identity all work together to establish a healthy team culture. It is your responsibility as the team's leader to put each of these components in place.

Collaborative Problem-Solving

There is plenty of evidence that collective choices are better than those made by a single management or executive acting alone. A group may approach a challenge with greater context, knowledge, and creativity. In addition, individuals of the group that made the decision are more likely to be dedicated to seeing it through if they are also in charge of carrying it out. The benefits are obvious, but they are not always simple to get. Even a project with a strong team culture might become bogged down in consensus or waste hours of meetings rehashing the same issues. A project team may use the components of collaborative problem-solving to tap into the collective creativity and productivity of the group.

If we divide this cooperative problem-solving talent into four team competencies problem analysis, conflict management, continuous learning, and the capacity for different choice modes we can better grasp it. These abilities are so closely entwined in practice that they function as a single unit, and if one of them is lacking, the others lose some of their potency. Each of these subjects is further examined in the next sections of this chapter, which together make up the right half of the high-performance team arch.

Problem Analysis

When it comes to how we approach and are able to analyze challenges, we all differ as people. This variation becomes both a strength and a weakness when we work as a team. Your attention to detail complements my capacity to maintain a vision of the larger picture and see how the major parts go together. The innovation of another team member offers a new viewpoint, inspiring us to explore beyond the same old ideas. However, there is a chance that I may get impatient with unimportant details and unrealistic possibilities, and a detail-oriented team member could lose commitment to our decisions because they feel that the team is rushing through the difficult work in favor of easy fixes.

Each of us might grow dissatisfied and start to lose interest in the team because the group is not using a procedure that we individually find to be useful or efficient as individuals with varied learning preferences. A recognized issue-solving procedure and proficiency with problem analysis techniques are necessary to reduce the dangers and maximize the benefits of team problem analysis. Books have been written in their entirety to investigate each of the themes in this chapter. Here, our goal is to help you grasp the abilities that the team needs.

Acknowledged Problem Analysis Method: Diverge and Converge

It is hardly a compliment if you say I make snap judgments. The expression implies that I didn't fully comprehend the issue before deciding. It depicts how issue analysis really works, which diverges to collect information and opinions before coming to a consensus on a solution. Your criticism also illustrates how we analyze problems differently; what you consider "jumping" may really be a different way of evaluating the available information and possibilities.

We all gain as a team when there is a recognized approach to issue analysis for the following three reasons:

1. We want to confirm that the team is using reliable issue analysis techniques. A field of widely acknowledged ideas and methods has emerged as a result of extensive research and real-world experience. These methods will help us make better judgments, which will eventually lead to better projects.

2. Having a recognized process offers a generally agreed understanding of the best ways to solve an issue. As a consequence, the group's cohesion and attention to detail are improved, which lessens the frustration that comes from having people with diverse learning styles.

3. A recognized method also gives the team a vocabulary to describe the experience, enabling them to make improvements. It makes it possible for us to discuss our activities. For instance, "We concur that we have developed a clear problem statement," or "We need to continue in the alternatives-generation step."

Undoubtedly, there is disagreement over the best ways to approach an issue. The steps listed in the following box on problem analysis phases conform to and reflect commonly acknowledged stages of issue analysis. Depending on how difficult the issue is, you'll scale your utilization of this technique. For instance, you may repeat these procedures numerous times within a single meeting to deal with minor issues. The tasks in your work breakdown structure will indicate that a large issue could take weeks or even months to solve. You may ensure that the team has a

recognized issue analysis methodology as the project leader whether your team follows this approach or develops its own.

Conflict Management

Group problem-solving always leads to conflict. There will always be disagreements in every project where two or more people need to make choices, which is why conflict management abilities are crucial to enhancing a team's capacity for cooperative problem-solving. High-performance teams genuinely utilize conflict to solve issues, even if it isn't always pleasant. They are aware that disagreement is a healthy, beneficial source of energy for the group. It is often the result of valid disagreements that need to be settled in order for a project to proceed. Working through these discrepancies requires genuine learning and often yields important advancements.

Any time there is a conflicting choice, there are two risks to consider: First, if conflict interferes with the decision-making process, a poor choice may be made. Second, when the problem is remedied, relationships could suffer. The phrases "win-win" and "win-lose" relate to the capacity to maintain favorable connections while making the greatest choice. It is crucial to sustain the connection and make a wise choice when both parties will need to work together after the disagreement is addressed, which is often the case with project teams.

It takes trust, respect, and a lot of experience for a team to use disagreement to its benefit. How we handle conflict in team settings might vary depending on our own conflict experiences. Recognizing the typical reactions to conflict and being aware of the strategies that let you utilize the conflict itself for good are necessary for successful conflict resolution. The list below outlines four typical, but often unsuccessful, methods for resolving disputes. These behaviors should be recognized by the team leader and team members, along with the reasons why they are ineffective. After that, keep an eye out for these methods and avoid them.

1. **Refraining from the fight:** With this strategy, the problems and parties involved in the dispute are avoided. The tactic is based on the idea that avoiding conflict is simpler than dealing with it. If the problem is genuine, this strategy just postpones the inevitable and raises the stakes as time constraints exacerbate the circumstance.

2. **Disguising the dispute:** This reaction downplays the areas of friction and promotes the beneficial ties. Smoothing values relationships above settling disputes, which is at most a temporary fix.

3. **Imposing a settlement to the dispute:** This approach ignores the connections within the group and tries to force others to adopt a viewpoint or solution. Physical force, such as raising one's voice, mocking a notion, and the straightforward assertion of organizational power, such as "I'm the boss, so do it my way," are examples of forcing behaviors. Even while coercion leads to a conclusion, people who feel that the decision was forced on them may not fully support it. Forceful behavior is obviously disrespectful to other team members and jeopardizes the harmonious relationships necessary for a high-performance team.

4. **Making Concessions And Accepting A Losing Situation:** This strategy recognizes that neither party will achieve their goals. With the knowledge that they received an equal amount to the other side, each side takes less than they want. Despite the fact that this tactic aims to

respect all sides, compromise is seen as lose-lose situation since no one is satisfied with the outcome, and the disappointment may lead to animosity.

Each of these tactics may sometimes be the best option. When we avoid or defuse a confrontation because the topic at hand just isn't worth the emotional effort necessary to tackle the issue, or the relationship has been put under a lot of pressure, we may utilize the proverb "Choose your battles" to guide us. Similarly, there are times when compromise is appropriate. When this happens, the team is at least able to reach a conclusion and move on after acknowledging that there isn't a generally accepted option. The justification for imposing a choice seldom holds true, especially in teams where mutual respect is valued. Team members may identify whether someone is using an ineffective conflict resolution strategy by being aware of these reactions to conflict. You need to move to a better strategy, known as addressing conflict or just problem-solving, when the symptoms start to show.

CONCLUSION

For a company to be successful and thrive, team connections must be built on an appreciation of strengths and diversity. Organizations may encourage a culture of cooperation and creativity by recognizing and respecting the different skills, abilities, and viewpoints of team members. Important aspects of this process include effective communication, tolerance for diversity, and inclusion. Teams are better able to overcome obstacles, improve their ability to solve problems, and promote creativity when they accept and use individual talents. Diverse teams also bring a greater variety of perspectives and ideas to the table, resulting in more innovative and all-encompassing solutions. Organizations may increase team performance, strengthen team relationships, and achieve sustainable success in today's dynamic and competitive business environment by putting methods that focus identifying strengths and accepting diversity into practice.

REFERENCES:

[1] R. A. C. Huggins and C. B. Scheepers, "An integration team's diagnosing of context, spanning boundaries and creating psychological safety within a multiteam system," *Team Perform. Manag.*, 2019, doi: 10.1108/TPM-12-2018-0071.

[2] L. Wu, D. Wang, and J. A. Evans, "Large teams develop and small teams disrupt science and technology," *Nature*, 2019, doi: 10.1038/s41586-019-0941-9.

[3] G. Sawin and N. O'Connor, "Primary Care Transformation," *Primary Care - Clinics in Office Practice*. 2019. doi: 10.1016/j.pop.2019.07.006.

[4] J. J. Oedzes, F. A. Rink, F. Walter, and G. S. Van Der Vegt, "Informal Hierarchy and Team Creativity: The Moderating Role of Empowering Leadership," *Appl. Psychol.*, 2019, doi: 10.1111/apps.12155.

[5] X. Chen, J. Liu, H. Zhang, and H. K. Kwan, "Cognitive diversity and innovative work behaviour: The mediating roles of task reflexivity and relationship conflict and the moderating role of perceived support," *J. Occup. Organ. Psychol.*, 2019, doi: 10.1111/joop.12259.

[6]   A. L. Antes, A. Kuykendall, and J. M. DuBois, "Leading for research excellence and integrity: A qualitative investigation of the relationship-building practices of exemplary principal investigators," *Account. Res.*, 2019, doi: 10.1080/08989621.2019.1611429.

[7]   M. Kirrane, S. Kilroy, and C. O'Connor, "The moderating effect of team psychological empowerment on the relationship between abusive supervision and engagement," *Leadersh. Organ. Dev. J.*, 2019, doi: 10.1108/LODJ-07-2018-0252.

[8]   R. K. G. Potnuru, C. K. Sahoo, and R. Sharma, "Team building, employee empowerment and employee competencies: Moderating role of organizational learning culture," *Eur. J. Train. Dev.*, 2019, doi: 10.1108/EJTD-08-2018-0086.

[9]   E. Bingham, G. E. Gibson, and M. El Asmar, "Identifying Team Selection and Alignment Factors by Delivery Method for Transportation Projects," *J. Constr. Eng. Manag.*, 2019, doi: 10.1061/(asce)co.1943-7862.0001704.

[10]   T. A. Ghaleb, D. A. da Costa, and Y. Zou, "An empirical study of the long duration of continuous integration builds," *Empir. Softw. Eng.*, 2019, doi: 10.1007/s10664-019-09695-9.

COMMUNICATE WITH PROJECT STAKEHOLDERS

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ABSTRACT:

Project success depends on effective communication with project stakeholders. This chapter covers the value of stakeholder communication and discusses several methods for doing so during the course of a project. It emphasizes the value of succinct message, attentive listening, and using the right channels of communication to engage stakeholders. The advantages of involving stakeholders, fostering trust, and resolving disputes amicably are also covered in the chapter. Stakeholder communication should be prioritized by project managers to encourage cooperation, get insightful information, and guarantee project goals are met.

KEYWORDS: *Communication, Information, Project, Project Manager, Stakeholder.*

INTRODUCTION

One of the most important components in a project's success is effective communication. More specifically, everyone participating in the project must maintain consistent, efficient communication. People working on projects complete them. For the correct things to be done in the right manner, all the stakeholders must communicate[1], [2]. As project managers, communication takes up a lot of our time. This include establishing and reaching consensus on objectives, organizing personnel, identifying and resolving issues, and controlling expectations[3], [4]. This implies that every project management technique from the charter to risk management and meticulous planning is a channel for communication. This chapter offers a number of project-focused methods for guaranteeing that the appropriate individuals have access to the information they need to make the appropriate choices and carry those decisions through. Some of these methods will be familiar to you from earlier chapters:

1. Planning your communications.

2. Interactions among team members.

3. Reporting on closing.

Project managers must have excellent communication skills. Project managers must be able to communicate well both orally and in writing, run meetings efficiently, and handle problems amicably. To fully comprehend what is being said, they must also listen intently. Without making an effort to impart communication skills, this chapter outlines the duties of a project manager in this area. Additionally, the structure of our project communication improves consistency and effectiveness, according to a Kickoff Checklist, Communication Plan, Task

Assignment sheet, and Meeting Agenda template, example Status Report, Control Checklist, and Closure Report that are all accessible online.

Embrace Your Role as a Leader

A project manager is more than just a channel for information. Leaders are project managers. Keep it in mind as we discuss all the channels of communication and roles in this chapter. Every opportunity to establish a tone, manage expectations, reaffirm the strategy and direction, and set an example for others is a chance to communicate with a stakeholder. Your role is to direct a group of people's efforts toward a single objective and encourage their effective, coordinated activity, not to interface with a computer. You may use email to send task assignments and publish status updates on websites[5], [6].

You are really onstage when you communicate with your team. Your enthusiasm, honesty, optimism, respect, and responsibility will be mirrored in the team's efforts. Your management and clients are depending on your counsel. They need you to defend the truth, even when the facts paint a negative picture. You have been acting in the leadership position ever since you agreed to define and plan the project. Accept that position once again when the project progresses into implementation. Consider how people see you. Be the kind of leader that your team, management, and clients are looking for[7], [8].

Creating a Communication Plan

Others are more productive when a project manager is effective. A project manager organizes and affects all the stakeholders while providing them with the knowledge they need to be more effective and practical via agreements, plans, suggestions, status reports, and other methods. But regardless of the assignment, communication is a part of every project manager's activity. Planning well lowers the likelihood of a communication breakdown [9].

The written plan for providing the appropriate information to the right people at the right time is known as a communication plan. The target audience for the majority of project communications are the stakeholders listed on the charter, organization chart, and responsibility matrix. However, since stakeholders engage in every project in a unique manner, they all have distinct information needs. The following are the crucial inquiries you must ask, along with advice for avoiding typical pitfalls:

1. Who is in need of information?

Sponsor: The sponsor is expected to take a leading role in the endeavor. After the charter has been written, there shouldn't be any doubt as to who the sponsor is.

Functional leadership: Functional management may take many different forms. The information they need will be determined by their two primary duties of delivering resources and acting as policy representatives. Although it may be reasonable to group numerous functional managers together as having the similar information requirements, each functional manager's name or position must be on the communication plan.

Customers: Customers decide what the product should be, when it is necessary, and how much it can cost based on the business case. There will probably be a wide range of customer engagement levels, thus specific names or positions must be included.

Project group: Communication with the project team might be especially challenging. Since the core staff will be deeply interested in the project, communication with them will be quite simple. Each of the other project team members, including suppliers, subcontractors, and employees from other departments, will need to be assessed independently since they may all have different communication challenges.

Project director: While the project manager is often the source of information, they also frequently receive it.

2. What data is required?

Several additional sorts of information, in addition to the apparent cost and schedule progress reports, are sent throughout the project. The following groups essentially categorize the management of information:

Authorizations: The project charter, finances, and product requirements must all be approved. Any agreement-related document must go through an approval procedure, which includes stages for examining and amending the proposal. Give a clear indication of who will make the choice.

Status changes: Reports that include schedule and cost progress come under this heading. Likewise, trouble logs. Status reports are often released, but each report's information should be tailored to the audience it is intended for.

Coordination: The project plan aids in coordinating the efforts of all project participants. It outlines the duties and responsibilities, clarifies the connections between groups, and describes additional information required for effective operation. Coordination across teams or locations is often needed on a daily basis when change happens throughout the course of a project. The procedure for informing every one of the next actions should be documented in the communication strategy.

DISCUSSION

Keep the Status Report Short

One typical error is to include in the status report every piece of information about the project that someone could be interested in knowing. These reports on obesity overwhelm a busy audience rather than having the desired impact of educating everyone. Be realistic while creating the report's content. The issue was expressed in the following fashion by a department manager in charge of 250 projects: "Some of our project leaders have 10 projects. They won't have time for work if they have to spend two hours every week composing status updates. They answer to managers who are in charge of up to 80 projects. So that project managers and leaders can spend time resolving issues and advancing the projects, we need a method for swiftly identifying and communicating the relevant information.

Make Information Timely

Information must be timely in order to be valuable. The project manager must select how often and with what information to contact each stakeholder as part of the communication strategy. The amount of each stakeholder's engagement may really be determined by their reaction to the communication strategy. For instance, a sponsor who refuses to commit to regular status meetings or reports is indicating that they want to assist this project remotely. There is a defined period for responses; if the stakeholder does not agree to answer within this deadline, their commitment to the project is still in doubt.

Regular Meetings Should Be Included in the Communication Plan

It is ideal to include a timetable for frequent progress meetings in the communication strategy. While everyone agrees that being proactive rather than reactive is preferable, many sponsors or supporting managers prefer to have status meetings only when absolutely necessary—that is, only when there is a significant issue. As long as everything is going well, they are happy to let the project manager handle everything (they refer to this level of detachment as "empowering the project manager"). In practice, it is often too late for these higher-level managers to assist when problems arise by the time they get engaged. This justifies the value of planned meetings. The sessions won't last long if everything is going well, but if a problem does occur, these meetings will provide managers with the necessary knowledge they need to be successful.

What Form Will Communication Take?

Nowadays, there are several options to maintain regular connection. Information may be shared concurrently by more individuals thanks to intranet and internet technology. Project teams may now be dispersed across the globe and yet meet in person thanks to the posting of status updates on project websites and the use of videoconferencing. The topic of how to communicate the information is still relevant despite all of these possibilities. Technology does not have all the solutions, that much is certain. For instance, posting a project's status on a website doesn't guarantee that the intended audience will see it. You must take the audience's demands for communication into account. For instance, attempting to meet with high-level executives regularly or delivering them a long report may not be possible due to their typical hectic schedules.

Communicating Within the Project Team

The job is completed by the project team. Along with the typical full-time employees, we also include suppliers and part-time team members from supporting departments in the project team. Your likelihood of involving individuals beyond your immediate department and potentially outside your firm increases as the project size increases. Recognize that they all have four primary communication demands when you design your communications:

1. **Accountability:** Each team member must be fully aware of the portion of the project for which they are accountable.

2. **Organization:** Team members depend on one another to do their tasks. They can collaborate effectively thanks to knowledge about coordination.

3. **Position:** Monitoring progress is necessary to reach the objective so that issues may be found and solutions can be applied. The team members must be regularly informed of the project's progress.

4. **Permission:** All choices that customers, sponsors, and management make that affect the project and its business environment must be disclosed to the team. To maintain coordination across all project decisions, team members must be aware of these choices.

Each method in this chapter takes care of two or more of these communication requirements.

Clarifying Task Assignments

To succeed, projects and project managers need a clear direction, which is why creating the charter is so important. Team members also need clear guidance. Fortunately, the extensive preparation that went into the project informs them of all they ought to know. Every work package has deadlines, dependencies, and deliverables, much like a mini-project. These fundamental guidelines must be followed whether you are hiring a vendor or an individual performer:

1. Describe the outputs. Make sure they are fully aware of the deliverables they are responsible for, as well as any completion standards that will be used to evaluate them.

2. Be specific about the amount of work required and the deadlines. A useful tool for demonstrating how its components fit together as a whole is the network diagram.

3. Make sure they are aware of any challenges they could face or specific information they will require. Set them up for achievement.

4. Distribute tasks one-on-one, leaving plenty of time for questions and discussions. These meetings should be seen as an investment in the effectiveness of the team; the more you prepare them, the more effective they will be.

The value of precise job assignments cannot be overstated, yet it doesn't have to be challenging. The essential data a team member requires is covered by the online Task Assignment form.

Individual Status Meetings

Make time to interact with each team member on a regular basis. Keep in mind that your goal is to increase their productivity, and you can't do that if you don't know what they're working on or what issues they're facing. This kind of involvement just can't happen during the project status meeting. Setting up these sessions is the job of the project manager. Even while a manager could assert that they have an open-door policy and that their team doesn't need to schedule a meeting in advance, this would only be true if the management was always at their desk. In practice, project managers might be hard to locate and spend a lot of time in meetings. If you force team members to come to you, they could wait until their issues are too complicated to handle; if a meeting had been conducted earlier, the same issues might have been caught early on.

The Kickoff Meeting: Start the Project with a Bang

The kickoff in football signifies a distinct, definite beginning. Everyone is aware that the game has begun. Projects may begin in the same manner. At the launch meeting, the parties involved get together to make a commitment to the objectives and look each other in the eye.

Typically, a launch meeting ushers in the project's execution phase. The team has been put together at this point, and the project charter and plan have been accepted. It's a chance to commemorate the project's start. An example of a kickoff meeting format:

1. The meeting is facilitated by the sponsor, who uses the occasion to outline the project's goals and relationship to the larger company.

2. After introducing themselves, the clients discuss the significance of the project for their company.

3. The sponsor introduces and fervently supports the project manager.

If there aren't too many, the project team members are introduced. Additionally, vendors and contractors must be presented.

1. Coffee mugs, T-shirts, and other project souvenirs are distributed. This is a better time to do this than towards the conclusion of the project since they may promote camaraderie and teamwork.

2. Commemorate: Everyone must get to know one another and express their passion for the project.

Usually, there are too many team members to introduce during the start meeting for large projects. Have start meetings for the project's teams as well. Spending an hour or two on each of these sessions is an investment in the cohesiveness and productivity of the team. It will be fruitful.

Project Status Meetings

Regularly planned meetings are necessary to discuss information and make decisions in order to keep a project on track. Many of the project team's communication demands are satisfied by a successful project status meeting. Project managers have the following opportunities at status meetings:

1. Strengthen the team bond; status meetings are sometimes the only opportunity for everyone to get together.

2. Update the team on project developments coming from outside sources, such as the sponsor, the client, or management.

3. Identify prospective issues or provide solutions to present issues.

4. Ensure that the team is aware of the project's status and collaborates to decide if any adjustments to the project plan are required.

