



**SELINUS UNIVERSITY**  
OF SCIENCES AND LITERATURE

# **VIRTUAL PROJECT MANAGEMENT IN A PANDEMIC ENVIRONMENT**

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## **DECLARATION**

The dissertation titled “VIRTUAL PROJECT MANAGEMENT IN A PANDEMIC ENVIRONMENT” Submitted for the Award for PhD (Doctor of Philosophy) in Business Administration at Selinus University of Sciences and Literature, School of Business and Media; is my original work and the dissertation has not formed the basis for the award of any degree, associateship, fellowship or any other.

The material borrowed from similar titles other sources and incorporated in the dissertation has been duly acknowledged.

The research papers published based on the research conducted out of the course of the study are also based on the study and not borrowed from other sources.

“I do hereby attest that I am the sole author of this thesis and that its contents are only the result of the readings and research I have done”.

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## **CHAPTER 1**

### **1.1) ABSTRACT**

Today we live in a critical juncture of human and planetary evolutionary environment. Rapid growth of human population, hands together with unstoppable changing of modern technology growth of financial aspects, as a species though we have faced and being passing various pandemic situations the world. We have the entire world in the distance of fingertips as we have managed to innovate and developed various tangible and non-tangible things to make our life easier. Every process of innovation and development gone through the most important part of our lives had been innovated and developed by the well popular and known processes of management. Without the management of innovation and infrastructure we would have to still stuck in the stone age.

We have achieved to develop the network infrastructure between two to multiple parties to connect anytime anywhere. And the invention of the internet and variations of network infrastructure has brought the entire world closer to each other and super speedy. Today reality of business, remotely managing projects is the only constant solution we can face to any pandemic situation. The new era has eye witnessed several aspects of change including information technology, battle for superior talents, information overload, diversified environments, customer changing trends and demographics, economical and geopolitical drivers of change during the pandemics. The purpose of this research is to examine effective models of project management changes in organizations which could be applied in real arena of business organizations to use during pandemic situations. This research aims to investigate the interaction between theoretical models of change and implementation of change in real world cases of project management in the business organizations as a reply to any pandemic situation.

### **1.2) INTRODUCTION**

World is converting in to a small and closer community by connected each other with the putting of technology and highly advance network to bring everything closer to each other. Rather than the early ages our connectivity as well the efficiency is much more developed than ever. Since the beginning of world become more developed with advanced technology human needs has led to full fill various needs by producing various products by having the efficient management of producing the goods. One of the most reliable and effective management methods among all of the management methods is project management. Project management can be one of the most critical components of a successful business. Whether the business is big or small, project management affects

revenues and liabilities, and it ultimately interacts with customer or client satisfaction and retention. A company might have only one project ongoing at a time, while other larger corporations and entities might juggle multiple projects at once. By their very nature, projects are temporary long term and/or daily continue. Considering most of the products in the market today every product has gone through a management process from planning to release numerous products to the market to full fill daily needs, this must go through five major categories including Initiating, Planning, Executing, Monitoring & Controlling, and Closing.

When it comes to each situation and strategy, we play the roles in managing projects and products, though humans had managed to work closely with the advanced technology everything had gone upside down with the recent pandemic of coronavirus (COVID-19) and the Russian political propaganda of invading EU countries. Impacts of the pandemics have tested the ability of organizations to effectively deliver projects and programs. Some projects and programs adapted quickly and effectively, with managers and sponsors able to pivot to remote working, while others have had substantial delays or cancellations. Product can be tangible or non-tangible it has gone through a simple or complicated management process to release it to the market. Having knowledge or without the knowledge most of the products are gone to consumers through this management process that can be name as project management. With the management of project management project managers will manage the projects to output the result of every need for the human needs. With the vast development and rapid growth of human population product release process in a best practice such as with the well monitored project management will help us get the highly satisfy results. Having a project manager and product manager onboard with each business will lead into a good result. Some people see the benefits of having a Project Manager on a team, while others do not. Managing tasks and communications cannot be executed effectively without applying project management strategies that is the major reason companies and industries seek for expertise in this field.

### **1.3) RESEARCH PROBLEM**

Sine there are many massive calamities we had been gone through with various pandemic situations of the world we are still surviving and adopting to each situation. Decade after decade new pandemic will rise up to make us challenge and find ultimate solutions. Recently the COVID-19 pandemic has been felt across all industries, sparing little and forever changing the way we live, socialize, and work. Many of us have switched to remote work or telecommuting, while others have faced prolonged layoffs and job losses. In one way or another, we've all felt the devastating blow of businesses

being shuttered from economic instability.

For businesses to survive in a post pandemic world, employing top project managers as well as conducting projects is more crucial than ever. For project managers, the impact of COVID-19 on operations has been catastrophic. A reliance on remote work has obstructed the collaborative approaches often seen within a traditional team environment. Lockdowns and border closures have caused a major disruption to supply chains, and the risk of operating a business and managing projects have skyrocketed. In a world beyond the COVID-19 pandemic, project management remains the key to success for many businesses. During my research I'll examine the future of project management through remote working, upskilling, and the residual effects of the pandemic on various industries.

#### **1.4) RESEARCH OBJECTIVES**

With all the new-normal life while pandemic and post pandemic there is a greater acceptance of remote management by business leaders, managers, and employees. Part of this was forced upon us by the pandemic and the lockdown when remote management became the only available mode, but the experience has taught us that it can work and work well. However, it means that we must rely more challenges such as on leadership skills influencing, motivation, emotional intelligence, and organizational politics to make the remote mode of management work. It is not a new normal anymore for most of the organizations to continue their daily work. Hence pandemic situation as well as the war between Russia and Ukraine has heads up one and only solution to answer them all remote work has rooted in many areas. Business organizations to educational institutes they are all switching in to remote working. Certain companies who had vision on this kind of focused and did business

We now have to have greater respect for the unknown. The pandemic is the latest example of a “black swan” event: something that happens so rarely that people have forgotten that it can happen. To be agile enough to survive and thrive during these kinds of events, whatever they may be, we need to rely more on general preparation instead of specific planning. We need to practice more what if thinking, more estimation of potential error, and more discussion of risk of what ‘might’ happen, backed up with analysis. Because we are no longer working face-to-face anymore, with corresponding ability to read body language and collaborate spontaneously, we need to have an enhanced focus on communication as a primary tool. We need to select the communication tools we will use for our projects and MS-teams tools like Zoom and Slack and we need to be disciplined in how we use them to communicate with each other effectively and efficiently.

In this research I will build the strategies to outcome the identified objectives that I aim to achieve by conducting research. The pandemic has revealed that the future of project management like many other industries is remote working. However, implementing remote work for project management is no easy feat. From facing issues surrounding collaboration and accountability, to inept corporate culture, there are several challenges to overcome when building and managing a digital team. While remote working in project management is an adjustment, there are benefits to managing a team of remote workers, such as the ability to hire top candidates for the open roles across anywhere. To best manage a virtual team, project managers need to focus on clear lines of communication, clear expectations and goals, and direct feedback.

### **1.5) SCOPE OF THE RESEARCH**

Sine, I start my career life I had been gone through various Japan domestic and oversea projects. During all the challenges I was working each of the project I felt that the distance communication and time difference was a big issue to overcome the ordinary obstacles of the project. Hence covid 19 started to haunt the entire world as well as medical emergency declarations issued there were no other options to launch projects other than remote project management. This keep escalating the obstacles of conducting projects pushing them to the barriers of isolating more over communicating issues, times issues, as well as unclear methods of data sharing. At the begin of year 2020 this was a great challenge but gradually organizations are adopting the virtual project management methodologies.

Project management now consists of building and maintaining relationships daily while doing the general work of managing projects over the timeframe of the project and its subdivisions. Monitoring project progress against objectives and milestones is a necessary function. Still, the project manager has to be able to organize, motivate, and facilitate the remotely available teamwork that accomplishes the work towards those objectives. Through relationships, exploration of risk, and analysis, issue management will be the primary aspect. “We don’t know what we don’t know” will be a discussion topic. We will need to be on the lookout for new challenges that may require us to change our plans and even our business models, and we must also be prepared to address these issues as they arise without knowing beforehand what they will be.

The daily push-and-pull of negotiation and influence will focus on ensuring information and support are maintained continuously, as unpredicted issues and risks are quickly brought to the surface and managed. There is a tension between the need to operate efficiently and the need to innovate so that our products and services remain

current with customer needs and wants. During my research my objective will focus on how to overcome the obstacles and find solid solutions for all the objectives.

## **1.6) SIGNIFICANCE OF THE STUDY**

Advantages to securing the best talent wherever they might live. It helps an organization's bottom line. Sometimes, an act of God will disrupt the normal flow of work.

Whatever the reason, virtual project management comes with its own set of challenges that are added to the already difficult task of managing a project. There are traditional protocols for making assignments, managing resources, tracking progress and updating stakeholders, but not when they're in a different locale or a foreign country. How to navigate this brave new world of virtual project management? I'll get to that, but first, it's important to understand the big picture. Virtual project management is the process by which one manages projects via remote or virtual teams. When teams are distributed across different time zones, they still need to get assigned tasks and that work must be monitored and tracked to make sure it stays on schedule. As more teams work from home, virtual project management has become more defined.

While the basics remain the same, such as the life cycle of the project and the various disciplines that go into controlling every aspect of a project, there is a difference. And it's a big one. Those teams being managed are not in one place, but rather scattered over across the four corners of the world. Not having physical contact with one's team creates new obstacles that project managers must overcome. Virtual teams are not going away. They are growing, and project managers must not become complacent and believe that the old rules still apply. Things are changing and project managers must change with them and take their project management into the digital age. Thankfully, project management tools have for some time been moving from analog to digital, and with that transition increasing efficiencies and productivity. So, the move to virtual project management is the great leap it might at first appear. But first, let's look into the trend and why it cannot be ignored.

## CHAPTER 2

### 2.1) WHAT IS PROJECT MANAGEMENT

Project management is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements. Project management is accomplished through the appropriate application and integration of the 47 logically grouped project management processes, which are categorized into five Process Groups. These five Process Groups can be mentioned as.

- Initiating
- Planning
- Executing,
- Monitoring and Controlling
- Closing.

Managing a project typically is not limited to but includes following categories

- Identifying requirements;
- Addressing the various needs, concerns, and expectations of the stakeholders in planning and executing the project; Setting up, maintaining, and carrying out communications among stakeholders that are active, effective, and collaborative in nature;
- Managing stakeholders towards meeting project requirements and creating project deliverables;
- Balancing the competing project constraints, which include, but are not limited to:

- ❖ Scope
- ❖ Quality
- ❖ Schedule
- ❖ Budget
- ❖ Resources
- ❖ Risks

Project management is not the entire operation of a company. It's just one segment, a specified project with a detailed plan as to how project manager and the business are going to achieve that goal. It is a plan detailed in a series of steps, each of them as important as the others. Project manager must achieve one to properly move on to the next. Think of project management as a ladder that must be climbed. Project manager

can't leap to the top. Project manager must take it rung by rung for utmost efficiency. Project managers team must apply the tools made available to them as well as their expertise and knowledge to execute each step and move on to the next. It's easy enough to say project manager want to get to Box A, so project manager is going to take 25 steps in that direction. But project manager must also factor time considerations into project plan, and you most likely have to work within a budget. Project manager might crawl those 25 steps or you might jog. It depends on how quickly you must get there for the successful completion of the project. You can save money by traveling on foot, or you can hire a driver. It depends on the budget dedicated to the project. There are no one-size fits-all approach, system, or plan. Each project how project manager and the business tackle will most likely have its timeline, goal, and budget. That's why it's so critical to have a savvy, talented project manager in place to run the show.

## **2.2) UNDERSTANDING PROJECT MANAGEMENT**

Project management includes: identifying requirements, establishing clear and achievable objectives, balancing the competing demands from the different stakeholders and ensuring that a commonality of purpose is achieved. It is clear that unless there is a structured and scientific approach to the practice of management, organizations would find themselves adrift in the Ocean called organizational development and hence would be unable to meet the myriad challenges that the modern era throws at them. Hence, the importance of project management to organizations cannot be emphasized more and the succeeding paragraphs provide some reasons why organizations must take the practice of project management seriously.

Generally the project management process includes the following main stages that require always to run a project up to completion.

- planning
- initiation
- execution
- monitoring, and controlling
- closing

From start to finish, every project needs a plan that outlines how things will get off the ground, how they will be built and how they will finish. For example, in architecture, the plan starts with an idea, progresses to drawings and moves on to blueprint drafting, with thousands of little pieces coming together between each step. The architect is just



one person providing one piece of the puzzle. The project manager puts it all together. Every project usually has a budget and a time frame. Project management keeps everything moving smoothly, on time, and on budget. That means when the planned time frame is coming to an end, the project manager may keep all the team members working on the project to finish on schedule.

### **2.3) EXAMPLE OF PROJECT MANAGEMENT**

Project management is the art of managing the project and its deliverables with a view to produce finished products or service. There are many ways in which a project can be carried out and the way in which it is executed is project management. Let's say a project manager is tasked with leading a team to develop software products. They begin by identifying the scope of the project. Then they assign tasks to the project team, which can include developers, engineers, technical writers, and quality assurance specialists. The project manager creates a schedule and sets deadlines.

Often, a project manager will use visual representations of workflow, such as Gantt charts or PERT charts, to determine which tasks are to be completed by which departments. They set a budget that includes sufficient funds to keep the project within budget even in the face of unexpected contingencies. The project manager also makes sure the team has the resources it needs to build, test, and deploy a software product. When a large IT company, such as Cisco Systems Inc., acquires smaller companies, a key part of the project manager's job is to integrate project team members from various backgrounds and instill a sense of group purpose about meeting the end goal. Project managers may have some technical know-how but also have the important task of taking high-level corporate visions and delivering tangible results on time and within budget.