5. Ensure that everyone in the team is accountable for achieving every project goal!

A participatory management approach is used in project status meetings. They build on the team's participation in the project's planning; the manager should promote the same level of participation to keep it on course. This mindset is founded on the idea that participation breeds ownership, and ownership breeds increased commitment and responsibility. The following suggestions are helpful for organizing a project status meeting in addition to the fundamental criteria for conducting a successful meeting:

1. Have a plan. Before the meeting starts, each participant must have an open task report (OTR) in addition to your agenda. A subset of the project plan called an OTR lists any activities that ought to have been finished but weren't, as well as the work planned for the next two reporting periods. (The interval between status meetings is referred to as a reporting period. A reporting period is one week if you have status meetings every week.)

2. Include the members of the part-time team who have been doing project tasks or who will complete them over the course of the next two reporting periods.

3. Distribute choices taken by management or customers throughout the meeting. Pass along any encouraging comments from these stakeholders.

4. Determine the status of each job that has to be begun or finished as of the most recent status meeting using the open task report.

5. Take use of the fact that the whole team is there to decide what steps should be done in response to any issues. Make careful to record any specific action that is required.

Add a task to the project plan or a resolution to the problems log, as appropriate. Every activity need to have a completion date and a person in charge of seeing it through.

1. Avoid attempting to address issues that are too complex or that don't include everyone in the room. Give an issue an action item if it takes more than five minutes to address it.

2. Examine the OTR's preparation for upcoming duties. Are the proper individuals assigned? Exist any recognized challenges to doing the duties as intended?

3. Examine the risk register and the problems log. Are the problems and hazards being dealt with, or do they need higher management's attention?

Team members are more inclined to assume responsibility for the project's success when they are involved in its management. By participating, the team transforms from a collection of lone performers to a cohesive one, and the project manager from an enforcer to a facilitator. Peer pressure works better than management pressure to increase a member's production when they are behind on their task. One software company's project manager goes even further:

"We switch off on who runs the weekly status meeting. The project seems like it belongs to everyone."

Face-to-Face Meetings Add Value

It could seem archaic to gather folks at a conference table once a week as collaboration and communication technology develops and team members increasingly work independently. In fact, sharing information is becoming simpler every day, so why battle your hectic schedule and

insist on having a face-to-face conversation? Do not be duped: Since humans are sophisticated creatures, communication takes numerous forms. For instance, those who are hesitant to deliver negative news may initially express their emotions by their body language; the project manager may explore more if multiple team members display a discouraged mood. Additionally, when employees are able to shake hands or pat one other on the back, problem-solving and team building become more natural.

Make the Kickoff a Face-to-Face Event

Positive interpersonal ties are often maintained across long distances. Millions of individuals quickly made the switch to online meeting technology in 2020, which made use of the cameras on phones and computers. We all got used to seeing friends and coworkers on our screens rather than across the table in social and professional encounters, albeit they weren't quite the same. Because there were already established personal connections, the move was simpler.

It's more difficult to start a new team when everyone is in different places than it is to convert to online meeting technologies since forming connections is an important part of team growth. Even co-located teams must develop their connections from scratch. Meeting in person and putting a lot of effort into team building will help our new team start Forming, Storming, and Norming as soon as possible. The effectiveness and efficiency of the team's choices and productivity will more than make up for the immediate cost of a face-to-face launch. Depending on the size of the team and project, a well-planned, assisted launch meeting may cover a lot of territory in a few hours or days. Change between tasks that foster connections, foster teamwork, foster culture, and result in project definition and planning deliverables. It's the ideal setting for reviewing the charter and include the team in planning for risk, resources, and schedule.

The second-best strategy is to have the project manager switch sites early on in the project if circumstances prevent the whole team from convening. Face time strengthens ties. It will require more time and ingenuity if all teambuilding activities must be conducted online. If you want to lead these sessions, think about employing a facilitator who specializes in this area. We want the team to proceed through Forming and Storming as rapidly as possible, and if remote team building is not done properly, a team may get trapped in the Storming stage.

Engage the Team to Set Ground Rules

More specific standards are required for our scattered teams. Together, we establish team norms to achieve this. There are no universal solutions since every team is unique. Instead, use a risk management method to create the most suitable team behavior standards. We invite our team to think "What threats to team communication do we face" at the team launch. Alternatively, "How does geographical distribution affect productivity?" Or "How might our various cultural backgrounds present challenges?" The team will take greater ownership of the team norms when they collaborate to identify these dangers and come up with remedies. We may also question ourselves, "How will our separation make us stronger and more productive?" as a way to find chances.

Keep in mind that one key to a successful team is constant development. Early and frequent Scrum retrospective investments can help teams discover which team behaviors are effective and

which need to be modified. Update the ground rules when that occurs. It helps if you, as a leader, emphasize these ground principles by highlighting instances in which they are successfully applied or in which adherence to the standards would have prevented a problem.

Technology Makes Distances Smaller

The development of geographically dispersed teams is in part due to the effectiveness and accessibility of team communication technologies. As technology advanced, more teams dispersed. The issue is not which specific tool to buy, but rather whether a team can settle on reliable practices for the technology they choose.

The following are some crucial team communication exercises that gain from ground rules.

Meetings. People will multitask while participating in remote meetings when they can only hear the meeting over the phone, it is commonly understood but grudgingly acknowledged. Participants are not contributing to the meeting whether they are driving, reading online news, or responding to email. Webcams with video and online meeting software are widely accessible and drastically alter the atmosphere. Every project team has the option to share an agenda, documents, and face-to-face contact during meetings, and they should do so. Apply the same meeting management principles that produce successful face-to-face meetings.

organized conversation. Applications created expressly for managing information regarding use cases, problems, timetables, and other communication that is inescapably required are used by software teams. Information is categorized by these programs so that users would know where to publish it and where to locate it. The productivity boost from classifying predictable information is greater for teams that are geographically dispersed than for teams that are co-located or worldwide. Additionally, there are tools that are applicable to projects other than software development. The distinction is that a project team will customize the application on their own to meet the information types they often utilize.

unofficial cooperation. The ability to interact with a colleague on the spur of the moment is perhaps the largest drawback of scattered teams. That becomes a larger difficulty when distance and time zones increase. Choose live talks over drawn-out e-mail or chat exchanges because voice and video meeting technologies reduce the distance between us. The spontaneity we aim to retain is aided by ground rules. Ask for a brief talk via your email, instant messaging, or chat program, but be aware that it won't be as convenient as going to their office and being given immediate access. Set ground rules for your team that requests like these will get a response within a certain time frame, such as 30 minutes, an hour, or whatever is reasonable for your team.

Setting the Tone for the Project

Geographically dispersed teams may still benefit from every tip for creating a strong team culture, but the difficulty is higher. Project managers need to keep in mind that safety comes before trust. Decide to devote more time and effort to distant connections. The team's capacity to work together depends on its culture, its members' abilities, and its technology. The team's leader might serve as an example of the norms created to bridge the gap. Show the team that you have a

continuous improvement mindset by demonstrating that it requires work, adaptability, and a positive outlook to develop good team behaviors[10].

CONCLUSION

Stakeholder communication is a crucial component of project management that has a big impact on project results. Project managers may align project objectives, win stakeholder support, and guarantee project success by using effective stakeholder communication. While active listening promotes stakeholder participation and trust, it also helps to effectively communicate project goals and progress. The efficacy and efficiency of communication exchanges are increased when the proper routes are used. Project managers may get useful insights, fix issues, and proactively handle disputes by including stakeholders at every stage of the project lifecycle. Stakeholder communication is important because it fosters teamwork, improves project decision-making, and adds to the project's success as a whole.

REFERENCES:

[1]   G. Silvius and R. Schipper, "Planning project stakeholder engagement from a sustainable development perspective," *Adm. Sci.*, 2019, doi: 10.3390/admsci9020046.

[2]   R. C. Sperry and A. J. Jetter, "A Systems Approach to Project Stakeholder Management: Fuzzy Cognitive Map Modeling," *Proj. Manag. J.*, 2019, doi: 10.1177/8756972819847870.

[3]   R. Derakhshan, R. Turner, and M. Mancini, "Project governance and stakeholders: a literature review," *Int. J. Proj. Manag.*, 2019, doi: 10.1016/j.ijproman.2018.10.007.

[4]   V. Buch and P. D. Buch, "Project Portfolio Stakeholder Identification and Classification: An Empirical Study.," *J. Manag. Res.*, 2019.

[5]   T. Siavhundu, "A critical analysis of the importance of project stakeholder management in the implementation of the Zimbabwe Revenue Authority electronic services platform 1," *PM World J. *, 2019.

[6]   C. S. Thomson and M. A. El-Haram, "Is the evolution of building sustainability assessment methods promoting the desired sharing of knowledge amongst project stakeholders?," *Constr. Manag. Econ.*, 2019, doi: 10.1080/01446193.2018.1537502.

[7]   G. Francisco de Oliveira and R. Rabechini, "Stakeholder management influence on trust in a project: A quantitative study," *Int. J. Proj. Manag.*, 2019, doi: 10.1016/j.ijproman.2018.11.001.

[8]   N. S. Jayasena, H. Mallawaarachchi, and K. G. A. S. Waidyasekara, "Stakeholder Analysis For Smart City Development Project: An Extensive Literature Review," *MATEC Web Conf.*, 2019, doi: 10.1051/matecconf/201926606012.

[9]   T. Yu *et al.*, "Evaluating different stakeholder impacts on the occurrence of quality defects

in offsite construction projects: A Bayesian-network-based model," *J. Clean. Prod.*, 2019, doi: 10.1016/j.jclepro.2019.118390.

[10] S. Mukherjee, "How Stakeholder Engagement Affects IT Projects," *SSRN Electron. J.*, 2019, doi: 10.2139/ssrn.3415959.

TAJMMR

CHANGE MANAGEMENT: ENGAGE YOUR STAKEHOLDERS TO MAXIMIZE VALUE

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ABSTRACT:

Organizations need to incorporate change management as a vital procedure to successfully manage changes. Stakeholder involvement in change projects is crucial to maximizing their value and ensuring their success. This chapter examines the value of stakeholder involvement in change management and offers suggestions for ways that may be used to successfully include stakeholders. Organizations may improve communication, reduce resistance, and promote collaboration by actively incorporating stakeholders throughout the change process. This will eventually lead to the realization of desired results. A collaborative atmosphere must be promoted along with open and timely communication, active participation in decision-making processes, and handling of objections and concerns.

KEYWORDS: *Change Management, Knowledge, Project, Stakeholders.*

INTRODUCTION

Projects might be of any size or form. Some have an effect on the whole company, while others could just have an effect on one workgroup[1], [2]. While some are gradual, others are disruptive. Processes, systems, tools, and job responsibilities may all be improved via projects. The people whose work will be impacted and altered as a consequence of the project must embrace the changes for project value to be achieved, but despite all the wonderful variation in the world of projects, there is one universal constant in terms of both effect and contribution to success. The crucial road to providing value that exceeds expectations is directly along the people side of transformation. And, regrettably, the human aspect of transformation is often neglected, underutilized, underfunded, and underserved.

The discipline that is focused on the human element of your initiatives is change management. The goal is to assist the "soft" side of change, which is often the tougher side of change, by adding structure and rigor. We will utilize this five-word, succinct description of change management as our working definition: "mobilizing people to deliver results[3], [4]." This introduction will provide you an overview of change management, including its intended results, necessary activities, and how combining project management and change management may help you be a more effective project manager. The success of the project and the realization of value are their shared objectives. They are complimentary disciplines.

Why the People Side Matters?

Rather than organizations changing, individuals do. How much of my project's anticipated outcomes and results are dependent on workers embracing and using the solution? Even at significant technological conferences, when I have posed this topic, the responses have often ranged from 70% to 100%. Employees' acceptance, adoption, and use of a solution is what makes the difference between a project being successfully managed and really bringing about the change and outcomes that matter to the business. Prosci's data from more than 20 years of study demonstrates that projects with great change management are six times more likely than those with bad change management to achieve or exceed goals and merely improving from poor to fair results in a threefold increase [5], [6].

Ignoring the human element of change has risks and costs as well, including as resistance, delays, attrition, and lost productivity. The RE costs, which include redo, revisit, rescopes, redesign, rework, retrain, and in certain circumstances, retreat, are one of the biggest expenses associated with disregarding the people side of change. These RE costs are substantial and common when acceptance and use are only addressed at the conclusion of a project. One of the biggest and most important phases in the project value chain, even though it is sometimes overlooked and undervalued, is the people side of change[7], [8].

The Differences and Similarities of PM and CM

While complimentary, project management and change management are two distinct professions. Some of the most significant variations include:

1. One concentrates on the technical part of achieving change, while the other concentrates on the human side.

2. Their ideas of what constitutes "done" and how far they've come vary somewhat.

3. They call for various competences, skill sets, and mentalities.

4. Their origins and duration of histories (ranging from 60 to 20 years) are diverse.

Project management and change management have several important commonalities, even if they do vary in other ways, which makes them an ideal match for collaboration:

1. Both are academic fields.

2. Both have many tools and are process-driven.

3. Both are used in relation to distinct, focused endeavors (projects).

4. Both need qualified practitioners.

5. Delivering effective change outcomes and adding value to the company by assisting it in performing in a new, enhanced manner are both their ultimate goals.

When project management and change management are used together, projects and initiatives are more likely to succeed. This is a phenomena we refer to as the "unified value proposition."

The Unified Value Proposition of an Integrated Approach

Companies change for a purpose. Organizations start projects and initiatives as a result of internal and external events and motivations. They are attempting to do something, and ideally, they have clear, quantifiable goals in mind from the start. The definition of "success" comprises a knowledge of the project's goals to be achieved as well as the organizational advantages. The outcome is what we refer to as "the unified value proposition," which is achieved when change management and project management are used together, simultaneously, and in an integrated way. The affected personnel "embraced, adopted, and used" the solution, and it is "designed, developed, and delivered" successfully. Through this united value proposition, the technical and human aspects of the challenge are solved, yielding results and value for the organization [9], [10].

What does it truly mean to "apply" change management on a project is a question that many project managers who are just learning about it still have. Two viewpoints are necessary for effective change management:

1. Individual change management, which seeks to explain how one person successfully makes a change.

2. Organizational change management, which offers the project team the structure, procedure, and toolkit to support the individual transitions brought on by and necessary for the project to produce value.

DISCUSSION

Desired Results: Use Of Adkar For Individual Change Management

Understanding how a single person effectively implements a change is the first step in using change management since, in the end, project and organizational value are produced via individual employee acceptance and utilization. To put it another way, organizational change necessitates personal transformation. The Prosci® ADKAR® Model, created by Prosci Founder Jeff Hiatt, will be discussed in this section. ADKAR outlines the five components of a successful person transformation, whether that change is taking place at work, at home, or in the community:

1. Awareness of the need for change

2. Knowledge of how to change

3. the desire to support the change

4. the ability to adopt the necessary skills and behaviors

5. reinforcement to keep the change going

The success of your project and the success of your business ultimately depend on the success of the impacted personnel, regardless of whether your project needs them to adhere to new procedures, utilize new tools, or engage with new systems. Individual transformation results in collective organizational consequences. Let's examine each of the ADKAR pillars and provide concrete "how to" recommendations for establishing and promoting each one.

Awareness

The first component is awareness. A thorough grasp of the causes and triggers for the shift, not just "awareness that a change is happening," is what is vital to keep in mind. Employees who are impacted by changes anticipate a "Why?" response in the modern workplace, where participation and responsibility have taken the place of predictability and control. According to Prosci study, the biggest cause of employee resistance to change is a lack of a convincing argument or explanation for it, or more specifically, a lack of knowledge. As a practitioner, you may start by responding to four straightforward yet often overlooked questions:

1. What (the nature of the change) is changing or not?

2. Why are we altering?

3. Why do we need to change now?

4. What are the risks of staying the same?

Early in the project life cycle, sponsor messaging and effective and well-crafted communication are used to raise awareness of the need for change. Activities that promote awareness include:

1. Making sure sponsor message is effective

2. Facilitating manager dialogue

3. Speaking; communication; speaking

4. Providing access to information that is easily accessible

5. Holding an event to launch the initiative.

6. Visually appealing and intriguing data presentation

7. ·Emphasizing obvious circumstances or tragic occurrences

Desire

Desire to support and engage in the change is the second phase in ADKAR. In the end, desire is a person's own choice to support the change. Desire may be stimulated and encouraged, but it cannot be imposed since it is a personal choice. Building desire is based on the capacity to articulate and make obvious the internal and external elements driving the transformation, such as:

1. Fear of the results of not changing (both personally and professionally),

2. Expected Gain or Achievement (both personally and professionally),

3. The Value of Belonging,

4. The Importance of Following a Reliable Leader.

Building desire is challenging since it is so individualized. However, there are certain steps that may be performed to foster desire, such as:

1. Ensuring sponsors' active and apparent support

2. Forming a powerful coalition of sponsors

3. Ensuring managers and supervisors take personal responsibility

4. Planning ahead to proactively handle resistance

5. Involving workers in the transformation process

6. Creating opportunity for suggestions and criticism

7. Matching incentive schemes to the modification

Knowledge

The third component, knowing how to adapt, is often the first thing project teams turn to. The first reaction when changes have an effect on personnel is often "Let's send them to training." In the absence of a fundamental awareness and desire, knowledge is essential but insufficient. Project teams should consider the following when thinking about knowledge:

1. The need for knowledge as the situation changes

2. Knowledge required after the modification

Given the history and prominence of training and training departments as part of transformation attempts, knowledge is often the least difficult of the five building blocks. However, there are a number of other strategies to take into account while developing knowledge, such as:

1. Providing web-based educational resources;

2. providing formal training;

3. fostering mentoring relationships and opportunities;

4. providing one-on-one coaching;

5. utilizing experience;

6. setting up user groups and forums;

7. making job aids easily accessible;

8. providing precise troubleshooting advice

Ability

Ability comes after awareness, desire, and knowledge. When workers have and can show the competence to do their duties in the new manner, that is when change genuinely occurs. As evidence, consider how well I play golf. Project teams, however, may provide targeted assistance in developing skill, such as:

1. Providing practice opportunities

2. Setting aside the time required to commit to the change

3. Peer or manager coaching

4. Using subject-matter specialists

5. Setting an example for the new conduct

6. Providing relevant and efficient feedback

7. Providing resources for support

Reinforcement

The last component of the ADKAR Model is reinforcement. Humans have a natural, psychological, and physiological propensity to fall back on what they are familiar with. Employees may revert to old habits if there are no clear-cut measurements and support systems in place, making the change less likely to persist. Employees must find purpose in reinforcement for it to be successful. As a project team, reinforcement may come in a variety of forms, such as:

1. Honoring achievements

2. Honoring innovative working methods

3. Identifying effective change

4. Giving criticism

5. Putting remedial measures into effect

6. Disseminating performance metrics

7. Putting in place accountability measures

8. Expliquing "thank you" and "job well done"

Summary for ADKAR

One of the most often used models for managing change is the Prosci ADKAR Model. Practitioners claim that it makes logic, is simple to understand by others, and aids in seeing and unlocking a wide range of change. If every employee has awareness, desire, knowledge, ability, and reinforcement, the change will provide superior outcomes whether it affects 5, 50, 500, or 5,000 people. The five building blocks may be thought of as the benchmarks of successful transformation at the person level as ADKAR defines the results of a successful individual transition. What can a project team do, then, to assist affected individuals on their own personal journeys?

Organizational Change Management is Needed as Actions

Individual and organizational change management both explain the "outcomes desired" for change, while ADKAR and organizational change management discuss the "actions required." Change management has developed over the last 20 years from being purely conceptual frameworks to a strict, organized, and documented process with official outputs and technologies to assist its use. The key takeaway is that change management provides a useful framework for handling the human aspect of change.There are many other techniques, but in this article we'll take a high-level look at the Prosci 3-Phase Process and highlight certain tasks and outputs for each phase: Prepare Approach, Manage Change, and Sustain Outcomes.

Phase 1: Prepare Approach

To position the change for success, Phase 1 Prepare Approach develops a tailored and scalable change management plan with the required support and commitment. It is futile to approach change management in a one-size-fits-all manner. How to handle social issues should be influenced by the kind and nature of the shift.

Key tasks in Phase 1 Prepare Approach and the questions they answer in simple language are as follows:

1. Specify Success: What do we want to accomplish?

2. Describe the impact: Who has to change how they conduct their jobs?

3. Specify Your Approach: What Will It Take to Succeed?

Change Management Strategy is the product for Phase 1 Define Approach.

Phase 2: Manage Change

Phase 2 Manage Change's goal is to achieve acceptance and utilization of the change via the development and execution of strategies that will guide people and the organization through ADKAR transitions. In this stage, we link the many change processes described in the ADKAR with one or more focused plans for instance, the communications plan, sponsor plan, training plan, or people manager plan. Each plan comprises tasks, deadlines, and responsibilities that need to be included into the overall project management plan.