### **2.4) NECESSITY OF PROJECT MANAGEMENT**

Thus, project management is about creating structure and managing the project commitments and the delivery of agreed upon results. By using the methods of project management as described in the PMBOK and allied technical journals, organizations can seek to achieve control over the project environment and ensure that the project deliverables are being managed. Managers face what is known as the “triple constraint”. This is the competing demands of time, scope and quality upon the project manager’s list of things to do and how well the project manager manages these constraints goes a long way in determining the success of the project. Without the use of Project Management, managers and organizations would find themselves facing an unpredictable and chaotic

environment over which they have little control. Thus, Project Management is both necessary and essential to the success of the project.

Project Management is too big area to be covered in a few pages and the attempt is to provide concise and lucid definitions of the various terms and terminologies associated with a project. It is important to note that project management provides a framework within which subsequent actions by the organization can be taken and, in this way, it is essential for organizations to adopt the framework provided by the practice of project management.

## **2.5) TYPES OF PROJECT MANAGEMENT**

Since before the pandemic situations occur in the world, many types of project management have been developed to meet the specific needs of certain industries or types of projects. Every project manager knows that selecting the right methodology is crucial to getting the job right. While there is plenty of project management methodologies here with, I've narrowed it down to seven popular ones and what they're best suited for. Let's kick things off with a project management methodology definition.

According to the Project Management Institute (PMI), a methodology is defined as 'a system of practices, techniques, procedures, and rules used by those who work in a discipline. Lean practices, Kanban, and Six Sigma are project management methodologies examples.' They are essentially processes that aim to assist project managers with guidance throughout the project, and the steps to take completing the tasks. Different methodologies have different strategies that aid in managing issues should they arise during the project's delivery.

### **2.5-i) Agile Project Management**

Agile is one of the most recognizable project management methodologies, Agile is best suited for projects that are iterative and incremental. It's a type of process where demands and solutions evolve through the collaborative effort of self-organizing and cross-functional teams and their customers. Originally created for software development, it was established as a response to the inadequacies of the Waterfall method, the processes of which did not meet the demands of the highly competitive and constant movement of the software industry. The computer software industry was one of the first to use this methodology. With the basis originating in the principles of the Agile Manifesto, agile project management is an iterative process focused on the continuous monitoring and improvement of deliverables. At its core, high quality deliverables are a result of

providing customer value, team interactions and adapting to current business circumstances.

Agile project management does not follow a sequential stage-by-stage approach. Instead, phases of the project are completed in parallel to each other by various team members in an organization. This approach can find and rectify errors without having to restart the entire procedure. Agile project management stems from the values and principles of the Agile Manifesto. A declaration cemented in 2001 by 13 industry leaders, its purpose is to uncover better ways of developing software by providing a clear and measurable structure that fosters iterative development, team collaboration, and change recognition.

Made up of four fundamental values and twelve key principles

#### 4 Fundamentals

1. Individuals and interactions over processes and tools
2. Working software over comprehensive documentation
3. Customer collaboration over contract negotiation
4. Responding to change over following a plan

#### 12 Principles

1. Customer satisfaction through early and continuous software delivery
2. Accommodate changing requirements throughout the development process
3. Frequent delivery of working software
4. Collaboration between the business stakeholders and developers throughout the project
5. Support, trust, and motivate the people involved
6. Enable face-to-face interactions
7. Working software is the primary measure of progress
8. Agile processes to support a consistent development pace
9. Attention to technical detail and design enhances agility
10. Simplicity
11. Self-organizing teams encourage great architectures, requirements, and designs
12. Regular reflections on how to become more effective

Because of its adoptively, Agile methodology is commonly used to deliver more complex projects. It uses six main deliverables to track progress and create the product which are the product vision statement, product roadmap, product backlog, release plan, Sprint backlog, and increment. With these features, it establishes itself as a methodology that places an emphasis on collaboration, flexibility, continuous improvement, and high-quality results. Best suited for projects that require flexibility and have a level of complexity or uncertainty. For instance, a product or service that hasn't been built by the team. Agile is a methodology that has methodologies within itself, such as Scrum and Kanban. While some may argue that they should be considered more as frameworks, they are used to develop and deliver a product or service and carry their own set of characteristics and terminology which I think makes them worthy enough to be included on this list.

## **2.5-ii) Scrum Project Management**

Scrum is comprised of five values those are commitment, courage, focus, openness, and respect. Its goal is to develop, deliver, and sustain complex products through collaboration, accountability, and iterative progress. What distinguishes Scrum from the other Agile project management methodologies is how it operates by using certain roles, events, and artifacts.

### **2-5-ii.a) Scrum team roles**

- Product owner: Product expert who represents the stakeholders, and is the voice of the customer.
- Development team: Group of professionals who deliver the product (developers, programmers, designers).
- Scrum master: Organized servant leader who ensures the understanding and execution of Scrum is followed.

### **2-5-ii.b) Scrum events**

- Sprint: Iterative time boxes in which a goal is accomplished. Time frame does not exceed one calendar month and are consistent throughout the development process.

- **Sprint planning:** Where the entire Scrum team get together at the beginning of every Sprint to plan the upcoming sprint.
- **Daily Scrum:** 15-minute time boxed meeting held at the same time, every day of the Sprint, where the previous day's achievements are discussed, as well as the expectations for the following one.
- **Sprint review:** An informal meeting held at the end of every Sprint where the Scrum team present their Increment to the stakeholders, and discuss feedback.
- **Sprint retrospective:** A meeting where the Scrum team reflect on the proceedings of the previous Sprint and establish improvements for the next Sprint.

### **2-5-ii.c) Scrum Artifacts**

- **Product backlog:** Managed by the Product Owner, it's where all the requirements needed for a viable product are listed in order of priority. Includes features, functions, requirements, enhancements, and fixes that authorize any changes to be made to the product in future releases.
  - **Sprint backlog:** A list of the tasks and requirements that need to be accomplished during the next Sprint. Sometimes accompanied by a Scrum task board, which is used to visualize the progress of the tasks in the current Sprint, and any changes that are made in a 'To Do, Doing, and Done' format. Best suited for: Projects that consists of teams of less than seven people who need a flexible approach to delivering a product or service.

### **2.5-iii) Kanban Project Management**

Kanban is another popular Agile framework that, similar to Scrum, focuses on early releases with collaborative and self-managing teams. A concept that was developed on the production line of Toyota factories in the 1940s, it is very visual method that aims to deliver high quality results by painting a picture of the workflow process so that bottlenecks can be identified early on in the development process. It operates on six general practices, which are:

1. Visualization
2. Limiting work in progress
3. Flow management

4. Making policies explicit
5. Using feedback loops
6. Collaborative or experimental evolution

Kanban achieves efficiency by using visual cues that signal various stages of the development process. The cues involved in the process are a Kanban board, Kanban cards, and even Kanban swim lanes for those looking for that extra bit of organization.

- Kanban board: What's used to visualize the development process, a Kanban board can be either physical (a whiteboard, sticky notes, and markers) or digital (like Zenkit's online project management tool).
- Kanban cards: Each Kanban card depicts a work item/task in the work process. Used to communicate progress with your team, it represents information such as status, cycle time, and impending deadlines.
- Kanban swim lanes: Flowing horizontally, Kanban swim lanes are a visual element on the board that allows you to further distinguish tasks/items by categorizing them. Their purpose is to offer a better overview of the workflow.

While there are no set rules of Kanban it works by using a Kanban board to represent the stages of development from the beginning when ideas are produced, to the work in progress, to when the work has been completed. The board's basic structure is three columns labelled as 'To-Do, Doing, and Done' which is rather self-explanatory.

Like most Agile frameworks, Kanban made its mark within the software development industry. However, due to its flexibility it has gained traction in other industries, and is one of a few project management methodologies that can be applied to any project that requires continuous improvement within the development process. Best suited for: Like Scrum, Kanban is fitting for projects with smaller teams, who need a flexible approach to delivering a product or service. Kanban is also great for personal productivity purposes.

## **2.5-iv) Lean Project Management**

Lean methodology promotes maximizing customer value, while minimizing waste. It aims to create more value for the customer by using fewer resources. Stemmed from the Japanese manufacturing industry, its values suppose that 'as waste is eliminated,

quality improves while the production time and cost are reduced.’ This methodology is all about avoiding waste both of time and of resources. The principles of this methodology were gleaned from Japanese manufacturing practices. The main idea behind them is to create more value for customers with fewer resources. There are many more methodologies and types of project management than listed here, but these are some of the most common. The type used depends on the preference of the project manager or the company whose project is being managed.

It identifies three types of waste; muda, mura, and muri, also known as the 3Ms.

#### **2.5-iv.a) Muda**

Muda is about getting rid of waste, and refers to an activity or process that does not add value. It can either be something that is a physical waste of your time or something that is a waste of your resources. Characterized as seven original wastes, they are:

1. Transport: The movement of product between operations and locations.
2. Inventory: The work in progress (WIP) and stocks of finished goods and raw materials that a company holds.
3. Motion: The physical movement of a person or machine whilst conducting an operation.
4. Waiting: The act of waiting for a machine to finish, for a product to arrive, or any other cause.
5. Overproduction: Over producing product beyond what the customer has ordered.
6. Over-processing: Conducting operations beyond those that customer requires.
7. Defects: Product rejects and reworks within your processes.

#### **2.5-iv.b) Mura**

Mura is about eliminating variances in the workflow process at a scheduling and operation level so that everything flows evenly. For example, when publishing a magazine, if an editor spends too much time editing an article, it means that the design team will have less time to create the spread before the publishing deadline comes. Therefore, you would reduce the editing time and ensure every department’s timeframe spent on the article is the same.

### **2.5-iv.c) Muri**

Muri is about removing overload so that the nothing slows down. It refers to managers and business owners imposing unnecessary stress on their employees and processes due to things such as poor organization, unclear ways of working, and using incorrect tools. Instead of implementing certain processes, Lean is more about adhering to a set of principles. The five main principles are; specify value by the customer, identify steps in the value stream, make product flow continuously, allow customers pull value from the next upstream activity, and manage towards removing unnecessary steps. Best suited for: Often mistaken for specializing in manufacturing industries, Lean methodology is ideal for any business or organization that is not looking for a process as such, but is interested in transforming how they conduct doing business.

### **2.5-v) Waterfall Project Management**

This is similar to traditional project management but includes the caveat that each task needs to be completed before the next one starts. Steps are linear and progress flows in one direction like a waterfall. Because of this, attention to task sequences and timelines are very important in this type of project management. Often, the size of the team working on the project will grow as smaller tasks are completed and larger tasks begin. One of the more traditional project management methodologies, Waterfall is a linear, sequential design approach where progress flows downwards in one direction like a waterfall. Originating in the manufacturing and construction industries, its lack of flexibility in design changes in the earlier stages of the development process is due to it becoming exuberantly more expensive because of its structured physical environments.

The methodology was first introduced in an article written in 1970 by Winston W. Royce (although the term 'Waterfall' wasn't used), and emphasizes that you're only able to move onto the next phase of development once the current phase has been completed. The phases are followed in the following order:

1. System and software requirements
2. Analysis
3. Design
4. Coding



5. Testing
6. Operations

Waterfall is a project management methodology that stresses the importance of documentation. The idea is that if a worker was to leave during the development process, their replacement can start where they left off by familiarizing themselves with the information provided on the documents. Pre-Agile saw the Waterfall methodology being used for software development, but there were many issues due to its non-adaptive design constraints, the lack of customer feedback available during the development process, and a delayed testing period. Best suited for: Larger projects that require maintaining stringent stages and deadlines, or projects that have been done various times over where chances of surprises during the development process are relatively low.

### **2.5-vi) Six Sigma Project Management**

Six Sigma is project management methodology first introduced by engineers at Motorola in 1986. It aims to improve quality by reducing the number of errors in a process by identifying what is not working and then removing it from the process. It uses quality management methods, which are mostly empirical and statistical, as well as the expertise of people who are specialists in these methods. There are two major methodologies of Six Sigma carried out by Six Sigma Green Belts and Six Sigma Black Belts, and are supervised by Six Sigma Master Black Belts. They are DMAIC which is used for improving business processes, and DMADV which is more for creating new processes, products or services. The letters stand for:

- Define the problem and the project goals
- Measure in detail the various aspects of the current process
- Analyze data to, among other things, find the root defects in a process
- Improve the process
- Control how the process is done in the future'
- Define the project goals
- Measure critical components of the process and the product capabilities
- Analyze the data and develop various designs for the process, eventually picking the best one
- Design and test details of the process

- Verify the design by running simulations and a pilot program, and then handing over the process to the client'

There is also a Lean Six Sigma methodology which is committed to improving team performance by systematically eliminating waste and reducing variation. Best suited for larger companies and organizations that want to improve quality and efficiency through a data-driven methodology.

## **2.6) What is PMI/PMBOK**

PMI stands for the Project Management Institute which is a not-for-profit membership association, project management certification, and standards organization. Through the PMI, comes the PMBOK which is not quite a methodology but a guide detailing a set of standards that characterize project management. PMBOK stands for the Project Management Body of Knowledge and is a set of standard terminology and guidelines for project management. It states that there are five process groups that are prevalent in almost every project. They are;

1. Initiating: Defining the start of a new project or new phase of an existing project.
2. Planning: Where the scope of the project, objectives, and how the objectives will be achieved.
3. Executing: Actually, doing the work defined in the project management plan.
4. Monitoring and Controlling: When you need to track, review, and regulate the progress and performance.
5. Closing: Concluding all activities across all Process Groups to formally close the project or phrase.