Key tasks in Phase 2 Manage Change and the questions they answer in simple language are as follows:

1. Plan and Do: How will we get people ready, equipped, and supported?

2. How are we performing on the track?

3. Adjust Actions: What modifications are necessary?

A Master Change Management Plan is the output for Phase 2—Manage Change.

Phase 3: Sustain Outcomes

Phase 3—Sustain Outcomes' goal is to ensure that the change is embraced and that the company is committed to and ready to maintain the change in order to enjoy the benefits of the change. While "Sustainment" takes place at the organizational level, "Reinforcement" occurs at the individual level (it is "ADKAR" and not "ADKA"). In this phase, we direct our attention beyond the project go-live milestone to a future date, taking into account the amount of time needed to maintain results and evaluate the accomplishment of organizational benefits and project goals. Depending on the kind and effect of the project, the time to maintain results varies from project to project.

Important tasks in Phase 3 Sustain Outcomes and the issues they answer in simple language are as follows:

1. Performance Evaluation: Where are we now? Are we all done now?

2. Activate Sustainment: What is required to guarantee that the change endures?

3. Transfer of Ownership: Who will take responsibility for results and maintain them?

Roles: Who Does Change Management

A practitioner with the expertise and abilities to handle the people aspect of change leads the "team sport" of change management. By applying structure and purpose to change, empowering and equipping other change roles, and working with the project manager to develop a unified strategy, a change practitioner contributes to effective change outcomes.Effective change agents, according to research, have outstanding interpersonal, communication, and adaptability abilities. Practitioners of change must comprehend how people react to change and how to convert a project into the specific adoption issues that may be supported by the use of a structured approach. A related subject, such as project management, business analysis, organization development, or process management, is where the majority of change practitioners started their careers.

To promote successful cooperation and integration, project teams and change practitioners must collaborate in a cohesive strategy. The "best" project structure will take into account the project's size and complexity, the change's scope, and even the quantity and variety of resources available. The change practitioner may sit in the team in some situations, or they may sit outside the team yet assist it in others. The crucial point is that everyone will be held responsible for particular tasks and responsibilities in order to guarantee that project value is achieved and that outcomes are improved via the integration of change management and project management people, processes, and technologies.Transformation practitioners collaborate with and via different positions in the company, in addition to project managers who play a part in effective transformation. These essential responsibilities need to at the very least include:

Sponsors: By actively and visibly engaging, developing a strong coalition of sponsorship, and connecting directly with workers as preferred senders of organizational communications, sponsors help to successfully implement change.

People Managers: Managers and supervisors assist their direct reports through their individual change journeys by serving as liaisons to the project team, champions for the change, resistance managers, and employee coaches. This helps to create successful change outcomes.

It is crucial to remember that the change practitioner must cooperate with and work through a variety of different people inside the company. The practitioner must engage sponsors and people managers by educating, directing, and equipping them with the knowledge necessary for them to understand their roles in promoting adoption and utilization. In addition to preparing the talking points and presentations, this often entails empowering managers and leaders throughout the business to be the face and voice of change. For a particular project or endeavor, there are often a variety of extra roles that may be specified. Key influencers, change agent networks, subject matter experts, or other complimentary disciplines may all play expanded roles in this process.

CONCLUSION

Organizations must actively manage change in the fast-paced business climate of today if they want to remain competitive. Engaging stakeholders is an essential component of change management since their cooperation and active participation are crucial to reaping the benefits of change projects. Organizations may adapt their change initiatives and encourage a feeling of ownership among stakeholders by taking into account the interests, concerns, and viewpoints of stakeholders. Such participation not only improves the organization's general resilience and flexibility but also raises the probability that changes will be implemented successfully. Organizations may optimize the benefits of change projects by developing a common vision, coordinating interests, and using the aggregate talents and resources of their stakeholders by adopting stakeholder engagement as an essential component of change management.

REFERENCES:

[1] A. Mitra, S. S. Gaur, and E. Giacosa, "Combining organizational change management and organizational ambidexterity using data transformation," *Manag. Decis.*, 2019, doi: 10.1108/MD-07-2018-0841.

[2] E. Setyanto, A. Ikhwan, S. Amin, U. Muhammad Shabir, and S. Suharto, "Challenges of the change management for managing people and organizational culture," *Int. J. Recent Technol. Eng.*, 2019, doi: 10.35940/ijrte.B1503.0982S1119.

[3] T. Vlasenko, A. Hatsko, T. Larina, Y. Hryn, D. Streimikiene, and T. Balezentis, "Fuzzy evaluation of change management processes in the context of enterprise sustainability," *Sustain.*, 2019, doi: 10.3390/su11226310.

[4] O. Kohnke and D. Wieser, "Agiles Change Management," *Organisationsentwicklung*, 2019.

[5] O. Coban, S. Ozdemir, and J. Pisapia, "Top managers' organizational change management capacity and their strategic leadership levels at ministry of national education (Mone)," *Eurasian J. Educ. Res.*, 2019, doi: 10.14689/ejer.2019.81.8.

[6] I. Vandangeon-Derumez, A. Djedidi, and E. Szendy, "An experiential approach to learning about change management," *J. Manag. Dev.*, 2019, doi: 10.1108/JMD-03-2018-0110.

[7] J. Kotter and F. von Ameln, "Agility, hierarchy and lessons for the future. John Kotter on the legacy and future of Change Management," *Grup. Interaktion. Organ. Zeitschrift fur Angew. Organ.*, 2019, doi: 10.1007/s11612-019-00461-5.

[8] E. Shakirov *et al.*, "Integration of engineering and manufacturing change management: Infrastructure and scenarios for teaching and demonstration," in *Procedia CIRP*, 2019. doi: 10.1016/j.procir.2019.03.151.

[9] P. Xiu, J. Yang, and W. Zhao, "Change management of service-based business processes," *Serv. Oriented Comput. Appl.*, 2019, doi: 10.1007/s11761-018-0250-4.

[10] B. J. Galli, "An Engineering Manager's Guide for Commonly Used Change Management Approaches - From One Practitioner's Experience," *IEEE Engineering Management Review*. 2019. doi: 10.1109/EMR.2019.2896301.

A STUDY ON CONTROL SCOPE TO DELIVER VALUE

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ABSTRACT:

Delivering value to stakeholders requires careful scope control throughout project management. This chapter examines the value of successfully controlling scope to guarantee project success. It looks at numerous scope management controls and methods, including scope creep avoidance, change management, and scope verification. The chapter highlights the significance of matching project scope to company objectives and provides techniques to reduce risks associated with scope. Project managers may optimize value generation, boost stakeholder satisfaction, and improve project results by practicing scope control.Project managers may maximize resource allocation, reduce risks, and improve value generation by maintaining control over scope throughout the project lifetime. Maintaining control over scope requires constant monitoring, effective stakeholder participation, and clear communication.

KEYWORDS: *Change Control, Configuration Management, Project, Scope.*

INTRODUCTION

Projects of all types experience transformation. Customers' preferences for appliances during a kitchen redesign may alter, or a certain window style may not be available. The rival may launch a product with some interesting new features during a software development project, driving the development team to include these features as well. A project team's main concern is how these modifications would impact the project's value. After all, a common theme is that productive undertakings provide economic benefit. The initial cost, schedule, and scope balance that was established at the start of the project was important, but how much can we adjust it before it is no longer in balance and not worth the time and money? Let's examine what may occur when such a breakdown takes place. Project manager at a consultancy company Dirk shares the following tale:

One of the largest pharmaceutical corporations in the US needed help getting the FDA to approve a new manufacturing facility they were constructing[1], [2]. The customer made several adjustments while we worked on the project, which is typical of most of them. I adhered to the standard change control procedure specified in our contract, obtaining the client project manager's approval for any alterations that may result in a cost or schedule deviation from the initial offer. The customer authorized each adjustment, despite the fact that they increased the budget by 50%, so I felt I was doing my job well. When we completed the job and delivered the bill to our client for the revisions, our client's president freaked out and snapped at us. He visited

my workplace and gave me the silent treatment. He had never heard of the initial proposal being altered, and he had not anticipated a cost overrun of 50%. My company's president traveled over to meet with the customer's president. I spent two weeks gathering all the supporting materials, such as the executed change orders, to support our invoicing. We were compensated, but you can sure their president did not apologize to me. Furthermore, we didn't charge them for the two weeks that I spent defending the bill. I erred in presuming the client's project manager was informing his superiors about the expense increase. I no longer commit that error [3], [4].

The risk of additional cost and schedule disruptions is shown by this tale.

One of our success criteria is agreement on the project's objectives. Controlled scope is also. This chapter outlines the policies and procedures for preventing conflict, misunderstanding, and failure as a result of changes that are unavoidable while ensuring that all significant stakeholders are informed of the most recent expectations for cost, time, and scope the value equation[5], [6]. The two main areas of attention are configuration management and change control.

The Change Control Process

Every day, a project manager working on a 90-mile gas pipeline meets with a client counterpart to discuss scope modifications that happened that day. On a weekly conference call with the customer's senior management to review the effects of these modifications on the budget and schedule, the project manager is joined by his supervisor. Everyone is kept in the loop about the facts thanks to this method. Your team and client will determine if it is the best method for your project[7], [8].

You should tailor your change control procedure to the scope and complexity of your project, paying particular attention to the quantity and variety of your stakeholders. Online forms for recording changes throughout the project and requesting adjustments are available for download.But each modification procedure is based on the same underlying model shown in Figure 1.
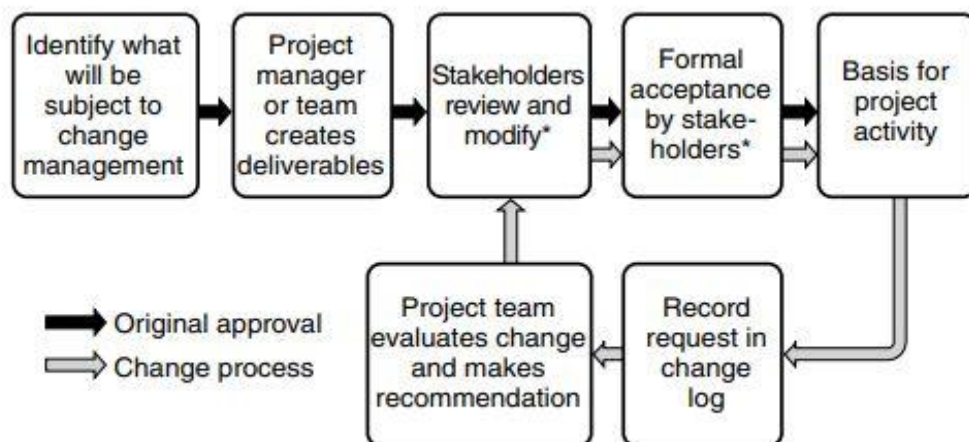
Figure 1: The essential change control process [scribd].

The actions that lead to a product's initial approval and the procedure for policing modifications to that product are the two components of the change control process. As shown in Figure 1, a product becomes controlled after the stakeholders approve of it, and any modifications made after that point must go through the change control procedure.During the project definition stage, change control planning which determines how the process of change will proceed takes place [9], [10]. The members of the change board must be chosen, and the frequency of meetings must be determined. It is necessary to identify the intermediary products that will be subject to change control and to establish a configuration management framework.

DISCUSSION

The eight fundamental elements included in any change control process are shown in Figure 1:

1. **Determining the deliverables:** All project deliverables that are subject to change control should be identified. Everything on the list that needs approval from all parties involved will be included, including the project charter and requirement specifications as well as design documentation.

2. **Development of the intermediate outputs:** As the project is carried out, the project manager and team create these interim deliverables. Each of these deliverables becomes a potential candidate for stakeholder approval while it is being developed.

3. **Evaluation and adjustment by stakeholders:** After the product is developed, different stakeholders will assess it and can ask for changes. The product is developed further by repeating this phase until the relevant stakeholders are pleased with the documentation.

4. **Official approval:** A record of who authorized the product and when is produced when stakeholders officially acknowledge it. At this stage, the record transforms into a control document; it now serves as a foundation for action, and members of the project team will start carrying out the choices indicated by the product. The configuration management process is now applied to these certified items.

5. **The documentation of request for changes:** A dedicated team member logs all change requests in a change log, noting their source, the date, and a description of the change as they are submitted by the stakeholders. Every change request will have a special identification, often a number, to enable tracking and referencing.

6. **Evaluation and endorsement of requests:** Regularly, the project manager or another designated team member will assess each proposed modification to see how it will affect cost, time, and product standards before recommending whether to accept it or not. The change log contains both the assessment and the recommendation.

7. **Continuous review and modification of stakeholders:** Stakeholders take into account the project manager's suggestion and the suggested modification to the control documents. There are three outcomes that might arise from this assessment: The following steps may be repeated until the request is accepted or denied:

1. The change is accepted as recommended or with minor modifications;

2. If the request has merit but the decision maker(s) needs more information, the request may be sent back to the project team with specific questions;

3. The request is denied and the reasons for denial are noted in the change log. Whatever happens, the request's status is changed in the change log, and the originator is informed of the results.

8. **Official approval:** When a change is officially authorized by stakeholders, this approval will be included in the change log along with who approved the change, the date of approval, and the effect. The modification may also result in the addition, modification, or deletion of activities, which would update the project plan. A control document is updated and the new version is used as the basis for action if the change has an impact on it.

Control Documents

We defined intermediate deliverables as crucial goods created during the project even if they may not be included in the final outcome. Different industries need different intermediate goods; for example, software development needs a list of product features and functionalities, whereas house building needs a list of the carpets, kitchen appliances, and other materials the homeowner has chosen. Another example would be blueprints, which are design papers. These kinds of intermediate goods serve as a foundation for action as well as a record of choices. The engineering choices shown on a plan, for instance, are carried out by plumbers, electricians, and carpenters. Because they reflect the set of choices that led up to the finished product, it is imperative that these records be maintained correct and up to date. Because they are instruments for maintaining control over the project and product, they are known as control documents.

Change Thresholds and Change Boards

Everyone recognizes the need of change control, but we also want to prevent any delays in decision-making that it can cause. It is simply not required to include all stakeholders in every decision. The project manager must thus classify changes into several categories depending on how much they impact the project in order to strike a balance between the necessity for change control and the demand for flexibility and rapid choices. The following are these classifications, often known as change thresholds:

1. The project team's approval of modifications is the lowest bar. The cost, the project timetable, or the manner the consumer will utilize the product are often unaffected by these changes. They may, however, include design modifications that improve the product's performance or lengthen its lifespan. These modifications must be recorded even if the team or project manager has the ability to approve them.

2. Changes that will have an impact on cost, scheduling, or functionality fall under the second criterion, which calls for more formal clearance. The change board is responsible for this. Change boards are composed of individuals reflecting the opinions of all stakeholders, and they convene on a regular basis.

3. Although a change board may be given the authority to approve cost and schedule modifications, this often only applies to a small number of changes.Higher-level executives from the client and project companies must be engaged beyond that predetermined quantity.

This is due to the fact that these modifications are often significant enough to endanger the project's business case and fundamentally affect its profitability and market worth.

Let's examine the four subcategories that make up a change board in greater detail:

1. **Team members from the project:** These individuals have the greatest knowledge about the proposed modification to the product and how it will affect the price, delivery date, and functioning. Even though the project manager often fills this function, other team members may equally effectively represent the project team.

2. **An agent for the client:** This board member must comprehend how the adjustment impacts the product's usefulness in addition to approving alterations to the cost and timetable.

3. **Representatives of organizations that produce similar goods:** For instance, engineers in charge of other cab components of the vehicle can be on the change board for a redesign of a truck fender. Any modifications that could impact how their component components function will be sought out by them.

4. **A functional management representative:** Management represents corporate policy by participating on change boards. The choice to choose a new vendor would be made by the project team for the redesign of the fender with input from the company's procurement officials.

There will be more change control thresholds and change boards the bigger the project. Change boards are active at many levels in large initiatives. While this increases complexity, it is a suitable tactic for managing project choices and extending the reach of decision-making power.

Issues Are Problems We Haven't Resolved

Unexpected issues often arise throughout projects. When these issues are difficult to fix, they start to jeopardize the project's cost, schedule, and scope objectives. These unsolved difficulties are referred to as issues. The possibility exists to lose track of these concerns as the number increases, which would worsen their effect. The process of managing difficulties is keeping track of them as they come up and dealing with them methodically until they no longer endanger the project.

Risk and problem management procedures are fairly similar

The issue log is updated when new issues appear that the project manager or team cannot fix. Someone is designated to "own" the issue, which means that person is in charge of finding a solution. As issues are documented, the amount of the effect and the "resolve by" date assist clarify the importance of the situation. Issues have varied levels of urgency and influence on the project. The importance of the problem, which is often rated as high, medium, or low, depends on its effect and immediacy.

Risks are problems that might happen, but issues are problems that already exist. This is a critical distinction between risks and issues. In other words, there is a 100% chance that there will be a problem. Regularly check the problem log, maybe at each project team status meeting. The person in charge should ideally be able to report that a solution was found, applied, and the problem was resolved. The suggested remedy is pricey and may go beyond the scope of the

team's power, necessitating permission from the change board if the issue is sufficiently big. The sponsor or someone else with more power can fix a problem if difficult problems are escalated up the management chain. The problem log is a tool that is rather easy to use. The strength comes from consistently keeping an eye on problems and acting swiftly to escalate them when the team is unable to resolve them.

Vigilance and Discipline Make the Difference

The project's stakeholders make choices at every stage. They decide on the product's size, speed, color, and toughness. Regarding the cost-schedule-scope balance, they concur. They assume obligations and split the labor. But allowing these choices to be altered at random and without documentation is the quickest way for a project to turn into a confused jumble of costly rework. The formal change control procedure protects against this erratic decision-making. Even while it increases administrative burden and project costs, controlling expectations and protecting one's own interests are two of the project manager's most effective techniques. The whole project team may be on the lookout for little adjustments that add up to bigger costs or longer timeframes. A team may develop the practice of keeping track of changes and reporting them to the project manager.

Configuration Management

The roofers may still be using the first version of the plans while the electricians and plumbers may still be using the third when the fifth iteration of the blueprints is prepared. Someone will eventually discover that the fireplace and the chimney are on separate sides of the home at this point. By restricting modifications to control documents and other project deliverables, configuration management avoids catastrophes like these. It is a part of change control that specializes in the execution of accepted modifications. It keeps everyone working on a project using the same score.

What Items Fall Under Configuration Management?

A road or building foundation that has already been constructed is unlikely to be lost or inadvertently replaced. However, these errors are more prone to occur when items are less tangible. The things that need to be managed in terms of configuration originate from many different places and many of them are just as real as a driveway. What then has to be managed according to configuration? Any product that might go through numerous iterations throughout the process, is the answer. There are several potential possibilities on this list.

1. Since they serve as the foundation for project activity, control papers are logical candidates for configuration management.

2. Computer programs, word processing papers, drawings, and other items generated by computers and kept in electronic files all qualify as candidates.

3. Throughout a project, prototypes or product mock-ups may be updated and amended several times.

4. Test environments are set up to mimic how products would behave in real life. These may be expensive to develop and, if alterations were made at random, could provide false test results.

Configuration Management Accomplished

The manufacturing of complicated items, like cars and airplanes, use configuration management the most heavily. The product's configuration management procedure officially oversees every modification or update to a component. Regardless of complexity level, configuration management's core procedure is the same: Determine the things that will be under control, establish the control structure, and delegate control authority. Let's examine the stages that make up this procedure.

Step One: Identify Items/Products

The final goods and the intermediate deliverables are the two groups of objects that need to be under control. The work breakdown structure has to be used to determine both product categories. The control papers are a clear choice for configuration management, as we have indicated.

Step Two: Establish the Control Structure

For the configuration management framework to be designed, the following inquiries must be addressed:

1. How will the regulated item's access be limited? How will you manage who may update an engineering design whether it is kept electronically in a computer file or on paper in a filing cabinet?

2. Do you need a record of the modifications? Will comparing a design document's first authorized version to the final one at the project's conclusion be helpful? Will knowing the causes of the modifications made along the route as well as the changes themselves be useful? The following question is, "How much are you willing to spend?" if the response is yes. The change log may be adequate if you require a record of the modifications, or you may need a log for each controlled object. This will simplify your control structures, though, if you don't require a record of the modifications or if the end product is the only one that counts.

3. How will everyone be able to verify that they have the most current version? Version numbers or revision dates in electronic documents and files may be used to achieve this. Products that are tangible will need labeling.

Step Three: Assign Configuration Management Responsibility

The structure has to be implemented and managed by someone, preferably not the project manager. This is an administrative task that team members may do successfully without the project manager's authorization or extensive project expertise. Although everyone in the team must respect the controls and adhere to the rules, the controls may not be properly applied or their worth fully recognized until the duty is clearly allocated.

Change Control Is Essential For Managing Expectations

Remember that the basic objective of change control is to maintain reasonable expectations while you go about all these change control tasks. Too often, the project manager and client will

approve each $1,000 adjustment without realizing that the total cost of all the changes would be $100,000. The goal of change control is to maintain a realistic and desired overall cost-schedule-scope equilibrium, not only to track the effects of each prospective change on costs, schedules, and scope.