Along with this, it includes best practices, conventions, and techniques that are considered the industry standard. Regularly updating their guide to ensure that they echo the most up-to-date project management practices, the PMBOK is currently up to its sixth edition which was published in print and online in 2017. Best suited for: Because it's more of a reference guide than an actual project management methodology, you can't

implement PMI/PMBOK to a project. However, it can be used for when you want to weigh in on the best practices for your project.

## **2.6-i) Best practices in project management**

Effective project management is often the “secret sauce” of an agency’s success, more so than sheer creative brilliance. Being good at managing projects is usually a matter of following project management best practices. These “best practices” are usually derived from project management methodologies, international standards, industry conventions, and the organization’s own guidelines from past projects. As PMI says, any “way of doing things” within an organization can be considered a best practice. Often, these “best practices” will vary from organization to organization. Some, however, are applicable across organizations and can radically improve project performance. There are some best practices for project managers: establish a great relationship with the team and enhance team communication, prioritize and delegate the responsibilities; be the single point of contact; form a systematic approach to removing obstacles; document meetings; celebrate small wins with the team.

### **1. Ensure that all stakeholders understand the requirements**

A common factor in failed projects is a lack of uniform understanding of the project's requirements among stakeholders. If your project team and client have different estimations of the project's scope, you're going to run into problems. To solve this issue, get all stakeholders together in the concept phase. Ask them the following questions to ensure that they're on the same page about the project's requirements and scope:

- What are the project's deliverables?
- What are the project's goals and realized benefits?
- What is the expected product/service/result of the project?
- How do you define "success" for the project and its key deliverables?
- What defines the validity or completeness of the key deliverables?
- Are there any risks everyone should be aware of?
- What are the project budget, time, and performance constraints?

### **2. Create a risk response team**

Things can - and often will - go wrong. A key resource might drop out, a stakeholder might pull funding, and an important tech component might break. Ideally, you would

have all these issues accounted for in your project risk management plan. Another best practice to mitigate risk is to create a risk response team. This team should be comprised of experienced members who have wide-ranging access to plan, monitor, and control risks in the project.

Its most important job, however, is to swing into action in case of emergencies. The team should have the experience and training necessary to save projects when mishaps happen. Essentially, your risk response team should think of worst-case scenarios and develop contingency plans. For instance, in a creative project, a few key resources dropping out can derail the project completely. In such a case, the risk response team would be tasked with finding backup resources, both within the company and outside it.

### 3. Develop and formalize project management roles

Project management isn't just the project manager's responsibility. If you dig deep, you'll find that several people within your organization perform some PM duties, formally and informally. One of the more popular project management best practices is to identify, develop, and formalize these roles.

For example, a senior developer regularly assists the project manager in developing a schedule. While this developer might have experience, he doesn't have the formal knowledge or executive powers to perform his project management role adequately. A little bit of training and formalization of his role can help him become a better project scheduler. Carefully analyze the past projects and take stock of every person within the organization who played a role in project management. Ask yourself: Does this role need to be formalized? If yes, what certifications and training are necessary to improve performance in this role? You'll find that getting people to "level up" in their PM responsibilities takes the burden off the project manager and improves project performance across the board.

### 4. Develop leadership competencies alongside technical competencies

Often, organizations focus too heavily on their project managers' technical competencies (i.e. their formal PM knowledge, certifications, etc.). As a result, the "softer" side of project management - leadership, empathy, people skills, etc. - suffers. Given how heavily project managers interface with clients and internal stakeholders, it is crucial that you help them develop their leadership competencies alongside their technical ones. Leadership capabilities are particularly important when you're dealing with a complex set of resources - as in an agency setting. You can't always develop a schedule

for creative work and expect it to be 100% perfect every time. Often, you'll have to use leadership, motivation, and empathy to get creative talent to do its best.

#### 5. Adopt better scheduling standards for technical work

More than half of IT projects fail. One meta-analysis of failed projects concluded that a vast majority of IT projects fail because of process mistakes (45%) or people mistakes (43%). If you're dealing with technical work, one of the most important things you can do to improve your success rate is to use better scheduling and estimations. Technical work has a tendency to "bloat" beyond your original estimates, leading to budget inflation and delivery delays. It doesn't help that the people involved in scheduling and estimating - project managers - often don't have an understanding of the actual technical issues involved.

One way to solve this problem is to use developer-based estimating. This means giving over the reins to your development team and asking them to create a schedule. Since these are the people closest to the work, their estimates are liable to be more accurate. Other ways to improve scheduling is to use algorithms such as COCOMO II, historical data for similar projects, and scheduling software such as QSM SLIM-Estimate, SEER-SEM, etc.

#### 6. Define and evaluate quality standards throughout the project's lifecycle

A common problem in creative projects is the rather ill-defined idea of "quality" all deliverables have to adhere to. What might be an excellent result for one client can be sub-par for another. You should have a clear idea as to what constitutes "quality" throughout the project's lifecycle. This must be based on standards acceptable to every stakeholder, especially the people on both sides who have to sign-off on the final deliverables.

Some ways to do this are:

- Break the project into multiple stages. Get stakeholders to sign-off on deliverables at each stage.
- Establish objective criteria for quality measurement. This can be hard for creative work, but comparing against industry benchmarks and the client's past projects works well.
- Document and share processes with stakeholders on both sides. Often, showing the path to the end result validates its quality as well.

- Establish a baseline for quality that all stakeholders agree to. As long as the project meets this baseline, it would be considered "successful".
- Back claims with data whenever you can. For example, if you want to show the impact of a new website design, run a quick A/B test to show how it compares to the previous one.

## 7. Make the project more transparent

Essentially, it means making your project data more open. Instead of simply assigning milestones to an individual, show them how their work ties into the rest of the project. This can create a greater sense of responsibility within the team ("I don't want to hold up my team members' work") and sense of achievement ("I helped build this crucial component"). Knowing how an individual's work interfaces with the rest of the team can also enhance teamwork and prevent projects from being derailed because of a single individual. Besides milestones and tasks, there are a number of other project activities that can benefit from greater transparency:

**Project communication:** Enabling transparency in project communication helps team members see the entire process that leads to a decision, and not just the decision in itself. Opening up communication to everyone can also help in decision making by leveraging the "wisdom of the crowds" model. **Project budget and time:** Sharing the amount of budget and time consumed/available can help team members orient themselves better and evaluate their own priorities. You don't have to share detailed project budget data; just the part that impacts the team's work. **Project changes:** If there is any change in the project's scope, budget or deadline, keep your team cued in. Explain to them what exactly changed, why it changed, and how it impacts their work. This can improve team morale and help them trust you more.

## 8. Emphasize the project's "purpose"

As E&Y's study reveals, purpose-driven organizations boast higher employee satisfaction, better quality products, and greater customer loyalty. Focusing on each project's purpose is crucial in an agency setting. It's common for one employee to work on multiple projects simultaneously within the agency. If the employee doesn't know how his work contributes to the project's or the business' success, it can lead to long-term demotivation and dissatisfaction.