Our project success factors include having clear objectives and a regulated scope. It is simple to comprehend that keeping track of changes is crucial, and it is much simpler to comprehend that changes will occur during the project. Change control is the process of keeping track of modifications to specifications and scope and ensuring that these modifications and any resulting effects on costs and schedule are understood before to approval. Monitoring project-related choices and outputs is referred to as configuration management. It is as necessary to express a modification to a specification if we permit one. The finest project managers give these routines and procedures significant consideration. The devil is in the details when it comes to configuration management and change control.

CONCLUSION

Controlling scope is a crucial component of project management that directly affects how stakeholders are provided with value. Project managers may avoid scope creep, manage modifications effectively, and confirm that the project's scope is in line with corporate goals by putting in place appropriate control systems. Projects may keep their focus, reduce pointless scope expansions, and provide the desired value within set boundaries by taking these steps. To eliminate scope-related risks that might result in project delays, budget overruns, and decreased stakeholder satisfaction, scope creep avoidance is crucial. Project managers may examine changes' effects on scope, time, and resources by actively managing them, ensuring that they are in line with project objectives and approved by the necessary parties. Scope verification also helps project teams to confirm that project deliverables adhere to the specified scope and fulfill stakeholder expectations. Project managers may promote project success, enhance results, and ultimately create value that meets or exceeds stakeholder expectations by following sound scope control procedures.

REFERENCES:

[1]   E. Reficco, M. H. Jaén, and C. Trujillo, "Beyond Knowledge: A Study of Latin American Business Schools' Efforts to Deliver a Value-Based Education," *J. Bus. Ethics*, 2019, doi: 10.1007/s10551-017-3634-z.

[2]   A. Cordella and A. Paletti, "Government as a platform, orchestration, and public value creation: The Italian case," *Gov. Inf. Q.*, 2019, doi: 10.1016/j.giq.2019.101409.

[3]   A. Tanda and A. De Marco, "How do smart building projects define and deliver value? A classification of business modelling characteristics to support design and development," in *Multi Conference on Computer Science and Information Systems, MCCSIS 2019 - Proceedings of the International Conferences on ICT, Society and Human Beings 2019, Connected Smart Cities 2019 and Web Based Communities and Social Media 2019*, 2019. doi: 10.33965/csc2019_201908l032.

[4]   J. Heaton and A. K. Parlikad, "A conceptual framework for the alignment of infrastructure

assets to citizen requirements within a Smart Cities framework," *Cities*, 2019, doi: 10.1016/j.cities.2019.01.041.

[5]   L. A. Stammen *et al.*, "A wealth of opportunities: an ethnographic study on learning to deliver high-value, cost-conscious care," *medRxiv*, 2019.

[6]   S. Kusch-brandt and M. Alsheyab, "A wastewater refinery to deliver added value from wastewater," *Encycl.*, 2019.

[7]   W. Gao, E. Cho, Y. Liu, and Y. Lu, "Advances and challenges in cell-free incorporation of unnatural amino acids into proteins," *Frontiers in Pharmacology*. 2019. doi: 10.3389/fphar.2019.00611.

[8]   C. J. Cordery and D. Hay, "Supreme audit institutions and public value: Demonstrating relevance," *Financ. Account. Manag.*, 2019, doi: 10.1111/faam.12185.

[9]   D. Gelles and D. Yaffe-Bellany, "Shareholder Value Is No Longer Everything, Top C.E.O.s Say," *The New York Times*, 2019.

[10]   R.Gerald Simmons, "Hawkes Learning Company: The Transition from Traditional to Agile Governance," *J. Leadership, Account. Ethics*, 2019, doi: 10.33423/jlae.v16i4.2367.

A BRIEF STUDY ON MEASURE PROGRESS

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ABSTRACT:

A crucial step in determining and tracking the progression and effectiveness of different undertakings is measuring progress. The importance of tracking progress in a variety of areas, including social advancement, project management, and personal development, is examined in this chapter. It highlights the many methodologies and techniques, such as quantitative measurements, qualitative evaluations, and key performance indicators that are used to gauge success. The chapter focuses on the significance of establishing precise benchmarks and targets in order to provide a base line for efficiently gauging progress. It also emphasizes how important progress assessment is for giving feedback, permitting course changes, and promoting responsibility. Individuals, companies, and communities may keep track of their accomplishments, pinpoint areas for development, and make wise choices that will promote ongoing success and growth by adopting the practice of evaluating progress.

KEYWORDS: *Earned Value, Project, Progress, Project Measurement, Performance.*

INTRODUCTION

False or true? As the deadline approaches, it is crucial to monitor progress to determine how close the project is to being completed on schedule and within budget. False! If you have read the preceding chapters, you should have no trouble answering this question. By the time the project is finished, it won't matter how close you are since you won't have much control over how your costs and timeline are performing[1], [2]. The secret to starting off that way and staying on track the whole project is to complete on schedule and under budget. When projects begin with tight deadlines, if they fall behind even little, they must spend the remainder of the project catching up. Other initiatives, however, seem to have a self-correcting procedure in place; if they lag slightly, the issue is swiftly located and resolved. The best project managers identify issues early and resolve them quickly. They make the task seem simple. The instruments we use to spot issues early when there is still time to catch up are progress metrics. The main emphasis of progress measurement is on cost and schedule progress since they make up two thirds of the cost schedule-scope equilibrium [3], [4].

Schedule Performance Measurement

Each work item in the strategy represents a quantifiable step forward. There are start and end dates for each. Your ability to track the progress of your schedule accurately will increase as the size of the job packages decreases. The next narrative emphasizes the significance of segmenting

a project into manageable, little pieces.A software project manager tasked with overseeing a significant launch of a flagship product was attempting to determine the status of the timetable. Several of the development managers have divided their job into a small number of six-month-long assignments. Four and a half months into their employment, everyone was reporting that they were "on schedule." The project manager had a sneaking suspicion that the developers were really lost. She also believed that they would not likely acknowledge a scheduling issue for at least another three weeks and even then, they would not be willing to accept it. She sat down with each development manager and informed them that they had six weeks left till their deadline in an effort to learn the truth. Can you outline the tasks you still need to do week by week? Three of the four managers were forced to acknowledge at these sessions that they were severely behind schedule. The managers were able to complete their piece on time despite being 75% through the project timetable by including all of their developers in it[5], [6].

The necessity of querying schedule status when the job is not divided into smaller, more specific tasks is shown by this near-disaster. The main tool for depicting a timetable is useful for showing the state of the schedule. Keep in mind that showing the timetable status is the main priority here. Because it may be difficult to determine how much of a project is really finished, the true truth regarding timetable status is often elusive. The following advice is practical advice on how to get the most accurate picture of a project's development [7], [8].

Implement the 0-50-100 Rule.

Unless there is an empirical foundation for this level of precision, a project manager should always be wary of work package status that is presented in precise percentages, such as 12 percent, 35 percent, or 87 percent. When recording schedule completion of activities that don't last more than two reporting periods, try to follow the 0-50-100 rule.

1. 0% completed: The work has not started.
2. 50% finished: The work has been begun but not completed.
3. 100% finished: The work is finished

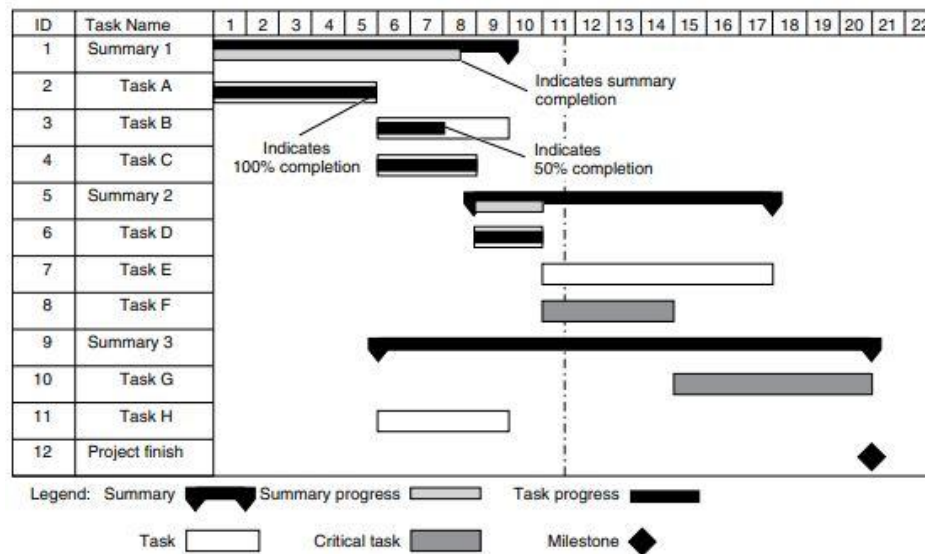A Gantt chart showing schedule progress is depicted in Figure 1.

Figure 1: Gantt chart with schedule progress bars. All progress bars are behind the current date, showing that the project is behind schedule [scribd].

Since each job may only take two reporting periods to complete, using this strategy, no task will have a 50% completion rate for two consecutive status meetings as long as the work packages are short [9], [10].

Respect the completion requirements

Every work package should have completion standards and shouldn't be deemed complete unless it satisfies those standards. It's important to be strict about this because if tasks are often permitted to register as complete before all the last-minute details are handled, the project may lag significantly even if the official status indicates that it is on time.

Achievement of the Scheduled Performance Measures

Not effort put forward, but schedule completion gauges achievement. You haven't finished the job in its entirety just because you've used up 50% of your labor budget. The state of your schedule indicates if you have achieved everything that you had hoped to up to this point.

The Risks of Exceptional Management

A tempting approach to maintaining the project's timetable is management by exception, however in many circumstances this approach actually makes scheduling issues worse. The goal of management by exception is to maintain critical route work on time while disregarding noncritical tasks that are running behind schedule. While it may be true that jobs with float may be postponed until they exhaust their float and become essential, this might result in a resource crisis towards the project's conclusion, which is the worst moment to attempt to complete more work. The individuals that were poured into the project towards the conclusion will have had little to no prior experience. Additionally, since the project finish might be delayed by the completion of any one of the crucial activities, you will have raised your schedule risk.

DISCUSSION

When There Are Many Similar Tasks, Measuring Progress

If your project has a lot of comparable activities, there is a technique to track timetable progress. Think about what these three projects have in common to start:

1. Laying the foundation for a massive structure by driving hundreds of piles into swampy soil.

2. Producing a next-generation combat aircraft by producing thousands of engineering drawings.

3. Making many computer programs that were created for a certain brand of hardware operate on equipment from a another manufacturer.

The percentage of all constructed piles, engineering drawings, or computer programs may provide a helpful timetable status in each scenario.

Validation Of Cost Performance

As a project develops, proper cost measurement becomes more important since cost measures productivity. Cost estimates for personnel, equipment, and materials are included in each job package. Make careful to record the real costs when each one is completed; comparing planned and actual expenses will show you if the project is developing as expected.

How to Get Cooperation for Labor Hour Reporting

Real labor hours on tasks may face a lot of pushback if project management is new to your company. Even though experience has proven that this seldom takes more than five minutes every day, engineers, programmers, scientists, and other knowledge workers often gripe bitterly about the lost productive hours they must spend each week just putting down their labor for certain tasks. Here are two methods for getting over their resistance. Instead of enforcing conformity, these techniques focus on gaining their cooperation:

1. Draw attention to the need of keeping track of real work hours. Comparing planned and actual labor enables early detection of cost issues, which will enhance future project estimates. Help them realize that both of these things will be advantageous to them.

2. Make reporting simple for them by selecting the greatest feasible increments for reporting real hours. A department at a software business, for instance, decided to estimate and report labor in increments of five hours when it introduced project management. At each project status meeting, it was simple to disclose real labor as long as the task bundles were maintained modest. Even if this wasn't nearly as precise as planning and reporting in hourly increments, it was still a huge improvement over what they were doing previously.

Problems Associated with Graphing Cost Performance

When cost performance is graphed, the expected expenditure over time is often contrasted with the actual costs. That's helpful information, however there might be some problems with this kind of graph:

1. The amount of money spent does not always represent how quickly the task is completed. For instance, if the project is finished earlier than expected, the expenses may be greater than expected.

2. Accounting delays might cause expense information to be sent months after it should. With this sort of delay, a project's cost performance may seem fantastic throughout, but after it is finished, the invoices simply keep flooding in.

Earned Value Reporting

Although there are benefits to doing so, doing so won't inform you if the project will come in over or under budget. The anticipated and actual expenses for every work that has been performed must be compared in order to provide an accurate picture of cost performance. This is done using a method known as earned value reporting. Cost information is used in earned value reporting to provide more precise cost and schedule reports. To provide a full view of the project, it combines cost and schedule status. Projects may, for instance, be completed ahead of time (good) but over budget (poor). They might also finish ahead of time and under budget, both positive things. There are five potential combinations when "on schedule and on budget" is included. Project managers who monitor just costs or only schedules are only receiving a partial picture, as this graphic demonstrates, and won't really know whether their project is in jeopardy.

Calculating Schedule Variance Using Earned Value

Is the project finishing on time? The stakeholders all desire an answer to this issue. However, determining how far a project is ahead of or behind schedule may be challenging. What if most chores are completed on time, but some go ahead of schedule and others go behind? What is the current status of the schedule for this project? Earned value estimates may aid in assessing schedule volatility in this kind of circumstance, just as they aid in analyzing cost fluctuation. Some of the same principles that are used in cost variance calculation are also used in schedule variance calculation. Which are:

1. The intended (budgeted) cost of works that have been completed is known as the budgeted cost of work accomplished, or BCWP.

2. Budgeted Cost of Work Scheduled (BCWS): This refers to the planned (budgeted) cost of the work that has been scheduled and is currently expected to be finished.

3. Schedule variation (SV): The schedule variance is the difference between the projected completion value of the job and the actual completion value of the task. Cost values are used to evaluate timetable performance. BCWS BCWP = SV.

4. The schedule deviation divided by the projected cost up to that point is known as the schedule variance percent (SV%). A positive SV% is desirable since it indicates that more work has been completed so far than had been anticipated. A negative SV% is undesirable since it indicates that less work than anticipated has been done. SV% is equal to SV/BCWS.

5. The time Performance Index (SPI), which is calculated as BCWP divided by BCWS, indicates whether or not a project is on time.

The quantity and amount of jobs that are behind schedule are taken into consideration when using the cost data as the foundation for schedule assessment. Accordingly, the schedule variation will be greater if 10 concurrent projects, each worth $10,000, are all one week behind schedule than if just one of those jobs is.

The Earned Value Graph

Earned value charts provide the most accurate representation of a project's cost and schedule performance. They display the cost and schedule status as of any given time, as well as performance patterns. A chart of earned value is shown in Figure 2.
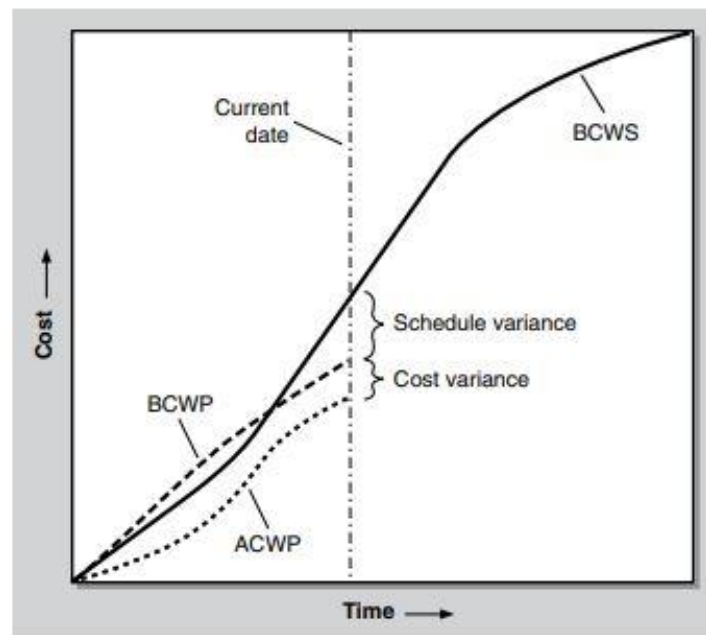
Figure 2: Earned value curves [scribd].

The kind of graph may be used by a manager in charge of ten, or even one hundred, projects to identify each one's cost and schedule performance. This will make it easier to decide which project needs the greatest focus.

Earned Value Relies on Disciplined Project Management

The demonstrates how easy it can be to track progress using earned value measures. Sadly, many businesses who attempt to implement earned value principles find it to be far more perplexing. Earned value measurements are essentially free if you've studied the other chapters in this book and are using the discipline as it is explained here. In other words, the earned value calculations become simple if you have a thorough strategy and record real performance data. Here are some hard-won tips for using earned value reporting techniques on projects.

Critical Is The Work Breakdown Structure

The work breakdown structure (WBS) holds the key to implementing earned value. Each item on the WBS has to be a distinct task that satisfies the following requirements:

1. The start and end dates must be specified.

2. The task must result in an observable result whose successful completion can be evaluated.

3. Even if the sole expenses are labor, they must be attributed to the work.

Your WBS should make straightforward earned value reporting possible if the standards have been followed. When one of these errors appears in the WBS, there is a problem:

Rarely should WBS tasks correspond to current activities. There will always be certain jobs that are designed as level of effort (LOE) tasks, which means that they have a minimal staffing need that applies to the whole project. An example of an LOE duty is project management. We anticipate that a specific amount of labor cost will be used on project management each week, and the overall duration of this activity is determined by the size of the project. Another example of a work where a weekly cost may be calculated and the task length relies on the project duration is a construction project that engages security services to monitor the site. But in the WBS, they ought to be the exception. The issue occurs when a group of jobs are grouped under a term like "Engineering." The management doesn't divide up the technical work into distinct jobs, but rather allocates workers to each task for a certain amount of time. As a consequence, the WBS job looks like this: "Engineering" will take four months, and eight engineers will be assigned." This causes the following issues:

1. As long as the activity starts on time and doesn't need more than eight engineers, there won't be any cost or schedule deviation with this task description.

2. LOE tasks provide the impression that a job is on track and under budget up until the day it doesn't get finished on time; from that point on, we see how expenses and schedule deviations keep rising.

3. Because fewer employees are working on an LOE assignment than was initially requested, it actually conveys the notion that it is under budget. Of course, the news can seem to be extremely positive until the day the work is due to be finished but isn't since there is no objective method to monitor incremental timetable progress.

Primary Cost And Timelines

A baseline serves as a benchmark. The initial project plan, as authorized by the stakeholders, is represented by the cost and schedule baselines. A project should, in theory, never deviate from its initial course; as a result, there should be no deviation when comparing actual performance to the baseline. However, this zero variance never really occurs. Even while things may not go exactly as expected, many projects nonetheless come in under budget and ahead of time. One strategy to maintain emphasis on the initial objectives even when modifications begin to occur is to keep the baseline cost and schedule targets prominent. Earned value reporting emphasizes variation from the baseline, which is one strategy to keep this important information apparent. To concentrate just on schedule variation, a Gantt chart might be utilized, as seen in Figure 3.
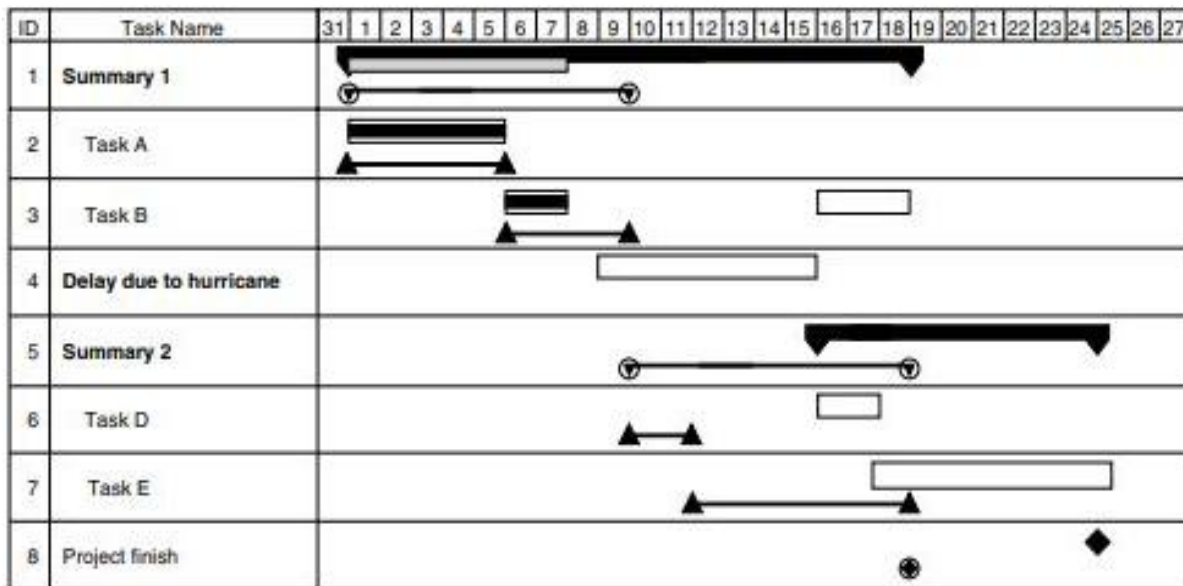
- The alpha project was on schedule until it was interrupted by a hurricane on day 9.
- The delay was added to the schedule as task #4. Note how there is no baseline for this task because it did not exist on the original schedule.
- Task B was partially complete. It is now scheduled for later completion.