This rule applies to outside contractors as well. Freelancers often have limited visibility into the project and the organization's goals. This forces them to focus on short-term deliverables, not the long-term impact of their work. Solve this problem by focusing on the purpose and impact of the project. Share results - current or expected - with team members. Tell them how the project can help the client grow revenues, improve customer satisfaction, etc. If the project has an environmental component, make it clear to the team as well.

#### 9. Build a "super team" to take care of repetitive tasks

In any agency, you'll likely have a series of tasks that need to be performed on a regular basis on most projects. Sometimes, the people performing these tasks can become better at them simply by virtue of doing them repeatedly.

A best practice to maximize the impact of your resources would be to create a "super team" of experts trained in specific, repetitive tasks. This team would not be affiliated with any particular project or team. Instead, they would move from project to project, performing just the target task. For example, a marketing agency might need to undertake an SEO audit for all new clients. Instead of a person within each team handling this task, you can create a team of SEOs who focus only on performing audits. This team would come in at the start of each project, run an SEO audit, and move on to the next project. Such specialization can bring in much-needed efficiencies if you work with a large number of similar clients.

#### 10. Find the "Goldilocks Zone" for multiple team membership

It is increasingly common for one employee in an agency to be a part of multiple teams. Contrary to popular belief, multiple team membership (MTM) can actually improve individual employee performance - until it doesn't. Being a part of several teams improves individual performance since the person gets exposed to different ideas and perspectives. However, once this improved performance hits its peak, the cognitive load of task switching and fragmented attention takes a toll. Beyond a point, being a part of any additional teams has a negative effect.

Which is to say, there is a "Goldilocks Zone" of multiple team membership that is just right for individual and team performance. Finding this perfect point that balances performance and MTM can be hard. Following these pointers can help. Select people who have demonstrated comfort with task switching for high MTM situations. Assign low-level tasks with limited cognitive impact to people who are a part of multiple teams.

Monitor project performance closely and reduce membership to multiple teams if you see a drop in individual performance

#### 11. Check-in frequently and regularly

In 2015, Deloitte performed a wide-ranging study to evaluate its performance management system. The study revealed that for a majority of managers (58%), the existing system was inadequate in improving employee engagement and performance. Checking in regularly and frequently is one of the easiest project management best practices you can adopt, and certainly among the most impactful. Regular check-ins create a sense of accountability and shared responsibility between managers and team members. It tells your people that there is someone looking over their shoulder and is ready to help them improve, when necessary.

Check-ins are even more important if you have remote employees. In a survey of 1,100 remote workers, 46% said that the most successful managers checked in regularly with them. The same study revealed that the frequency of check-ins doesn't matter as much as the consistency. You can check-in daily, weekly, bi-weekly or monthly; as long as you do it on schedule every time, you will hold your team accountable.

#### 12. Consolidate all project-related information and data

Your project management best practices will often spring from your organization's experiences and knowledge. Having all project-related data in a single place can help you leverage this past knowledge to deal with future issues. Think of consolidating all project-related information into a centralized knowledge base. Anyone working in project management related roles should be able to freely access this information.

Here are a few things that can be a part of the knowledge base:

- Tools, templates, and project-related software
- Project schedules and budgets
- Past project information, especially lessons learned from project post-mortems
- A catalog of all organizational project resources
- A list of all project management best practices
- Collaboration forums/chat groups



This can be a powerful resource for all current and future project managers. Keeping it up to date should be a priority for all project roles.

### 13. Track and correct deviations from project plans

It is inevitable that your team will stray from your originally conceived plans. They'll miss deadlines, go over-budget, and find risks not covered in your risk management plan. One best practice that can improve current and future project performance is to track all these deviations and correct them as quickly as possible. Gather reports and hold meetings regularly to identify when things are going off-target. As long as you are within the baseline originally stated in the project plan, you are doing well.

Tracking the following metrics can help you in estimating your deviation from the project plan: Budgeted Cost of Work Performed (BCWP): Your planned budget for the work completed by any given date. Budgeted Cost of Work Scheduled (BCWS): Your planned budget for the work scheduled by any given date. The difference between BCWS and BCWP tells you how far you are from your original deadlines.

Actual Cost of Work Performed (ACWP): How much of the budget you've actually used by any given date. The difference between ACWP and BCWP gives you the deviation from the project plan. Keeping a close eye on these metrics can help you take corrective measures before the project goes off-budget.

### 14. Develop a process to escalate issues correctly

A common cause of project failure is that important stakeholders and sponsors aren't alerted to issues until it is too late. Problems that can be solved by senior people often linger at the bottom of the organization for fear of rebuke or censure. Start by developing an issue escalation matrix as part of your project management plan.

1. A process to identify the intensity or magnitude of an issue
2. Escalation paths for different issue levels
3. Create a culture where team members are comfortable escalating issues to higher management without fear of censure

When dealing with outside vendors, wait for their service level agreements before escalating the issue. Escalate only one issue to only one stakeholder at a time. Don't involve stakeholders who aren't affected by the issue. When escalating issues, identify the intensity of the problem, give contextual data, and offer suggestions on corrective

measures

### 15. Practice empathy

The last, but certainly the most important best practice, is to practice empathy. Empathize with your clients, your resources, and your end users. Understand their problems, their needs, and their challenges. No project exists in isolation; if you're creating something, it will affect real people in some very real ways. Practicing empathy will help you understand the true impact of your work and how you can do it in the best possible way. Empathy is particularly important in creative agencies. The work you do will often go out in the world and be seen by thousands, even millions. It will impact careers and entire companies. Knowing how the project affects end users, clients, and stakeholders will help you deliver better results.

There is no prescription for practice empathy; you just have to place yourself in the shoes of other people. Think of everyone involved in the project and how it affects them. Identify what they truly want to achieve with it. The client might want more sales, but the senior stakeholder might want to use the project to jockey for a promotion. Similarly, a stakeholder on your side might see the project as his "baby". His motivations to promote it will be very different from the client. Take cognizance of all these different perspectives when you're planning the project and you'll see your success rates skyrocket.

### 16. Conduct Regular Client Status Meetings

Checking-in regularly applies not just to team members, but also clients. It's easy to slip into a pattern of reduced communication when you're dealing with client who, according to you, is "happy". But unless you check-in regularly, you might not know if the client is truly satisfied or not.

From a project manager's perspective, frequent client contact can also be good for your job. When the client is in the loop the whole way through, feels like you are communicating everything, and feels like you have their best interests in mind, they are rarely unhappy. They are willing to work with you, not contact your CEO and complain about you.

To formalize this process, consider conducting regular client status meetings. Ideally, you need to be held at least once a week to keep everyone engaged and on the same page. Your client is likely busy, but you want to keep them engaged and available

to you even if they are booked on their real day job. Assign them a few tasks to manage and ritually conduct weekly project status calls... you won't be sorry.

#### 17. Become Politically Savvy

As project managers we need to understand our team and their individual characteristics as much as possible. Each person's individual knowledge of human nature will go a long way in making a skilled project manager also a good resource manager. Know how your team works, know their chemistry. Having a good understanding of human nature will give you insight into how to manage and motivate your team to accomplish the goals of the project.