Figure 3: Contrast the present timetable with the baseline schedule [scribd].

The baseline serves as more than simply a starting point; it also symbolizes the project's agreed-upon cost-schedule-scope equilibrium. The project team is dedicated to achieving the baseline and ought to anticipate that it will continue to be held to the baseline, unless the project manager specifies otherwise. Consider the case below. For a month, the BoxBetter project had been running around two weeks behind schedule. The project manager had attempted a number of strategies to catch up, but they had all failed. At this point, Terry and Madison, who had invested nearly a quarter of their time on the project, gave up trying to update the schedule and instead to focus on other tasks. They were supposed to finish a job before the subsequent status meeting according to the BoxBetter timetable, but neither of them really did it. Terry and Madison were shocked to find during the meeting that the other project team members had gone above and above to get the project back on track.

Others were waiting for them to do their assignment since it was the only one that was now behind schedule. In this instance, Terry and Madison had erroneously believed that the project's baseline had altered. However, altering the baseline is significant because it creates a new cost-schedule-scope equilibrium. The stakeholders must all agree to this new balance. Meeting the new baseline can even be seen as a success if the change's reason is convincing enough. It might also just mean embracing a new reality at other times. It probably makes reasonable to adjust the project's original cost and schedule targets if all the evidence points to this happening. Maintaining unattainable ambitions seldom inspires. The baseline must, however, be updated

with caution and honesty since, if it is altered repeatedly, motivation will be affected. The new baseline should represent the degree of performance that prompted the change in the baseline as realistically as feasible.

It's amazing how many projects don't truly know where they stand until they're getting near to the finish line and there's no way they're going to finish on time or on budget. Accurately tracking progress is simple to do; all you need is a thorough project plan with cost and schedule projections for each work item. But it does need a structured, methodical focus on the particulars. The project manager and team can identify problems early, while they are still tiny and there are still viable choices for fixing them, thanks to their attention to detail. Wall Street financial analysts won't accept businesses giving quarterly or yearly outcomes based only on their gut instincts; they expect actual data to demonstrate verifiable results. It's time to apply the same standards to all projects.

CONCLUSION

Progress monitoring is essential for assessing the success of projects and activities. Individuals and organizations may improve their performance and make data-driven choices by using the right measurements and methodologies. A holistic review is made possible by the combination of qualitative and quantitative data, which offers a thorough picture of development. To preserve the integrity of the assessment process, it is crucial to guarantee the correctness and dependability of the data used to measure progress. In the end, tracking one's progress toward objectives and making choices that will ensure success are empowered by progress measurement for both people and businesses.

REFERENCES:

[1]   A. Cho, "Tests measure progress of quantum computers," *Science (80-.).*, 2019, doi: 10.1126/science.364.6447.1218.

[2]   M. K. Burns and H. Young, " Test Review: Measures of academic progress skills ," *J. Psychoeduc. Assess.*, 2019, doi: 10.1177/0734282918783509.

[3]   J. Fearnley, S. Jain, B. de Keijzer, S. Schewe, F. Stephan, and D. Wojtczak, "An ordered approach to solving parity games in quasi-polynomial time and quasi-linear space," *Int. J. Softw. Tools Technol. Transf.*, 2019, doi: 10.1007/s10009-019-00509-3.

[4]   E. H. Dart, P. G. Arora, T. A. Collins, and B. Doll, "Progress Monitoring Measures for Internalizing Symptoms: A Systematic Review of the Peer-Reviewed Literature," *School Mental Health*. 2019. doi: 10.1007/s12310-018-9299-7.

[5]   J. Chung and B. Buchanan, "A Self-Report Survey: Australian Clinicians' Attitudes Towards Progress Monitoring Measures," *Aust. Psychol.*, 2019, doi: 10.1111/ap.12352.

[6]   N. H. Clemens *et al.*, "Predictive Validity of Kindergarten Progress Monitoring Measures Across the School Year: Application of Dominance Analysis," *Assess. Eff. Interv.*, 2019, doi: 10.1177/1534508418775805.

[7]   M. McComas, "The Impact of Blended Learning on Measures of Academic Progress (MAP) Based on Student Growth," *ProQuest LLC*, 2019.

[8]   A. Borji, "Pros and cons of GAN evaluation measures," *Comput. Vis. Image Underst.*, 2019, doi: 10.1016/j.cviu.2018.10.009.

[9]   T. S. Doherty, D. A. Driscoll, D. G. Nimmo, E. G. Ritchie, and R. J. Spencer, "Conservation or politics? Australia's target to kill 2 million cats," *Conserv. Lett.*, 2019, doi: 10.1111/conl.12633.

[10]   H. G. Kennedy, K. O'Reilly, M. Davoren, P. O'Flynn, and O. P. O'Sullivan, "How to Measure Progress in Forensic Care," in *Long-Term Forensic Psychiatric Care*, 2019. doi: 10.1007/978-3-030-12594-3_8.

SOLVE COMMON PROJECT PROBLEMS

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ABSTRACT:

Numerous difficulties and obstacles are involved in project management, which may prevent a project from being completed successfully. This chapter seeks to examine typical project issues and provide solutions. Scope creep, poor communication, resource mismanagement, and insufficient risk management are among the issues that have been highlighted. These problems are analyzed, and solutions are suggested, including developing a change control process, improving communication channels, using resource allocation tactics, and taking a preventative approach to risk management. Project managers may resolve typical project issues and raise the overall success rate of their projects by putting these strategies into practice.

KEYWORDS: *Communication, Project, Project Management, Resource Management.*

INTRODUCTION

The key to effective project management is overcoming the many obstacles and issues that may appear over the course of the project. Project managers deal with a variety of challenges that might impede project development and imperil its success, such as scope modifications, communication issues, resource limitations, and risk uncertainty. For projects to meet stakeholder expectations and goals, it is essential to identify and successfully handle these typical project issues [1], [2]. We investigate some of the most frequent problems that arise while projects are being carried out and dig into the world of project management. Understanding these typical project issues can help us create plans and solutions to lessen their effects and raise project completion rates. Scope creep, poor communication, resource mismanagement, and insufficient risk management are just a few of the issues that have been found. Each of these problems comes with its own set of complications, but they may all be successfully dealt with if proactive steps are taken and specific solutions are chosen [3], [4].

This chapter aims to shed light on these typical project issues, explore their root causes and possible repercussions, and give project managers with useful solutions. We want to enable project managers to better navigate the complexity of project management, reduce risks, and maximize project results by providing them with a toolset of approaches and best practices.We will examine the significance of implementing change control processes to manage scope changes, the value of effective communication channels in fostering collaboration and information flow, the necessity of resource allocation techniques to optimize resource utilization, and the proactive approach necessary for efficient risk management as we delve into the complexities of solving common project problems. Along with other techniques, they may aid

project managers in overcoming obstacles, enhancing project performance, and increasing the possibility that projects will be completed successfully[5], [6].

Project managers may better navigate the constantly changing project environment and direct their teams toward a successful project completion by comprehending and dealing with these typical project issues head-on. Projects may remain on schedule, fulfill stakeholder expectations, and provide the necessary results within the established restrictions by effectively resolving problems and implementing targeted solutions.We can anticipate resource needs, create budgets, and evaluate risk probabilities, estimate performance, and much more thanks to the science of project management. There is more and more project management software available to speed up information distribution and simplify data crunching[7], [8].

Project management is not handled by computers, and estimates do not materialize out of thin air. A skillful hand is necessary to execute a job using the tools and methods presented in this book, which make up a potent toolkit. This chapter explains how using this toolkit will enable you to solve issues that may arise on projects of any size or in any sector. Each issue or difficulty is supported with a plan for using the resources we've covered in this book. Many of the issues will be recognizable, and the suggested remedies could enlighten you in new ways. But don't stop with the solutions you've just read. The discipline of project management is used to help you reach your objectives. You may start practicing the art of project management on the issues your own projects are facing by using this chapter as a starting point[8], [9].

Responsibility beyond Your Authority

When initiatives cross organizational borders, you can find yourself unexpectedly depending on individuals you don't have any control over. They don't work for your sponsor or you. How can you recruit them to your team as dependable, passionate members?

Project charter: Request that your sponsor make a charter available to all stakeholders. Make sure to express your authority over this project clearly. Give your staff the context they need to comprehend the project's significance to the company by explaining the project's motivation.

Communication plan: Include them in the process of building up your main communication channel. You'll probably need a formal method of updating them if they are outside your corporation. In order to know that people are informed and engaged, make sure that this is a two-way medium.

Constrained work bundles with strict deadlines: Make tasks simple to follow and comprehend. Include them in the process of job cost and duration estimation as well as the creation of completion criteria. The more invested people feel in the strategy, the more ownership and dedication they'll feel.

Network diagram: Emphasize the value of their contribution and the likely consequences for the project if they fall behind on their timeline. Show them how they fit into the project. You may let employees choose their own timetables if their responsibilities offer a lot of leeway, but be sure to let them know that you want them to reach the scheduled start and completion dates.

Project status conferences providing a report on open tasks: Even when they aren't actively working on the project, provide them updates. When their tasks are close enough to the open task

report to display, invite them to status meetings. Hold them accountable to the timetable and the other project team members.

Sponsor: Keep your sponsor up to date on your objectives and accomplishments to foster a healthy working relationship. You may need the sponsor's assistance in getting over administrative hurdles.

Disaster Restoration

In this case, a project has really gone off the tracks. The project manager is fired after several significant schedule milestones are missed. You have been given the task of finishing this project. How do you behave?

Project charter: With this project, starting from the very beginning. What are its objectives? Set the remaining scope's priority and be clear about the consequences of missing the deadline or going over budget.

Project plan: Find the ideal schedule under the premise of boundless resources using the work breakdown structure and critical path analysis. You will get the shortest timetable conceivable as a result. Next, depending on your strategy, ask for additional resources, more time, a smaller scope, or all three. Your critical path timetable might be used to demonstrate to management which resources you'll need to complete the project as quickly as feasible. If you do employ extra individuals, you shouldn't anticipate their productivity right once; you'll need to give them some time to adjust. You'll be under a lot of pressure to create a timetable that demonstrates you'll reach the deadline. Now, resist this pressure and keep in mind that a tight timetable will serve no one. If you deliver your facts clearly, management is likely to agree to a realistic timetable since it is already known that this project was not being managed properly. The project team requires a strong leader who will be committed to upholding the discipline in a circumstance like this.

Work package estimates: Utilize the team's input as well as the team's actual performance to provide reasonable projections. Avoid alienating team members by dismissing their expertise while you develop the strategy since you'll be dealing with an overworked, disgruntled team

Project status meetings: Regular status meetings with an emphasis on finishing short-term goals can help you stay on top of progress and enable early problem-solving. Make use of the open task report to make meetings efficient and short. Graph the plan's progress so that everyone can see, particularly the team, that there has been real progress. Celebrate your little accomplishments.

DISCUSSION

When the client postpones the project

You and your team are moving forward steadily and on time thanks to a strong project plan and statement of work. But at this point, you begin to experience delays that are the customer's responsibility. When the consumer is the reason for the delay, how can you keep to the schedule?

Diagram of a network: Start by looking for additional tasks that the team can focus on. The network diagram will demonstrate other things you may do while you wait for the client. The network is also a tool for determining how much the delay has affected things. Does the client

have a task that is on the critical path? How much float is there if not? Make use of the network to show how the consumer affects the timetable.

Adjust the control: Identify the effects of the delay on budget and schedule. There can be expenses involved with altering your strategy, even if the client is not on the critical path. Bring it to the customer's notice right away, and be sure to note the cause of the delay as well as any effects it had on costs and the timetable. By adding a task in the WBS titled "Delay due to insert the delay in the network diagram, too," you may include the unexpected delay to the project plan. You may begin allocating your team members' hours to the delay job if the delay leaves any of them unproductive. The measures you do will make it evident that everyone involved understands what caused the delay, even though you must have a pleasant attitude while working with the customer to remain on time.

The Unrealisable Dream

A deadline and an unattainable budget have been given to you. When you attempted to explain to the management that it was unfeasible, they began referring to "can-do attitudes." How will you respond to this circumstance?

Charter for the project: Be very specific about the project's goals, objectives, and deliverables. Verify that the deliverables and scope are really required to achieve the goal. Learn about all the cost and scheduling penalties.

Plan your project: Develop at least three solutions for what can be done while displaying your finest "can-do" attitude. You must be able to show the management the trade-offs they may make. Afterward, suggest the choice that seems to align with their cost-schedule-scope objectives. Utilizing the network diagram and resource spreadsheet, determine the most individuals you can effectively apply to the project. Then, seek for the schedule modifications that will result in the most cost savings. Finally, assess the jobs that can be compressed most efficiently using a crash table.

Risk administration: You must do risk assessments at both the high level and the detail level to identify your danger areas since your project will contain risks that have an impact on both cost and/or time. Following that, you may take the necessary actions to reduce the risk, such as regular monitoring and keeping an eye out for emerging dangers.

Reports on status: Never give up trying to alter the expectations of your stakeholders, even if you are trying to achieve an impossible deadline. Every time you provide a status update, let them know how hard the team is working to achieve the objectives and how far along they are. Set periodic reminders that if early progress is any indication, real cost and schedule performance won't be as expected. They may not first believe you, but as more and more proof mounts that this was a well-managed operation that was misjudged, they will be compelled to accept truth.

Fighting Fires

You constantly work quickly, intensely, and with short lead times. Although the definition and planning exercises seem to be excellent ideas in principle, there simply isn't enough time for them. Planning ahead for project administration. Remember that a methodical approach to employing all of these project management approaches will strengthen your capacity to react swiftly to any scenario, rather than using the justification that your projects are too rapid or too fluid for them. People in the fire service, who really make their livelihood fighting fires, don't just wing it. When their fire bell sounds, they are prepared with all the pertinent inquiries to formulate a strategy, define the project, and determine the hazards. Although they aren't known as project managers, each group has a designated leader whose role it is to supervise, plan, and communicate. Get organized before the fire starts, therefore heed the advice of the actual firemen.

Managing Volunteers

You are the project manager for a nonprofit group. No one questions your leadership, yet you must complete all tasks without having any kind of control over team members. What's the trick?

Charter for the project: By concentrating on the goal and the deliverables, you can generate passion and a shared vision. Sharing the mission emotionally motivates team members, and concentrating on the deliverables will restrict the scope. Controlling the scope is especially crucial for a volunteer project because it could be challenging to convince the team to put in additional time[10].

Simple tasks with strict deadlines for accomplishment: Give everyone precise instructions and limited room to wander from the goal to make it simple for everyone to achieve.

Plan your project: You must be very organized and knowledgeable about the float and vital route. If they don't feel any urgency, people may put off starting the project. As a result of volunteers' frequent hectic schedules, you will need to do some resource analysis. Without it, you can have a few individuals attempting to do everything at once.

Plan for communication: Create a system for keeping in contact with everyone that doesn't require much work or frequent meetings. They will choose to use their limited volunteer time to accomplish goals rather than sit in on meetings.

Status conferences: Regular status meetings provide opportunity to invigorate the group, forge connections, and make project choices. Frequent status checks will keep you informed of progress. Celebrate the advancements. Use effective meeting management strategies to make sure that these are meetings that people will want to attend and that are fruitful.

Managing volunteers is efficiently managing and monitoring people who voluntarily provide their time and talents to a cause or organization. Although they are not traditionally considered workers, volunteers are essential in a variety of fields, including non-profit organizations, community projects, and events.

Several crucial factors must be taken into account in order to manage volunteers effectively:

1. Recruitment and Onboarding: It's critical to find the suitable volunteers. The roles and duties, skills needed, and time commitment anticipated should all be made explicit. To make sure

volunteers are aware of their tasks and the organization's objective, create a productive recruiting process, conduct interviews, and provide orientation and training.

2. Establish open lines of contact with volunteers to promote engagement. Share updates often, give out what's essential, and quickly resolve any issues. Create an atmosphere that is welcoming and upbeat so that volunteers will feel valued and inspired to do their best.

3. Delegate and supervise work depending on the abilities and interests of volunteers. Expectations, due dates, and deliverables must all be made clear. Assist volunteers on a regular basis and provide comments to help them understand their roles and complete their assignments successfully.

4. Recognize and value the volunteer's work by expressing your gratitude. Celebrate milestones, give them encouraging input, and acknowledge their accomplishments. This not only raises spirits but also motivates volunteers to keep making important efforts.

5. Training and Development: Give volunteers the chance to broaden their knowledge and abilities. Offer pertinent training courses, seminars, or mentorship schemes so they may advance both personally and professionally. This not only helps the organization, but it also makes the volunteers more successful in helping it.

6. Resolution of Conflicts: Conflicts may occur in any group context. A procedure for resolving disputes amongst volunteers or between volunteers and staff personnel must be in place. Address any problems right away, create a welcoming atmosphere for discussion, and seek to develop win-win solutions.

7. Planning for volunteer retention and succession: Encourage a feeling of community and provide chances for sustained commitment. Create a succession plan to facilitate seamless transitions as volunteers leave or take up new positions and acknowledge the significance of volunteer retention. Keep in touch with former volunteers since they may represent the organization and be resources in the future.

Manage Professionals Like Volunteers

You might say you are supervising volunteers. Peter Drucker, a renowned management expert, compared managing professionals to managing volunteers since both desire to do fascinating, worthwhile work that is a good use of their time.1 Think about it: Would your management style change if you treated every project you oversaw as a volunteer endeavor? Would there be greater enthusiasm on your team? Would you show greater zeal?

Applying science to project management is the art of success. You have the elements of every successful project when you are equipped with the fundamental set of tools and strategies to design, plan, and manage projects. But this is a collection of tools that becomes sharper with usage. Understanding the science of project management is simply the first step in using it; you must also have faith in its efficacy. Science is not very difficult to learn. I truly hope that the approaches have been explained in this book in a straightforward and understandable manner. Unfortunately, there is no book that can ever make them simple to use.

Being a project manager is challenging. It calls for tenacity, commitment, and a thick skin. People who believe that project definition and planning are a waste of time will be opposed to you. They will put your faith to the test, especially if the sceptic is your employer or a client. Through any adversity, you must remain committed to the discipline.

CONCLUSION

Common project issues may negatively affect a project's success, but they can be reduced with the right techniques. Project managers often encounter issues including scope creep, poor communication, resource mismanagement, and insufficient risk management. The solutions to these issues are discussed in this paper, including the implementation of a change control process to handle scope changes, improving communication channels to encourage collaboration, utilizing resource allocation strategies to maximize resource utilization, and adopting a pro-active risk management strategy to recognize and reduce potential risks. Project managers may reduce project delays, enhance team communication, allocate resources wisely, and limit risks by using these strategies, thereby improving the likelihood that the project will be successful. To guarantee the effective execution and completion of their projects, project managers must be proactive and diligent in detecting and resolving these frequent project issues.

REFERENCES:

[1]   N. Mohammad and Z. Hamzah, "A review of causes of variation order in the construction of terrace housing projects in Malaysia," *MATEC Web Conf.*, 2019, doi: 10.1051/matecconf/201927703013.

[2]   E. Eray, B. Sanchez, and C. Haas, "Usage of interface management system in adaptive reuse of buildings," *Buildings*, 2019, doi: 10.3390/buildings9050105.

[3]   H. Wickham *et al.*, "Welcome to the Tidyverse," *J. Open Source Softw.*, 2019, doi: 10.21105/joss.01686.

[4]   B. Soewito, F. E. Gunawan, and I. P. Rusli, "The use of android smart phones as a tool for absences," in *Procedia Computer Science*, 2019. doi: 10.1016/j.procs.2019.08.163.

[5]   B. Mock and J. T. O'Connor, "High-value, low-effort industrial plant commissioning solution strategies," *Constr. Innov.*, 2019, doi: 10.1108/CI-09-2018-0072.

[6]   E. Romijn, R. Coppus, V. De Sy, M. Herold, R. M. Roman-Cuesta, and L. Verchot, "Land restoration in Latin America and the Caribbean: An overview of recent, ongoing and planned restoration initiatives and their potential for climate change mitigation," *Forests*, 2019, doi: 10.3390/f10060510.

[7]   S. Creemers, "The preemptive stochastic resource-constrained project scheduling problem," *Eur. J. Oper. Res.*, 2019, doi: 10.1016/j.ejor.2019.02.030.

[8]   S. Narayanan, A. M. Kure, and S. Palaniappan, "Study on Time and Cost Overruns in Mega Infrastructure Projects in India," *J. Inst. Eng. Ser. A*, 2019, doi: 10.1007/s40030-018-0328-1.

[9]   G. Haysom *et al.*, "Food systems sustainability: An examination of different viewpoints

on food system change," *Sustain.*, 2019, doi: 10.3390/su11123337.

[10]   M. Parchami Jalal, E. Noorzai, and T. Yavari Roushan, " Root Cause Analysis of the Most Frequent Claims in the Building Industry through the SCoP 3 E Ishikawa Diagram ," *J. Leg. Aff. Disput. Resolut. Eng. Constr.*, 2019, doi: 10.1061/(asce)la.1943-4170.0000289.

ENTERPRISE PROJECT MANAGEMENT: ALIGN PROJECTS WITH STRATEGY

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ABSTRACT:

Organizations utilize enterprise project management (EPM), a comprehensive strategy, to manage and coordinate several projects across various divisions or departments. This chapter attempts to examine the fundamental ideas and advantages of EPM, emphasizing its importance in accomplishing strategic goals, raising project success rates, and boosting organizational effectiveness. The chapter offers a brief summary of the key ideas and gives insight into the significance of EPM for contemporary enterprises.EPM offers a comprehensive picture of project portfolios, facilitating resource allocation, risk management, and informed decision-making. Additionally, it improves cooperation and communication amongst project teams, promoting the exchange of expertise and encouraging creativity.

KEYWORDS: *Organizational, Project, Project Management, Strategic Objectives.*

INTRODUCTION

We saw that the workplace is evolving to become more project-focused. Projects are receiving more organizational resources, and change is happening faster. However, since each project is different, managing several projects is significantly harder. Companies or departments with a lot of projects must have a streamlined process for choosing, starting, and managing groupings of similar tasks[1], [2]. Managing all of the projects inside the company is what we refer to as multi-project focus enterprise project management (EPM). The project management office, or PMO, has been the typical answer as the demand for EPM has grown. Depending on how many and how big the projects are, a PMO could include only one person or a sizable team. The PMO is in charge of developing and maintaining the technology and procedures that support EPM.

The alignment of projects with strategy is one of the main advantages of corporate project management. Every initiative has the ability to benefit the company more on an individual basis. The company must, however, reject some excellent ideas due to a lack of resources. Instead, it must choose just the greatest initiatives and provide them with the attention and resources necessary for their success [3], [4]. The most popular methods of corporate project management will be covered in this chapter, along with the responsibilities of a project management office.

Reading This Chapter

In this chapter, enterprise project management will be covered. Let's start by outlining the chapter's flow, which is divided into three main sections:

1. It starts out by describing what is meant by EPM and introducing the model that demonstrates how all of the components of EPM interact as show in Figure 1.

2. Next, we describe the three EPM levels and what purpose each one performs.
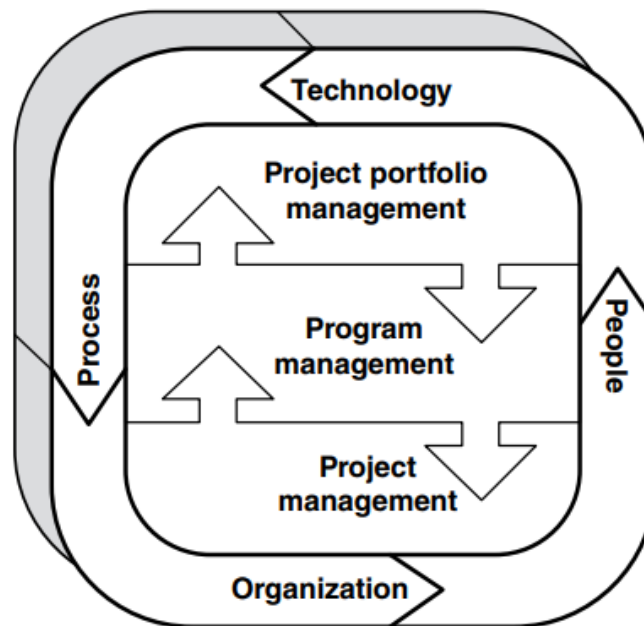
3. We examine each of the four structural elements that support EPM in the third part.

Figure 1: The enterprise project management (EPM) model [scribd].

Benefits of Project Management Formalization

Recall the following five project success factors:

1. Consensus on the project's objectives among the project team, the client, and management.

2. A plan that outlines a general direction and specific duties and is used to monitor project progress.

3. Constant, efficient communication between all parties involved with the project.

4. A limited scope.

5. Management assistance.

The chance of success for a project significantly rises when each of these elements is present. In order to regularly attain these qualities, it is sensible for a company to institutionalize them[5], [6]. Experience supports this. Common project management practices have been developed by several agencies and businesses, and the outcomes of projects have improved. But almost as

soon, they discovered that managing many projects at once became the next challenge. It's similar to a congested motorway where each vehicle's speed is determined by the speed of others around it rather than by its own capacity. To continue the analogy, if you take away the majority of the petrol stations, you'll soon have abandoned cars all over the shoulders. If every vehicle in this example represents a project, then we need high-performance vehicles with enough fuel. Additionally, we aim to reduce the number of automobiles vying for scarce fuel and road space. The best ventures, with appropriate funding and a clear goal. As a consequence, more initiatives contribute to the achievement of strategic objectives and fewer ventures fail and never recover [7], [8].

Enterprise Project Management Defined

In order to match strategy with project execution, enterprise project management (EPM) consciously integrates procedures, technology, organisational structure, and people. All of the elements of EPM are shown in Figure 1. The three layers of management that are conceivable when EPM is present are made possible by the structural elements of EPM. We provide a basic overview of the concept here before delving more into each component later on in the chapter. The three levels of management in the EPM model serve as a conduit between organizational strategy and project resources. At its most basic level, project management concentrates on the successful completion of chosen projects, which was the topic of all preceding chapters. Program and multi-project management, the next layer, helps to coordinate projects as well as the resources that all projects share, notably the human resources. The top layer, project portfolio management, ties the organization's strategic objectives to the decisions made about projects and programs [9], [10].

The EPM model's enabling elements all cooperate. The generally recognized approaches to project management, as well as management tasks at the program and project portfolio levels, are standardized procedures. The information and communications technologies that make it possible for individuals to follow procedures make up technology. The implementation and upkeep of the remaining EPM components are the unique responsibilities of a project management office, or PMO, an organizational structure. The individuals in the model are the ones who oversee and carry out initiatives.

The personnel must have the necessary abilities to operate the technology, adhere to the protocols, and complete project tasks. We must address the word "enterprise" and be explicit about the situations in which EPM may be used as we explain the EPM components. In reality, an enterprise may be anything from a whole company to a specific division or line of products. Engineering and consulting firms are examples of small and medium companies that may cover their whole activity within the scope of EPM. Because the complexity of EPM skyrockets when it is applied to loosely connected groups, an EPM project more often occurs inside specialized departments in major enterprises or governmental organizations.

DISCUSSION

Portfolio, Program, and Project Management Are the Three Tiers of EPM Management

The sheer nature of projects presents a significant management issue for an organization with several ongoing projects. Each project is short-lived and distinct; some are completed quickly, while others take months or years; some are ordinary, while others call for specialized knowledge. The level of efficiency attainable in managing a repeatable business appears practically impossible when projects start and finish and manpower needs rise and fall. The three EPM levels offer a solution to this problem.The methods used to specify, organize, and control a single project are collectively referred to as project management. The remainder of this book has a detailed description of them.

Program Management

Many businesses find it difficult to keep track of all active and future initiatives, especially when they divide the same employees over many projects. Program and multi-project management provides visibility and coordination amongst projects as a response. It should be noted that there are two distinct, but widely recognized, meanings of the word "program." One definition refers to any project that helps achieve a linked objective, such winning and carrying out a contract to design, construct, and run a communications network. This fits the definition of a program given by the Project Management Institute. Supplier management and operations management are only two examples of functions included in a program in this sense that go beyond EPM. The management of several projects inside an organization is the other widely used definition of a program. Because they all employ the same resources and have similar overarching organisational aims, the projects in this example are all connected. Using either definition, program management employs the following actions to reduce the chaos brought on by several connected projects:

1. Dividing up scarce resources, especially manpower, across several projects. A database analyst (DBA) is often required for work inside IT projects, however a DBA isn't always required on a full-time basis. An energy firm has a team of scientists, each with their own area of expertise, who work on various projects since they must evaluate and address the environmental effects of their hydroelectric dams. The majority of those who work on internal projects for their companies are really distributed over many projects, and they must also juggle their operational responsibilities. The project timetable is constrained by the availability of project resources, including suppliers, equipment, and personnel with specialized expertise.On the other hand, we also want that all of our resources be consistently used, with neither too much nor too little to accomplish. When we divide our resources across several initiatives, the issue becomes more complicated and equally crucial. Based on the priorities established by the project portfolio management layer, it is necessary to match few resources to many projects. Enterprise project management is not actually present in a company without this connection.

2. Monitoring connections between projects. When numerous initiatives are started to assist one another, it is probable that these initiatives will be interdependent, with the output of one project serving as an essential input to another. Similarly, two initiatives with unconnected

aims may in fact have an impact on the same area of an organization. Although a project manager often has little influence over managing these connections, they increase the project's complexity and risk. Project interactions and overlaps are explicitly addressed by program management.

3. Managing initiatives or activities that benefit several projects yet are burdensome for any one of them. Choosing a provider of tools or services, for instance, that will be applied to several projects. The selection process' effort might significantly raise the cost of any one project, but its outcomes will be beneficial to numerous projects and provide uniformity across them.

4. Additionally, rather than simply one project's needs, the selection will take all of them into account. This is yet another way the program management layer works to improve the effectiveness of the project management tier.

A project (or program) management office (PMO) normally handles the duties of program management. We shall see that PMO tasks often expand beyond the program management activities indicated here when the different forms and duties of the PMO are detailed later in this chapter.

The Portfolio Steering Committee and executives

Investing firm resources money, people, and facilities to effect change entails project approval. Projects will be approved and overseen by those with the power to commit resources. In a small business, it could be the president of the firm or the general manager of a division. A steering committee made up of those who share responsibility for accomplishing strategic objectives is more often used. They are compelled to strike a compromise between the enterprise's best interests and their limited resources as a result of the constructive tension that shared responsibility produces.

Initiative Sponsors

They have sufficient power to be held responsible for project outcomes. They need to be involved in creating the business case and presenting the proposal to the steering committee. Naturally, they could also have enough power to serve on the steering committee.

Enterprise Analysts

On projects with an IT component, the term "business analyst" is often used, although the function may be filled by anybody who has the analytical and business case writing abilities. Helping project requestors improve their comprehension of a possible project is one important but sometimes underappreciated contribution of a qualified analyst. A project's direction may be improved with skillful analysis, or the requestor may realize that the project is not valuable enough to proceed. The steering committee will have to assess fewer possible projects because of this upfront preparation, and each business case will be of better quality.

Project Choice

In a dynamic, forward-thinking organization, fresh ideas will constantly emerge. There will always be more fresh project ideas than there is capability to implement, even in a well-developed organization with a stable environment. Before selecting a team and giving them the go-ahead, the executive team or steering committee must assess the advantages and disadvantages of each concept. The first component of portfolio management is a consistent business case for each new project. A sponsor is chosen after a project is authorized. A project manager is appointed shortly after that.

Sequence and set priorities

Even if a project meets the cost-benefit requirements, it could not be authorized if another project offers a higher return on investment. Alignment with strategic objectives will be one of the ranking factors that the steering committee adopts. These standards are used to rate potential projects. The committee may pick two smaller projects rather than one larger one in order to diversify the risks associated with the initiatives that are chosen. Another aspect that will be considered is urgency. When two initiatives have comparable resources and advantages, the one with the smaller window of opportunity will be given priority over the other.

Ongoing supervision

Projects start off with a lot of assumptions, not all of which will pan out.

At crucial junctures, a responsible steering committee reviews and authorizes projects. The business case and project plan are updated at phase gates, so that the steering committee may examine them. Project cancellation is a common occurrence in business. If great initiatives demand resources, even decent ventures will be shelved. One project executive put it this way when he explained how some projects are naturally cancelled at phase gates: "It's a funnel, not a tunnel."

The Three Tiers Work Together

The combination of project, programme, and portfolio management enables each resource working on a project to be in line with overall business objectives. Resources are more regularly and realistically accessible, which improves project execution. The preference of one project over another is decided by management based more on facts than on preconceptions. Projects that are deviating from their cost and schedule targets are identified via regular reporting and oversight. We can observe how these layers improve the efficiency of the overall project delivery process. Let's now look at what makes these layers function.

The Four Elements Of EPM: PMO, People, Process, and Technology

Only when the four elements processes, people, technology, and organization are in place can the three layers of EPM we just reviewed function. If your company is going towards EPM, consider include all four in your vision since they all operate together. The contributions that each component provides to a successful project delivery will be examined in the sections that follow. We'll also go over some pointers to keep in mind as you create each component.

The Objective Is Not the EPM Structure

Enterprise project management refers to the coordination of project resources to achieve organisational objectives as effectively as feasible. The four EPM components are tools for achieving the objective; they are not the objective itself. Remember that the purpose of our organizations which we will discuss in more depth in the sections that follow—is not to finance EPM tools, procedures, or even to complete projects. It operates in the opposite direction. The organisation, people, procedures, and technologies that make up an organization's EPM are there to support the projects. The projects are there to help the business achieve its objectives. This caution may seem obvious, yet far too many companies fail to keep this essential objective in mind while they build the foundation for EPM.

Implement Stable Epm Processes

Good project managers bring a methodology to every assignment that they use to comprehend and arrange projects. This approach is the result of all the lessons they've gained from their prior achievements and mistakes. When you gather two or three seasoned project managers from the same company, they'll discuss their methods and strategies in an attempt to gain knowledge from one another's experiences. Even if this informal sharing is beneficial to the project managers themselves, their company doesn't actually gain anything from it. Each of them retains their expertise and experience, and if they leave the company, they take their knowledge with them. Enterprise project management provides a framework for the company to develop project management competence, which has the additional advantage of producing better project managers. This section of the chapter explains the process element of EPM, including the value of specified EPM procedures and instructions for implementing them.

EPM requires consistent procedures at the programme and portfolio levels to work, but the most crucial processes and the hardest to define have been those at the project level. We will focus on this level first since despite the wide range of project management approaches available, many businesses find it difficult to develop useful rules for managing projects. The use of uniform forms for project management outputs, such as status reports and risk assessments, are apparent instances of consistent project management practises. We'll see in this section of the chapter that a process description also includes distinct roles and decision-making points.

Project management and development practises should be kept separate

Recall the difference between a project life cycle and a development life cycle stated throughout this book: While the development life cycle provides the actual definition of how to conduct the job (such as standards for design documents or testing processes), the project life cycle represents the activity necessary to manage the work (such as establishing a comprehensive plan or communicating status). When developing project management procedures, this difference should be preserved. An efficient organisation understands that several project types exist, therefore using a single technique for all projects is impractical. Permit standards to be defined independently of project management standards for defining requirements, developing the product, constructing it, etc. It's true that product and project approaches should complement one another, but they will both function better if they are created to be distinct but complimentary.

Different Project Management Techniques Are Appropriate for Different Types of Projects

Why is it necessary for a business to have project management standards? Why not simply purchase a set from a project management consulting organisation or utilise the forms that are available for download in the book's companion? Or even better, why can't we all agree on the one optimal approach to project management? The obvious response is that different projects have different management needs. Using a one-size-fits-all strategy is impractical due to the variances across projects. An organisation may have a variety of project kinds, and each type will need a separate set of management standards.

One division, for instance, identified three different project types:

1. **Tiny:** Tasks needing less than 100 man hours.

2. **Internal:** Tasks where the department has total authority over all personnel and decision-making.

3. **External:** Projects where the department provided a service outside of its limits, necessitating much greater coordination and communication.

The department staff developed templates and instructions for producing a charter, project plans, status reports, and other project management deliverables for each kind of project. Each set of criteria was gradually more comprehensive since managing each kind of project became more difficult. The more complex projects with external clients received much more structure as a result, while the simpler initiatives weren't burdened with onerous management requirements.

Benefits of a Consistent Project Management Approach

The foundation for process improvement is a shared method for handling each project. Project managers will be able to incorporate lessons learned from their projects to the project management standards since they will be aware of what is required of them. All project managers will perform better as a result of these two elements.

The Use Of Technology In EPM Processes

The art of leadership is built on the science of project management, a point that has been emphasised throughout each chapter. Our capacity to gather and preserve reliable information is crucial to the science of project management. It is considerably more crucial in the case of corporate project management. We examined the process element of EPM in the preceding section. This section explains how technology helps us achieve our EPM objectives. In addition, we provide recommendations for successfully using EPM technology.

Technology Capability for EPM

EPM covers a wide range of topics, including effectively managing individual projects, comprehending the connections between projects, and choosing and overseeing initiatives depending on how well they align with strategic objectives. Eight typical EPM technological capabilities are categorised below according to how they relate to project management as a discipline.

1. **Project administration:** Each project requires a thorough plan that incorporates the budget, timetable, scope, and resource restrictions and may be used to track development.

2. **Interaction and cooperation within the team:** Projects need organising project documentation, monitoring problems and hazards, and reporting individual progress against assignments.

3. **Making inter-project relationships visible:** Coordination of several projects necessitates awareness of their connections when staff from different projects are working together or when one project is waiting for another to complete a crucial milestone.

4. **Resource use transparency across all projects:** We make an effort to avoid overloading certain workers with tasks while under-assigning others. One of the motivating aspects for using EPM technology is the ability to observe people availability or over-allocation across several projects.

5. **Summary of the project portfolio:** Managers in charge of several projects gain from having access to reliable summary status information for all of their projects. demonstrates how a manager might arrange all projects under their supervision and provide access to comprehensive project information by choosing any project.

6. **Reporting on project status:** Hard data, including cost performance, and verbal explanations of project events (both the good and the negative) make up the status of a project. EPM technology makes it possible to combine both kinds of information in a similar manner so that management has a clear, consistent understanding of how each project is progressing.

7. **Cost management:** If we can't record and analyse costs, aligning resources and objectives is very much just a theoretical exercise. The majority of the time, expenses are incurred at the project level; nonetheless, good cost analysis involves classifying expenditures that cross projects. EPM technology is increasingly used to complete the primary duty of tracking the time (labour) spent on projects.

8. **Connections to additional systems:** EPM does not include all business processes. The amount of effort necessary to maintain project accounting, especially timekeeping for individual project team members, in sync with the general accounting system is reduced thanks to the EPM system's ability to connect with accounting and portfolio management systems.

Most of the Solution Already Exists

Numerous commercial software programmes are made for enterprise project management, including managing projects and summarising data above the project level, and they are effective in this regard. They come in a variety of prices, powers, and architectures. Alternately, you may use a system you built yourself that is quite straightforward. In any case, selecting your tool and effectively implementing it should adhere to the general rule of information system implementation: needs come before development.

The People Who Deliver Projects

We dare not lose sight of the fact that the goal of our organisation is to produce projects, and those projects are delivered by people, while we concentrate on the procedures and technologies of EPM. In almost every area, management looks on its trusted leaders to complete challenging projects effectively, regardless of the sophistication of the firm's tools and procedures or the looming deadlines. In other words, the best workers complete the best tasks. The best individuals do the finest tasks. Just recruit better people! That could appear to go against our concentration on standard tools and processes. The finest project managers, however, continually use the best practises when we look at these difficult projects that are successfully completed. The five project success characteristics mentioned throughout this book were developed by listening to success tales of various projects. In fact, since project management is the foundation of their own success, good project executives are often the strongest proponents for institutionalising the discipline.

The top employees follow the finest procedures. If that's the case, how can we encourage more individuals to adopt the best practises? The best method to create the project leaders of the future is to institutionalise these practises via our EPM programme. Our tools and procedures mirror the practises we want our project leaders to use. Given that we want workers to be able to comprehend and apply the company's best practises, training is unquestionably a component of the solution. Beyond formal instruction, however, our staff members will get experience with our EPM tools and techniques, which will enhance their project management skills. They will develop "unconscious competence" via regular practise, executing it correctly without having to think about it, since project management has become a habit.

By institutionalising the finest project management techniques, we can foster a learning environment where our project managers may learn and practise their project management abilities. What about the team, sponsors, and functional managers, our other EPM stakeholders? Their predicament is comparable, but with a lower learning curve. If we want to have an efficient EPM, each of these stakeholders has a crucial role to play. They must understand their role in the larger scheme of things and be able to contribute effectively. For this reason, training for key stakeholders often includes an explanation of the objectives and benefits of EPM, as well as the overall structure of EPM for the company, as well as the specifics of what they may anticipate to do.