A part of this is understanding politics. As much as we may hate the politics side, we need to be or become politically savvy. There are going to be those times when we have to negotiate, be connected, and pull some strings in order to get certain things done on the project and for the project. This usually occurs when you're trying to obtain a key resource or get a roadblock handled by someone in your organization. At any rate, it is important that the project manager be somewhat politically savvy in order to get key work accomplished. Network in your organization and gain visibility if you don't have enough of it yet. The quiet project manager doesn't get the things he needs for his project.

#### **2.5-ix) Objectives of a project manager**

Project managers are the connectors between business and technology. They make sure that the project stays on track and is delivered within the agreed timeline and cost. From begin to the closing phase of a project it is the responsibility of project manager day-to-day management of the project and must be competent in managing the six aspects of a project, i.e. scope, schedule, finance, risk, quality and resources. Project managers work on specific projects that have definite outcomes, have time limits and have to stay within a budget.

A project manager is a person who has the overall responsibility for the successful initiation, planning, design, execution, monitoring, controlling and closure of a project. Construction, petrochemical, architecture, information technology and many different industries that produce products and services use this job title. The project manager must have a combination of skills including an ability to ask penetrating

questions, detect unstated assumptions and resolve conflicts, as well as more general management skills.

Key among a project manager's duties is the recognition that risk directly impacts the likelihood of success and that this risk must be both formally and informally measured throughout the lifetime of a project. Risks arise from uncertainty, and the successful project manager is the one who focuses on this as their primary concern. Most of the issues that impact a project result in one way or another from risk. A good project manager can lessen risk significantly, often by adhering to a policy of open communication, ensuring every significant participant has an opportunity to express opinions and concerns. A project manager is a person who is responsible for making decisions, both large and small. The project manager should make sure they control risk and minimize uncertainty. Every decision the project manager makes must directly benefit their project.

Project managers use project management software, such as Microsoft Project, to organize their tasks and workforce. These software packages allow project managers to produce reports and charts in a few minutes, compared with the several hours it can take if they do it by hand.

These tasks typically include:

- Planning and Defining Scope
- Activity Planning and Sequencing
- Resource Planning
- Developing Schedules
- Time Estimating
- Cost Estimating
- Developing a Budget
- Documentation
- Creating Charts and Schedules
- Risk Analysis
- Managing Risks and Issues
- Monitoring and Reporting Progress
- Team Leadership
- Strategic Influencing
- Business Partnering
- Working with Vendors

- Scalability, Interoperability and Portability Analysis
- Controlling Quality

Benefits realization The project management role is really important to the overall operations of any company. Successful projects are equally attributed to the on-site and off-site team. Working away from the site specially in a pandemic situation like starting from 2020 till now, and tackling all the roles and responsibilities surrounding the project management team is essential in the overall efficiency and productivity of the on-site team. These guys pave the way for effective day-to-day tasks as they plan and schedule ahead of the actual work done. This goes especially for the construction industry. Construction management tasks usually deal with resource allocation, workforce scheduling, and dealing with project dependencies that are uniquely difficult to manage and monitor remotely.

### **2.5-x) project management skills**

Project managers can develop skills that can serve them well throughout their career team management and team building, time and meeting management, good judgment, communication, transparency, delegation, and trust. These are perennial management skills that come with time, attention, and practice. Project management skills are the necessary traits and competencies you need to be a successful project manager.

While “project manager” seems like a fairly straightforward job title, this role is responsible for far more than keeping projects on track. A project manager needs to:

- Plan projects from conception to implementation
- Map out timelines
- Assess project risks and opportunities
- Execute each phase of the project life cycle
- Create, allocate, and manage the budget
- Communicate with all stakeholders
- Troubleshoot problems and challenges
- Deliver (and often maintain) the end product or service

#### **1. Planning and forecasting**

It goes without saying, but proper project management requires skilled planning. This can be challenging, especially since many project managers need to make educated guesses about timelines and required resources. That’s where forecasting comes into play.

Project managers need to use any information they have to make predictions and estimates.

## 2. Risk management

Every project has risks. Perhaps a resource won't be available when you need it, or delayed approval from a client will set your timeline back a few days. Project managers are responsible for not only navigating around risks but anticipating them so that they can try their best to avoid them altogether.

## 3. Budgeting

Only 2.5% of companies successfully complete all of the projects they take on. The rest go over schedule, over budget, or both. Project managers know that there are financial constraints they need to work within, and they use their budgeting and financial management skills to deliver winning projects within those limitations.

## 4. Tracking and monitoring

Project management isn't just about completing a project it's about completing a successful project. That won't happen if project managers fail to keep their fingers on the pulse. They need to use their performance tracking and monitoring skills to ensure projects are running according to plan and still supporting the broader business goals. If not? They'll course-correct when necessary.

## 5. Project management methodologies

From Agile to Waterfall, there are numerous project management methodologies and approaches. These outline specific principles for overseeing and completing projects. Experienced project managers are familiar with those methodologies and can determine which ones are the best fit for their specific teams and projects.

## 6. Meeting facilitation

Kickoff meetings, status updates, retrospectives the typical project process has many meetings, most of which are led by the project manager. For that reason, a project manager needs to be skilled at facilitating meetings, including creating an agenda, documenting notes, and following up on action items.

## 7. Subject matter expertise

Project managers work in a variety of industries, from construction to IT and everything in between. While it's not an absolute necessity, it's helpful for the project

manager to have a basic familiarity with the industry and the types of projects they're managing. This level of expertise will help them more accurately estimate costs, timelines, and resource requirements.

#### 8. Project management software

The best project managers know better than to try to coordinate all of the elements of a project with jumbled spreadsheets and task lists. Instead, they're experts at using project management software like Wrike to centralize communication, streamline collaboration, and iron out project plans.

#### 9. Leadership

Project managers are the project leaders and often, the team leaders too. They're responsible for setting the team's vision and ensuring everyone is on board and motivated to bring the project through each phase. This requires getting buy-in from executives and project team members. These leaders should also equip people with the time, tools, and other resources they need to handle their to-do lists.

#### 10. Communication

Any project management skills list is sure to include communication near the top. This includes written and verbal communication. Project managers need to ensure that team members and stakeholders are informed about the project plan, timeline, and budget and updated on the project's latest happenings.

#### 11. Collaboration

It typically takes a village to complete a project. The project manager is tasked with rallying team members around the project vision, coordinating tasks, and ensuring that everybody works together effectively. To make that happen, a project manager needs to be a skilled collaborator. This also involves conflict resolution; as occasional project-related disagreements are unavoidable.

#### 12. Time management

Every project manager will have numerous demands placed on their time especially since they're acting as the point of contact for so many departments and team members. They must be able to manage their own time and the time and capacity of all of the project's key players.