CONCLUSION

In the complicated corporate world of today, enterprise project management is very important. Organizations may efficiently manage and coordinate projects amongst several departments, maintaining alignment with strategic goals and maximizing resource utilization, by adopting an EPM strategy. The capacity of EPM to increase project success rates is one of its main benefits. Organizations may reduce risks, spot possible bottlenecks, and proactively handle problems by using standardized project management procedures. As a result, projects are completed more successfully, customers are happier, and overall performance is enhanced. EPM also improves organizational efficiency by reducing procedures, doing away with duplication of work, and fostering uniform project management practices. It lets businesses to take advantage of economies of scale, maximize resource use, and speed up project completion. EPM improves

openness, accountability, and efficient decision-making at all levels by centralizing project information and providing clear governance frameworks.

REFERENCES:

[1]   C. Gellweiler, "Connecting Enterprise Architecture and Project Portfolio Management," *Int. J. Inf. Technol. Proj. Manag.*, 2019, doi: 10.4018/ijitpm.2020010106.

[2]   A. Tulembayev, S. Jumadilova, A. Adilova, and D. Seidaliyeva, "Introducing project management system into enterprises of defense industry in Kazakhstan," *Problems and Perspectives in Management*. 2019. doi: 10.21511/ppm.17(2).2019.41.

[3]   S. Shah and E. Naghi Ganji, "Sustainability adoption in project management practices within a social enterprise case," *Manag. Environ. Qual. An Int. J.*, 2019, doi: 10.1108/MEQ-03-2018-0050.

[4]   G. B. Ghantous and A. Q. Gill, "An agile-devops reference architecture for teaching enterprise agile," *Int. J. Learn. Teach. Educ. Res.*, 2019, doi: 10.26803/ijlter.18.7.9.

[5]   O. Gavrysh and V. Melnykova, "Project risk management of the construction industry enterprises based on fuzzy set theory," *Probl. Perspect. Manag.*, 2019, doi: 10.21511/ppm.17(4).2019.17.

[6]   C. Barth and S. Koch, "Critical success factors in ERP upgrade projects," *Ind. Manag. Data Syst.*, 2019, doi: 10.1108/IMDS-01-2018-0016.

[7]   K. Boiarynova, K. Kopishynska, and N. Hryhorska, "Economic and management approach to defining effective projects for enterprise development under risks and uncertainty," *Probl. Perspect. Manag.*, 2019, doi: 10.21511/ppm.17(4).2019.25.

[8]   P. F. de A. Lima and C. Verbano, "Project risk management implementation in SMEs: A case study from Italy," *J. Technol. Manag. Innov.*, 2019, doi: 10.4067/S0718-27242019000100003.

[9]   H. Wang, L. Bai, N. Huang, Q. Du, and T. Zhang, "Social project culture: A new project management culture to promote the sustainable development of organizations," *Sustain.*, 2019, doi: 10.3390/su11010202.

[10]   O. V. Glebova *et al.*, "Civil project management at russian defense enterprises taking into account consumer attitude to changes in the product design and operation," *Acad. Strateg. Manag. J.*, 2019.

REQUIREMENTS: DESCRIBE THE SOLUTION TARGET

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ABSTRACT:

A key component of requirements engineering is the solution goal, which offers a detailed description of the ideal solution that has to be created. This chapter focuses on the significance of accurately expressing the solution goal and its influence on the timely completion of projects. It addresses the advantages of a well-defined and thorough description and underlines the essential components that have to be included in a solution goal.The solution goal serves as a reference point for activities, resource allocation, and validation of the final solution versus the original objectives throughout the project lifetime.

KEYWORDS: *Business, Requirements, Solution, Software Development.*

INTRODUCTION

The development of a comprehensive understanding of the characteristics and performance of the product or service being created is essential for project success, which is defined as delivering the correct product at the right time for the promised cost. Maintaining consensus on this product vision throughout the project and executing it are equally crucial[1], [2]. Requirements development and management refer to the methods and procedures used to create this unified product vision and carry it out. Despite their close association, creating and managing requirements is not often seen as a part of project management. Instead, it is a distinct discipline that can only be understood in the context of the work that is being created. For instance, the precise procedures and methods for outlining the specifications for an office block will be distinct from those involved in creating an accounting software program or a space shuttle[3], [4].

The structure in this chapter should be helpful to everyone since several required concepts cross industries. The examples and strategies in this chapter, however, are focused on information technology and software development projects since they are the ones that experience requirements failure the most often. Requirements is a broad subject that has been the focus of whole books. This chapter aims to orient readers to the field; you will know what it is, why it is significant, and be able to pinpoint potential improvements to your requirements efforts.

Project Management and Requirements Are Strongly Associated

When and where do these two fields of study converge? during each stage of the process.At its most fundamental, creating a product or service that perfectly serves the client's needs is the foundation of customer happiness (or, better still, customer joy). The cost and schedule aspects

of the triple constraints are also dependent on having a thorough grasp of the customer's desired project result, despite the fact that we have previously said that the scope component of the triple constraints is determined by requirements. Because they define the desired project result and determine the project scope, requirements are an important part of a project business case. The cost and schedule estimates become less precise the more unknown or yet-to-be-determined the requirements are[5], [6].

It should go without saying that for the project to succeed, all parties involved must agree on the needs. As a result, it is reasonable to predict that everyone engaged will be intensely focused on precisely documenting and managing needs, with perfunctory attention to requirements, ambiguous requirements, or undocumented requirements being as uncommon as rain in the desert. Sadly, that is not the case. The frequency of project failures that are directly attributable to inadequate requirement elaboration is astounding. Everyone who has worked on projects for more than a few years has likely personally experienced the agony of requirements failures. How unpleasant that may be! Finding that requirements weren't well grasped at least results in rework. Fixing an issue may involve 10 to 1,000 times as much work as fully understanding the need!

If a 1:10 or 1:1000 cost factor seems unlikely, keep in mind that incorrect requirements may result in incorrect designs, which can then result in incorrectly built products that might not be discovered until the client is evaluating the product for acceptance. Even worse, the issue could not be discovered until after the product has been made available for use and is in use. Operations interruption would then be included in the cost of the mistake. The amount of rework increases with the length of time it takes to find the issue. A requirements mistake costs money and reputation when it causes problems for consumers [7], [8].

The Business Analyst Is Crucial

Who is in charge of speaking with customers and other stakeholders to gather needs and record them? Depending on the project, multiple approaches are used to fill this important position. The job of the architect in both residential and commercial building is this. An outdated position the business analyst is receiving renewed interest in software and IT initiatives. The expansion and achievement of the International Institute for Business Analysis (IIBA) provide as evidence for this. The IIBA, which was established in 2003, serves as a focal point for the creation of standards for obtaining, describing, and managing requirements for IT and software development projects. Every project manager would do well to ensure that whomever performs this crucial position is knowledgeable about their particular industry's best practices for requirement authoring[9], [10].

DISCUSSION

The Evolving Product Vision Is Illustrated by Requirement Types

At this stage, a more detailed definition of requirement is needed. Although there are other definitions for this word, the IIBA definition should work for any project. An effective portrayal of a need is a prerequisite. Understanding the potential value that may be given if a need is met is at the center of requirements.Requirements emerge when the product's vision develops from a general perception of a challenge or an opportunity to a precise feature set. Each sort of need

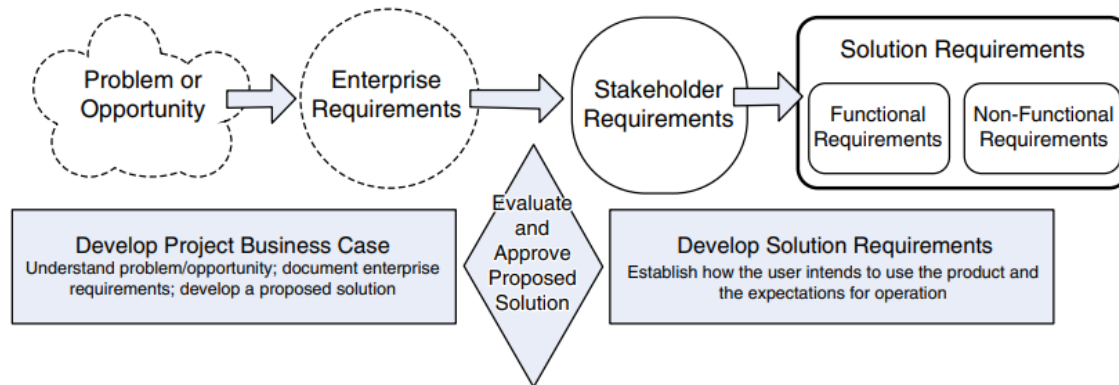turns the product's operational and technical requirements into the vision. This progression is seen in Figure 1.

Figure 1: Evolution of requirement types [scribd].

Organizational Requirements

These requirements, also known as business requirements or mission requirements, serve as the foundation for the project's business case and serve as its rationale. They respond to the fundamental queries: Why are we doing this project, and how will we know whether it is successful? For instance, what is the point of the space shuttle? What tasks are we anticipating it to carry out for us? How will we be able to evaluate the effectiveness of our modernization project?

Enterprise requirements are inherently too complex and abstract to be used in the development of a single product. Their aim is to define the product's ultimate objectives; if the project teams can accomplish these goals, the product will be successful. They define the what, and later specifications will define the how. You'll see that the enterprise requirements serve as the foundation for assessing potential solutions to the initial issue or opportunity in Figure 1's progression of the product vision. Additionally, they will provide the foundation for success assessment after the project is finished.

User Specifications

The solution is described from the end user's point of view in user requirements, which are also known as stakeholder requirements. What users (and other stakeholders) must be able to perform in order to fulfil the corporate requirements is described by user requirements. User needs list aspects that the solution must provide in order to fulfil daily actions carried out by the end user. For instance, a community college's online course registration system may include functions like "register for class" and "manage student grades," among others.

User stories are a popular technique for capturing user needs. User stories are a component of the agile methodology that specify tasks that users must complete. The user, the action they must be able to do, and the business value of that activity are all identified in the basic user narrative framework. The advantage of user stories is that they express user tasks in a natural language

manner. They are written in a manner that makes it apparent to both users and solution providers what it is that users must be able to perform.

Solution Requirements

What the solution must perform to satisfy user and company requirements is described by the solution requirements. Functional and nonfunctional requirements may be used to further categories solution needs. What the solution must accomplish to meet the user requirements is described by the functional requirements. How thoroughly the functional criteria must be fulfilled is described by the nonfunctional requirements. For instance, "the solution shall present a list of available classes" may be the functional requirement for "register for class." A business rule, such as "the solution shall present only classes for which the registrant has met the prerequisites," might be part of the nonfunctional need. Declarative statements are used to write functional requirements. The intended results of the whole project are defined by enterprise requirements. We can better understand how the solution will allow users to accomplish the desired outcomes by using user requirements. Solution requirements specify what must be done by the solution and how effectively it must be done in order to satisfy user demands and provide the anticipated project results.

Requirements Scope and Processes

Requirements management and requirements development are the two main categories of activities that pertain to requirements. We employed four steps in the straightforward product development life cycle: requirements, design, build, and operate. For many different sorts of product development initiatives, this model would be divided into more precise stages and represents a high degree of abstraction. With a focus on requirements, that oversimplified view of the development life cycle gets things started correctly. However, emphasizes how requirements activities continue to be the primary driver of development up to product approval.

Requirements Development Activities

Requirements Development includes the process of going from the first identification of a chance or a problem to a more detailed description of the solution aim. The activities of design and development are built around this aim. This road is seldom straightforward.

The problem is caused by several variables, including:

1. Neither the client nor the end user are aware of the requirements. This might be because they are venturing into unfamiliar area, but it is often as straightforward as their perception of their "need" to alleviate the discomfort.

2. Silos still exist inside organizations. One group may define its own set of requirements without taking into account or comprehending how those requirements (or a response to those requirements) influence other areas of the organization.

3. There is a pervasive lack of awareness of the time and knowledge necessary to comprehend the business need and create useful requirements. As a consequence, the time, effort, and specialized knowledge required are dramatically underestimated. Planning for requirements creation should extensively engage analysts who will likely conduct the task.

4. The only thing that is consistent in requirements is change. The solution's vision often changes as stakeholders and the solution's developers discuss each other's demands. The culture and development procedures of an organization affect its capacity to adapt to changing needs. Sadly, not every organization has the right tools.

The requirements development process may be broken down to reveal ways to solve these difficulties.

Identify your goals, desires, and needs.

The effectiveness of acquiring data on the demands of the company depends on two principles that were discussed previously in this book. First, we spoke about the value of both the art and science of project management, understanding that the tools themselves are not as essential as how we use them. Second, we discovered that the project's definition phase, which precisely defines what "done" should entail, sets the scene for the remainder of the endeavor. Defining the requirements of the company is crucial and sometimes quite difficult to achieve. Information collecting may be aided by a variety of instruments and methods. Some include just elicitation asking questions and documenting the responses while others involve more teamwork. The knowledge is gathered via group interaction and discussion through collaborative approaches.

For instance, we might utilize a survey or questionnaire to collect initial data from a large number of stakeholders. That is an example of an elicitation method. Respondents respond to the exact questions posed to them. Facilitated workshops, on the other hand, gather a variety of stakeholders for talks. Richer conversations, the dismantling of organizational silos, and more unanimous decision-making are the advantages. One of the key success factors for these seminars is the knowledgeable facilitator, who is often the analyst.

There is little doubt that guided workshops and anonymous questionnaires are quite different. These and many more methods, like as focus groups, brainstorming, and benchmarking, will be used by a business analyst. Each method has its advantages. The challenge is to choose those that assist stakeholders perceive their organization and themselves the best. The four most popular techniques for obtaining requirements are listed in the list below.

1. **A questionnaire or survey:** a questionnaire sent to a big group. Surveys rapidly collect a lot of data, but participants only reply to the questions that are posed. Because of this, a survey may not reveal a crucial necessity or limitation that we did not inquire about.

2. **Perception:** The analyst keeps an eye on what is going on right now. This involves compiling performance data and already-existing documentation. Utilize it both at the

beginning to get a feel of the present procedures and later on when seeking for particular information.

3. **Interrogation:** The analyst may learn more about a single stakeholder's viewpoint by having a dialogue with them. Early on in the project, executives were interviewed to get insight into business requirements. Later in the project, user interviews provide specifics on business rules or requested capabilities.

4. **Facilitating process mapping:** To describe existing or intended processes, groups use modelling tools. The group learns from one another and makes choices together thanks to the facilitation process. The models depict a system or process that, in most cases, is too complex for any one individual to fully define.

Analyze and Document Requirements

Requirements provide a shared knowledge of what the solution must do to meet the demands of the stakeholders. The overarching strategic business need, user/stakeholder demands, and a description of what the solution must be able to accomplish and how effectively it must be able to do it are all included in a full requirements package.

Analysis Uses Critical Thinking Skills

In order to determine the actual needs, analysis entails looking into, scrutinizing, and dissecting the outcomes of elicitation. The business analyst has to be adept in abstract thought, problem-solving, communication, and data analysis in order to carry out this analysis. Modelling is a crucial analytical ability. Models are a tool used by analysts to guide a group through problem-solving and record the group's conclusions. Models make it simpler for all parties to communicate and reach agreements since they can graphically depict abstract or complicated concepts. An example of a model for deciding on a kitchen layout is an architect's plan.

The interfaces and information flow between individuals and systems are graphically represented by system and process models. Value stream maps show a number of actions together with the supplies and data needed for each activity. A group may see solutions and possible gaps and bottlenecks using these models.

Documentation for Requirements Can Take Many Forms

High-level and thorough requirements documentation are both essential. The boundary of the system or process that is being altered may be seen in the high-level view. Specific business rules that will direct the solution's activities are described in the specifics. Consequently, a comprehensive requirements package may include a wide range of elements, such as the following:

1. **The personas:** The many stakeholder categories that interact with the process or product are described by personas. Each persona has traits and passions that deepen our comprehension of the users.

2. **User accounts:** The user story collection, which was discussed previously in the chapter, creates the precise stakeholder needs.

3. **Flowcharts:** a cross-functional model of the project's permitted operations. Future state models outline the intended enhancements to the process, whereas current state process maps depict how the job is now done.

4. **Models of systems:** graphical depictions of the connections between individuals, systems, and data.

Organizational norms, the scale and scope of the project, and the accessibility of technology, such as requirements management tools, are often taken into consideration when deciding on a format and technology for requirements documentation. The needs for further analysis and reporting may be sorted and filtered using a spreadsheet tool.

Validation and verification: Did we construct the appropriate thing, and did we construct it correctly?

A solid set of criteria serves as the foundation for determining if the product was constructed appropriately. What about testing the criteria, though?

We refer to checking that the requirements are accurate and that the product complies with them as validating and verifying. The main goal of validation is to make sure that the deliverables for the requirements are accurate and comprehensive. Stakeholder reviews of requirements are conducted utilising a range of methods, including as inspections, walk-throughs, and prototypes. The main goal of verification is to make sure that the product was constructed properly and is operating as intended. Tests and inspections are often used for verification throughout the building process. A variety of team members, including the analyst, designers, developers, and testers, will carry out these tasks. Numerous quality control procedures will be used to ensure the product was constructed properly.

Management Activities are Required

Requirements document the current business necessity. But in the context of an active project and a dynamic organisation, such criteria are present. The capacity to accurately capture the requirements and maintain their relevance in the face of new information and changes in the project environment directly affects the project's ability to produce value. The three major areas of concentration in requirements management activities are approval and prioritisation, regulating modifications, and traceability. We will briefly discuss each of them in this section. The project manager must make sure that time and resources are set out for nurturing and caring for the needs.

Changes in Control Requirements

The reasons why requirements vary are many. Business demands sometimes go unmet at the first gathering. However, the surroundings changed more often. This could include adjustments to laws, agreements, or market demands. Additionally, there can be structural adjustments, including a reorganisation or major adjustments to the way funds are allocated. The probability that the requirements may change increases with project length. The business analyst and project

manager must assess the effects of modifications on the project's schedule, money, stakeholder impact, product development, and testing as well as the project's requirements.

Discipline is required for gathering and managing requirements

An overview of the field of requirements has been given in this chapter. By now, it should be obvious that having a complete grasp of the needs is important and not at all simple to achieve. Here are some first steps to taking this discipline seriously: Develop your business analysts. Effective business analysts can interact with end users and developers, comprehend the software development process, and lead a team in problem-solving using modelling methodologies. They are able to create traceability systems, design test cases, define baseline requirements, and manage requirement modifications. All of these abilities may be learned via instruction and practise. Project management and business analysis are both legitimate professions and skill sets.Formalise the norms for requirements. There are several formats for tools like process modelling, user stories, and context diagrams. That implies that each company must standardise a certain set of modelling methodologies. Furthermore, having a uniform format for documentation is necessary to differentiate between enterprise needs, user requirements, and solution requirements.

Match your development strategy to the requirements methodologies

On some types of projects, the traditional waterfall system development life cycle is still appropriate. But other, more well-known development techniques, such as incremental and iterative techniques, are as suitable. Each of these strategies alters the interrelationship between requirements, design, and code, which has an impact on how requirements are gathered, documented, and managed. Our claim at the beginning of this chapter is supported by the realisation that requirements approaches should adapt based on the development strategy: No matter what is being built—buildings, telephones, motorways, or software—requirements are required, and the techniques for documenting requirements depend on the product being created.

The proper product must be delivered on time and at the agreed-upon cost for the project to be successful. That is what providing value is all about. A clear, shared vision of the final result between the project team and the client is necessary for successful delivery. By creating and managing requirements, we are able to do this. The development team has a clear goal when project stakeholders agree on the requirements.

A business analyst is the specialised profession responsible for creating and managing requirements for IT and software development projects. There are corresponding responsibilities on other project types, such architects. Project management is complemented by requirements activities; both are essential for creating reliable estimates and controlling adjustments. No matter the business, every project needs a solid method for comprehending requirements and incorporating them into the creation of products.

Setting and maintaining requirements has proven especially difficult for software development and information technology initiatives. These projects often have ambiguous requirements and are challenging to handle in terms of complexity. Many ways have been created to deal with this problem, such as software development methodologies that provide requirement discovery while

the product is being produced. One thing unites all of these methods: they need consistent practise.

CONCLUSION

A clear and complete solution objective is necessary for effective requirements engineering and successful project execution. It acts as a manual that clarifies the intended outcome for all parties participating in the development process and serves as a guide. The solution goal fosters a shared understanding across project teams and reduces the possibility of misunderstanding or misinterpretation by covering essential components including functional requirements, performance objectives, usability standards, and other pertinent information. It provides a framework for assessing design choices, weighing trade-offs, and ensuring that the produced solution meets the expectations of the stakeholders. A comprehensive solution objective encourages stakeholder cooperation and lets them add their knowledge and experience. The chance of a project's success is increased by including stakeholders early in the requirements elicitation phase and integrating their comments into the solution objective.

REFERENCES:

[1]   N. S. M. Khanyile, I. Musonda, and J. N. Agumba, "Evaluating the relationship between communication management practices and project outcomes: A case study of Eswatini (Swaziland) construction industry," *Constr. Econ. Build.*, 2019, doi: 10.5130/AJCEB.v19i2.6646.

[2]   E. V. Rengel Jara, J. W. Babb, and T. M. Flohr, "Status and scope of project management in the hospitality industry," *Int. Hosp. Rev.*, 2019, doi: 10.1108/ihr-09-2019-0016.

[3]   S. A. Erdogan, J. Šaparauskas, and Z. Turskis, "A multi-criteria decision-making model to choose the best option for sustainable construction management," *Sustain.*, 2019, doi: 10.3390/su11082239.

[4]   C. William Butler and G. Lowell Richardson, "Completing Information Technology Projects as Scheduled and on Time," *Am. J. Softw. Eng. Appl.*, 2019, doi: 10.11648/j.ajsea.20190801.12.

[5]   A. K. Jallow, P. Demian, A. N. Baldwin, and C. J. Anumba, "An integrated requirements management system for construction projects," in *EG-ICE 2010 - 17th International Workshop on Intelligent Computing in Engineering*, 2019.

[6]   A. C. da Silva Andrade, J. L. Braga, A. L. de Castro Leal, and F. H. Zaidan, "Risk Management In Software Projects: An Approach Based On Non-Functional Requirements," *Sist. \& Gest.*, 2019.

[7]   K. Buganová and J. Šimíčková, "Risk management in traditional and agile project management," in *Transportation Research Procedia*, 2019. doi: 10.1016/j.trpro.2019.07.138.

[8]   A. Enshassi, A. Ayash, and S. Mohamed, "Energy management application in construction projects in the Gaza Strip, Palestine," *J. Constr. Dev. Ctries.*, 2019, doi: 10.21315/jcdc2019.24.1.1.

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[9]   M. Shinoda and K. Nishioka, "Enhancement of Students' Recognition for Fundamental Competency Factors through Extra-Curricular Project Activities in University," *Int. J. Inf. Educ. Technol.*, 2019, doi: 10.18178/ijiet.2019.9.7.1257.

[10]   C. Gellweiler, "Collaboration of solution architects and project managers," *Int. J. Hum. Cap. Inf. Technol. Prof.*, 2019, doi: 10.4018/IJHCITP.2019100101.

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USE THE QUALITY DISCIPLINE TO HIT THE TARGET

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ABSTRACT:

A vital component of reaching organizational aims and goals is the quality discipline. This chapter examines the value of a quality-focused strategy in successfully achieving goals. Organizations may increase productivity, decrease mistakes, and boost customer happiness by using the concepts of quality management. The main tenets of the quality discipline are highlighted including process improvement, quality assurance, and continual monitoring. It also emphasizes the importance of employee participation and training as well as the leadership's responsibility in establishing a culture of quality. The results show that adopting a high-quality discipline is essential for regularly achieving organizational goals. Organizations may improve customer happiness, establish a reputation for excellence, and gain a competitive advantage in the market by adopting the quality discipline.

KEYWORDS: *Management, Organizational, Project, Quality Discipline.*

INTRODUCTION

A new home's roof leaking is a sign of poor quality. A quality failure occurs when an information system gives management the reports they requested but not the reports they really need. A new video game's lack of enjoyment is a sign of poor quality. It's a quality failure whether the product is constructed poorly or the wrong product is built. The quality discipline's purview is to define the aim and show that the good or service meets it[1], [2]. The depth and breadth of quality as a discipline are comparable to those of project management. Since there is a lot to cover in this chapter, we will concentrate on broad guidelines that will help project managers prioritize activities related to quality and ask the correct questions. After reading this chapter, readers will also be able to decide if include quality in their study plan will help them develop into more complete project leaders [3], [4].

Quality and Requirements Are Closely Related

What the project is supposed to generate is described in the requirements. Requirements are largely focused on the product scope in the context of our cost-schedule-scope triple constraint. When we describe a military aircraft as being stealthy, the specifications will specify precisely what that entails. With that objective in mind, quality procedures ensure that the product is constructed properly and that relevant tests are conducted at crucial stages of the development process. The final aircraft may then be tested to see whether it really is as invisible as it was designed to be [5], [6].

Enhancing Products and Processes with Quality Tools

One aspect of quality management is defining quality objectives and ensuring the product complies with specifications. Designing and enhancing the procedures we utilize for both projects and operations is a fundamental application of the quality discipline. By using quality approaches, we may execute our task with less wasteful expense and labor. Or we could look into and change how a production line is operating since it is producing goods that don't adhere to specs. We'll examine Six Sigma as an example of a process-improvement technique later on in this chapter [7], [8].

Subject Matter Experts and Quality Experts Are Used by Project Managers

Depending on the project, a particular set of processes must be taken in order to offer a high-quality product or service. We'll see in this chapter that project managers are aware of the appropriate questions to pose and depend on individuals with specialized technical expertise often referred to as subject matter experts (SMEs) to fill in the specifics. Not that a project manager won't have the necessary technical expertise. Instead, we are emphasizing how every aspect of quality operations incorporates the skill needed to do a task effectively[9], [10]. It will become evident as you read this chapter that gaining proficiency in high-quality tools and ideas might take years. This implies that bringing on a high quality specialist may often be advantageous.

The price of excellence

Quality guru Philip Crosby released his book Quality Is Free in 1979. This intriguing title can lead us astray. It does not imply that we should forgo making investments in strategies that enhance our outputs and procedures. Crosby contends that the savings achieved by avoiding rework, unhappy consumers, and wastage of material outweigh the investment in quality. He is essentially suggesting that it is less expensive to do things correctly the first time. The Cost of Quality is the name of this tenet.

The cost of noncompliance

The cost of nonconformance refers to the costs incurred by poor quality. Some of these expenses, like rework, may be quantified. If a wall is painted the incorrect color, the cost of redoing the job is the materials and labor required to prep the wall and paint it the right shade. Other costs of nonconformance, such the displeasure of a client who complains to their friends that "That painting company just can't be trusted," are considerably harder to quantify. The incorrect color was used to paint the whole room. Software that doesn't function properly might cause little annoyances or serious mistakes. If an ATM user is unable to access their account information, they could just be irritated. The penalty of nonconformance has included tragic accidents as more and more of our cars' functions are controlled by software. We see that while one project extends its timetable to complete rework, another project is delayed as we examine numerous projects. Another example of how the cost of nonconformance may cascade, increasing the overall cost and making it hard to estimate.

Cost of Conformance

We can see how rapidly the cost of quality failures may increase. The expenses of conformance are those incurred while producing a superior product. Numerous actions have an immediate effect on quality, such as:

1. Skill development to ensure that work is done in accordance with industry standards.

2. Checking the job at key stages.

3. Peer reviews, such as those that occur on software development projects' source code.

Procedure documentation may have a big influence. In his book The Checklist Manifesto, Atul Gawande details the hundreds of lives that were saved when medical professionals started vocally following a simple checklist while performing a common medical operation like inserting a central line.The right five steps in this situation were widely understood. The medical staff's distinction was that they just started speaking the instructions aloud. It requires time and skill to provide training, peer evaluations, and record processes. They lack freedom. However, there is a compelling argument for making a proactive investment in quality when we weigh the costs of executing the task properly against the costs of nonconformance.

DISCUSSION

Build A Project with Quality Discipline

We can break down the quality discipline into certain key components that every project manager can include into their project, even if it is far too big to address in this chapter. You may learn more about the questions and associated quality actions you should observe on a project by reading the sections after that. The definition of quality is the earliest and most basic idea.

The Concept of Quality

About quality and what it takes to develop a high-quality product, there are many misconceptions. Let's start with Philip Crosby's timeless definition of excellence before talking about misconceptions. Quality, according to Crosby, is "conformance to requirements." In other words, will the project provide precisely what is required? Of course, this brings up the preceding chapter's discussion of the significance of meaningful requirements. Joseph Juran, another quality pioneer, described quality as "fitness for use." This term forces us to go beyond the specifications provided by users or consumers, requiring us to explore how a product might be utilized.

Don't Confuse Grade with Quality

There are numerous options available, even from the same manufacturer, when it comes time to replace the tires on your automobile. A style could be rated for 50,000 miles while another would have a 25,000-mile lifespan. Is the tire with 50,000 km superior quality? No. This grade is higher. If compliance to standards is quality, then the quality of various tyre kinds is determined by how well they live up to their ratings. Why would anybody choose a lesser quality tyre or anything else? because various grades are designed for various uses. I needed tyres for my 20-year-old minivan that would last roughly 20,000 miles since that is the projected lifespan of the rest of the car. That is an illustration of being fit for usage. By paying attention to the criteria, we should be able to determine the desired grade.

Six Sigma Quality

Six Sigma is a phrase often used in talks about quality. Both a quality strategy and a quality standard, Six Sigma. We provided examples of the cost of creating a product or service that falls short of expectations when we first introduced the concept of the cost of nonconformance. Quality professionals will establish a target and track how often it is missed in an effort to lower these expenses. The method is continually improved in order to decrease the amount of failures, making it more dependable and continuously producing superior results.

One strategy for continual process improvement is the Six Sigma method. Later in this chapter, we'll look more closely at this approach. The degree of variance in a process's output is described by the Six Sigma quality standard. For instance, you may note that the trains are always on time while travelling by rail in Germany. The schedule deviation of a specific train might be seen by recording its actual departure time and comparing it to its published timetable. You would see the number of departures that were outside the allowed window if the train left two minutes early or two minutes late as the level of performance.

Variations may occur in any process. The variability's statistical analysis will reveal the performance's range. Six Sigma quality is attained when a process's variance is reduced to six standard deviations. In plain English, this indicates that for every million outputs of the process, just three fail to satisfy the accepted norm. That would indicate that, for our German train, there would only be three occasions when it left more than two minutes early or late out of every million stops. Although Six Sigma has gained popularity as a variance measure, it is by no means the ideal objective for every process. It may not be worth it to spend the money to reach this goal. Ironically, this degree of process performance might end up being an example of gold plating unless it is obviously essential and useful.

Quality Assurance and Quality Control

We already mentioned inspections and skill training as two instances of quality investments. Observe how training enhances how the job is done, while inspection assesses the work's outcome. An example of quality assurance is training, while one of quality control is inspection. Both quality control and assurance are crucial for achieving quality goals. They are not really distinct from one another. Planning inspections is seen as a quality assurance procedure. The inspections are carried out as a quality control procedure. This difference does not really matter. It is more crucial to comprehend the kind of actions a project manager should anticipate being performed throughout the project.

Quality Control: Belief in Our Process

The International Organization for Standardization (ISO) states that the precise definition of quality assurance is to increase stakeholder confidence in the fulfilment of quality criteria. What can we do to increase confidence that the project will deliver outputs that fulfil quality requirements? is a straightforward question project manager may use to approach quality assurance. There might be an almost infinite number of solutions, much more than the project could possibly accomplish. Just a few instances are shown below:

1. Choose the right industry standards for carrying out tasks. Spend some time developing a standard that will be applied to the project if none already exists.

2. Specify the completion requirements for each work package or specific job indicated on the work breakdown structure (WBS). How will it be assessed as being finished and done correctly?

3. Collaborate with inspectors and subcontractors to create performance benchmarks and inspection points. Recognize that inspection points must be included throughout the product's design and construction to catch problems as they arise. The cost of fixing an issue decreases with the sooner it is discovered.

Developing your quality assurance activities is comparable to recognizing risks and opportunities in that you should prioritize after discovering more opportunities than you can realistically take advantage of. Participate various stakeholder groups in brainstorming ideas on how to include quality and how to check for it. Then, using the previously described Cost of Quality principle, order these ideas: Implement the concepts that have the best benefit to cost ratio after comparing the costs of conformity and nonconformance.

A Leadership Challenge

Recognizing that quality cannot be checked into a product was a big advancement in the area of quality. In other words, the chance for improvement resides upstream, in the procedures for making the product, regardless of how thoroughly we inspect the finished product for flaws. The increase in their project budgets that results from project managers' investments in establishing quality assurance measures may need to be justified. They benefit from the Cost of Quality concept. Demonstrate conformance to requirements as part of quality control.

Project quality control may be done in a variety of ways.

Here are a few illustrations:

1. In the video game business, young gamers lust for the opportunity to attempt to crash a game that is still being developed. No matter what bizarre behaviors a player takes, these testers labor fervently to make sure the game advances as planned.

2. A new engine with more power is needed since a new commercial aeroplane is being designed. A testing facility will be constructed to allow a prototype engine to go through various testing scenarios. Before being put on a prototype aircraft with a test pilot in the cockpit, the prototype is put through a thorough testing process.

3. Type "concrete inspection checklist" into your search engine to see a thorough illustration of an examination. You'll discover that a lot of state transportation agencies have comprehensive checklists posted, illustrating a level of performance and a procedure for checking both before and after the pour.

These illustrations demonstrate that there are as many methods for testing items as there are potential products. Additionally, we can observe the critical need of quality control. A roadway, an aeroplane, or even a video game firm might suffer catastrophic failures if thorough testing is not performed throughout the project.

The project manager establishes the overall tone for the project, including quality control operations. Finding issues is the goal of quality control efforts. Software testing teams take delight in breaking the system and detecting problems before the system is launched so that users won't notice them. The tone is established by project managers, who acknowledge issue identification as a success and provide time in the schedule for locating and resolving difficulties.

Projects must maintain well-organized records of the test and inspection outcomes in addition to quality control procedures. These findings will create a story that shows the project is on pace to provide the desired quality. Monitoring the outcomes of the recovery actions becomes even more crucial if testing and inspection findings do not indicate that the product is on track. Applications used for bug tracking, for instance, in software projects may indicate if the overall number of software issues is increasing or decreasing.

The Quality Discipline Improves Processes

The quality discipline's main focus is on integrating quality into projects and business processes. The Cost of Quality theory, which states that making quality expenditures will result in significant savings and higher customer satisfaction, is firmly held by many businesses. These companies start initiatives with the primary objective of improving processes, not only include quality specialists in those projects. Six Sigma is a popular strategy for this kind of undertaking. We will look at Six Sigma as an example of an organized approach to problem-solving for process improvement that incorporates several quality concepts and methods.

Define: Consensus on the Plan and the Problem

If done correctly, it produces a solid project start. The stage comprises defining the issue, identifying the stakeholders, scheduling, identifying the risks, and developing a communication strategy. Like any project, the analysis required to create a project charter is the most crucial job. This analysis for a Six Sigma project also takes into account the benefit to cost analysis and the financial justification that would be included in the project business case.The objectives of this phase are to establish a shared knowledge of the metrics used to assess the project's success and the extent of the process that is the focus of improvement. A high-level process map is used to represent the process boundaries.

Measure: Record the Present Situation

It is essential to fully comprehend the process's present status before making any recommendations for changes. This normally comprises a thorough flowchart of the process phases, together with information on each step's participants, duration, and information and material requirements. A quality expert may be needed to serve as a facilitator while the participants in the process give the facts due to the competence required to create a process map. A list of the measures that will finally show that the process is improved at the conclusion of the project is produced at this phase. Finding or developing trustworthy, repeatable techniques of assessing process activity is thus essential.

Analyze: Look for areas that might want improvement.

Analyze entails the difficult effort of examining the procedure, spotting subpar performance, and digging further to identify the true root of the issue. This research sometimes shows a clear possibility for an immediate improvement, enabling the team to declare an early triumph and provide fresh data to support their progress. A significant portion of the quality toolkit is used at the analyses step. The team will assess the procedure by contrasting it with equivalent, more effective procedures. They use a variety of root cause analysis methodologies, such as statistical analysis and group problem-solving methods like brainstorming, whenever issues are detected. The end result is a list of the chances for improvement that has been prioritized. This list will be used to concentrate efforts in the next step. The Analyze step uses organized problem-solving methods that are not exclusive to the Six Sigma approach. Every quality expert should have these in their toolkit.

Improve: Select and Deploy Solutions

The Improve level requires both creative problem-solving and practical implementation abilities. During this phase, the team uses creativity tools to produce several potential enhancements. Small, affordable changes or pricey, extensive renovations are also possible choices. They will next use group decision-making procedures to rate the ideas and choose the best ones. To reflect the proposed changes, including how the improved process will be assessed, the identical process maps developed in the Measure stage may be modified.

Pilot testing is done on the chosen solutions. Pilot projects show that the modification will provide the required quantifiable advantages. The modifications are then included into the procedure after that. The Improve stage might develop into a separate project for major modifications like the rollout of a software program.

Control: Transition to Operations

In terms of project management, this marks the conclusion of the project and the changeover to operations. Making sure the solutions are functioning and delivering documentation that will be helpful to the process owner, such as process maps and performance data, are the main activities. Control's stage name reflects the necessity for ongoing observation and proof of a new, improved level of performance.Will clients be happy with the project's outcome? Will all people have faith in it? Because the extra expenses of rework and lost materials were avoided, would the project save time and money?

The advantages of applying the quality discipline to your project are as follows. All project managers should inquire as to how these crucial tasks will be carried out on their projects since quality assurance and quality control take various shapes on every project. Activities that improve quality are included into the product or service. The results of tasks or the whole project are evaluated for quality control to see whether they meet the requirements' aim. The quality discipline is just as extensive and in-depth as project management. A quality expert will assist in creating and implementing a quality strategy. It often requires a subject matter expert to carry out quality assurance and quality control tasks. The Cost of Quality concept justifies the spending for these people.According to the "Cost of Quality" theory, building the ideal product properly costs less than producing a subpar one. These expenses include correcting errors and the immeasurable suffering of a disgruntled consumer. When organizations adopt this idea, they go beyond project-

specific quality assurance and control. businesses spend money on quality experts and use tools like Six Sigma to continually enhance how businesses operate. A greater knowledge of the quality discipline becomes a strategic asset as a project manager matures.

CONCLUSION

The quality discipline is essential to helping organizations achieve their goals. Organizations may increase their general performance and productivity by putting quality management ideas and practices into practice. Initiatives for process improvement make it possible to find and get rid of inefficiencies, which streamlines operations and increases goal achievement. By reducing mistakes and faults, quality assurance techniques make guarantee that goods or services adhere to set standards. Organizations may actively spot and correct discrepancies via continuous monitoring, ensuring that goals are met.In order to foster a culture of excellence across the organization, effective leadership is essential. Quality efforts must be supported by leaders, who must also establish clear objectives and provide the resources needed for execution. Employee involvement is essential for fostering a quality mentality at all levels and motivating ownership of attaining goals. Employees who complete training programs are better prepared to contribute to initiatives to enhance quality. By encouraging a culture of continual improvement, a strong quality management system makes achieving goals second nature. Organizations must give the quality discipline top priority and integrate it into their operational procedures and strategic goals if they want to prosper in the dynamic and demanding business climate of today.

REFERENCES:

[1]   S. Fàbregues, M. H. Paré, and J. Meneses, "Operationalizing and Conceptualizing Quality in Mixed Methods Research: A Multiple Case Study of the Disciplines of Education, Nursing, Psychology, and Sociology," *J. Mix. Methods Res.*, 2019, doi: 10.1177/1558689817751774.

[2]   S. Mulani, "Relationship Of Transformational Leadership Of School Principle And Teacher Discipline With The Quality Of Education Services," *JKP | J. Kepemimp. Pendidik.*, 2019, doi: 10.22236/jkpuhamka.v2i1.3815.

[3]   M. Wilson, J. Williams, V. Tamara Montrose, and J. Williams, "Variance in stallion semen quality among equestrian sporting disciplines and competition levels," *Animals*, 2019, doi: 10.3390/ani9080485.

[4]   Y. L. Chiu, K. H. Chen, Y. T. Hsu, and J. N. Wang, "Understanding the perceived quality of professors' teaching effectiveness in various disciplines: the moderating effects of teaching at top colleges," *Assess. Eval. High. Educ.*, 2019, doi: 10.1080/02602938.2018.1520193.

[5]   F. D. Rubio-Alcalá, J. L. Arco-Tirado, F. D. Fernández-Martín, R. López-Lechuga, E. Barrios, and V. Pavón-Vázquez, "A systematic review on evidences supporting quality indicators of bilingual, plurilingual and multilingual programs in higher education," *Educational Research Review*. 2019. doi: 10.1016/j.edurev.2019.03.003.

[6]   S. Doyle, "Discipline-Specific Quality Management," in *Quality Management in Forensic Science*, 2019. doi: 10.1016/b978-0-12-805416-1.00006-2.

[7]   R. E. Hohn, K. L. Slaney, and D. Tafreshi, "Primary study quality in psychological meta-analyses: An empirical assessment of recent practice," *Front. Psychol.*, 2019, doi: 10.3389/fpsyg.2018.02667.

[8]   F. Panjaitan, E. T. Sule, and M. Kusman, "The Influence of Human Resource Information System Implementation, Career Development, and Work Discipline on Service Quality: A Survey on Civil Servants in Medan, Indonesia," *SSRN Electron. J.*, 2019, doi: 10.2139/ssrn.3440434.

[9]   D. Couckuyt and A. Van Looy, "Green BPM as a business-oriented discipline: A systematic mapping study and research agenda," *Sustainability (Switzerland).* 2019. doi: 10.3390/su11154200.

[10]   D. Davis, "Students' perceptions of supervisory qualities: What do students want? what do they believe they receive?," *Int. J. Dr. Stud.*, 2019, doi: 10.28945/4361.

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