### 13. Organization

Deadlines, resources, task dependencies it's enough to make anybody's head spin, but a project manager views it as a fulfilling challenge. The best project managers are exceptionally organized and able to keep track of all of the moving pieces.

### 14. Problem solving

As much as you'd like to think that your project will go off without a hitch, unexpected issues are bound to crop up. Project managers can't be discouraged by a problem. Instead, they need to develop solutions to keep the project moving forward even when the best-laid plans fall apart.

### 15. Adaptability

Project managers need to be adaptable. While planning is a core skill, they can't be so rigid with their strategies that everything falls apart the moment something unanticipated happens. Project managers need to rebound quickly, roll with the punches, and find ways to keep the project moving forward.

## **2.2-xi) Project managers tasks to manage a project effectively.**

In order to manage a project effectively in the middle of a pandemic situation, the project manager should put efforts to structure team work. The key elements are trusting the team, setting the right deadlines, as well as delegating tasks. Flagging risks early is also essential. Managers have to prepare for meetings and keep a habit to document them. It is a daunting task to manage a project from start to finish – or any number of tasks for that matter. Usually, such problems arise as a result of a person not being equipped with project management certifications. In an alternate case, I have also seen many certified individuals, who lack experience despite having the proper credentials for it.

Does project scope, Critical Path Method, project process, Prince2, and Scrum ring a bell in your mind? If so, then this write-up will help you to manage a project from the very start to finish – even if you are not a professional yet. The truth is that everyone needs to know project management concepts even if you are not a professional project manager. It helps in achieving your project goals more easily as everyone works to make their “task” a huge success. Projects can be complex in reality but they follow a common project management process. Alternatively, there could be a bunch of processes in place.



This stuff varies from project to project and/or from industry to industry. Take a brief gander at the appended tips.

### 1. Project concept and initiation

The very first step in the project management process is to settle down with your project concepts and initiation led by your project idea. This “initiation” phase may start from a piece of paper and pen to help draw your project idea on what’s needed to be done. It is better to do some research on your project, jot down major points, and get approval(s) from stakeholders. This is the stage where your project charter is developed. The project charter is the document where you decide the overall project scope, objectives, and team management.

### 2. Project definition and planning

In this project process step, you need to define your project plan and list down all the work that is needed to be done in the project. You will have to answer, the: Who, What, Where, When, and How’s of your project. The success of your project is inherent in project planning. The better the plan is, the better would be your project outcome. Professional project managers will tell you about the success of your project by looking at your project planning. They are very meticulous that way. You will also need to decide the project budget, project scheduling, and resource management in this step of the project management process. These items might change during the course of your project execution, but it is a good practice to plan everything in advance.

### 3. Project execution and delivery

This is the kick-off stage of your project. You will start your project by gathering all the required resources at the initial stage and focus to complete your assigned tasks. At this stage, you will have to manage the communication, project team, quality, and project deliverability. It is better to have a project kick-off meeting to help you set the project delivery pace. During the meeting, you will be collaborating with your team; discuss the tasks at hand, project timeline responsibilities, and other variances.

### 4. Monitoring and controlling project performance

Moving on, you need to make sure that everything is working fine for you and ensure that the project plan is followed. This is done constantly throughout the project timeline from start to finish. It helps in measuring the project performance and matching the results with your set targets. You will need to set your concerned project KPI’s during

the project planning stage, and need to monitor and control your actions to help meet your desired goals.

## 5. Project Closing and Evaluation

At this stage, you are required to wrap up your project after completing its objectives. If your project is completed with full satisfaction, then you must move on to the next project. If not, then you need to work on improving the results and achieving your project goal.

At the project closing stage, you will evaluate your project delivery with the help of KPI indexes, whether the targets are achieved or not. The project will be evaluated on the basis of quality, speed, accuracy, and deliverability. After the project is successfully evaluated, it is considered good practice to learn about your project team competency. Furthermore, you can decide on how to work to get better results in your next project.

### **2.6-v) Pillars of project management**

The three essential components of project management are processes, resources, and people. A successful project manager must effectively manage the resources assigned to the project, including members of the project team. In compiling this list of project management success factors, including looking at why projects failed (with the rationale they failed because they did not use /apply that particular activity), there seems to be three broad groupings / categories. I call these my “Three Pillars of Project Management.” The pillars provide the foundation for successful project management. Another analogy would be the three legs of project management. In both scenarios, take any one away and the project fails.

### **2.7) STRUCTURE OF A PROJECT**

A project is a temporary endeavor undertaken to create a unique product, service, or result. The temporary nature of projects indicates that a project has a definite beginning and end. End will reach when the project’s objectives have been achieved, done or when the project is terminated because its objectives will not or cannot be met, or if the project no longer exists. A project may also be terminated if the client (customer, sponsor, or champion) wishes to terminate the project. Temporary does not necessarily mean the

duration of the project is short. It refers to the project's engagement and its longevity. Temporary does not typically apply to the product, service, or result created by the project; most projects are undertaken to create a lasting outcome. For example, a project to build a national monument will create a result expected to last for centuries. Projects can also have social, economic, and environmental impacts that far outlive the projects themselves.

Every project creates a unique product, service, or result. The outcome of the project may be tangible or intangible. Although repetitive elements may be present in some project deliverables and activities, this repetition does not change the fundamental, unique characteristics of the project work. For example, office buildings can be constructed with the same or similar materials and by the same or different teams. However, each building project remains unique with a different location, different design, different circumstances and situations, different stakeholders, and so on.

#### **2-7-i) Purpose of a project**

- A product that can be either a component of another item, an enhancement of an item, or an end item in itself;
- A service or a capability to perform a service (e.g., a business function that supports production or distribution);
- An improvement in the existing product or service lines (e.g., A Six Sigma project undertaken to reduce defects); or
- A result, such as an outcome or document (e.g., a research project that develops knowledge that can be used to determine whether a trend exists or a new process will benefit society).

#### **2-7-ii) Project Examples**

- Developing a new product, service, or result;
- Effecting a change in the structure, processes, staffing, or style of an organization;
- Developing or acquiring a new or modified information system (hardware or software);
- Conducting a research effort whose outcome will be aptly recorded;

- Constructing a building, industrial plant, or infrastructure; or
- Implementing, improving, or enhancing existing business processes and procedures.

### **2-7-iii) Relationships Among Portfolios, Programs, and Projects**

The relationship among portfolios, programs, and projects is such that a portfolio refers to a collection of projects, programs, sub-portfolios, and operations managed as a group to achieve strategic objectives. Programs are grouped within a portfolio and are comprised of subprograms, projects, or other work that are managed in a coordinated fashion in support of the portfolio. Individual projects that are either within or outside of a program are still considered part of a portfolio. Although the projects or programs within the portfolio may not necessarily be interdependent or directly related, they are linked to the organization's strategic plan by means of the organization's portfolio.

### **2-7-iv) Elements of a Project**

A successful project manager must simultaneously manage four basic elements of a project. These elements are interrelated.

- **Scope:** This involves the project's size, goals, and requirements.
- **Resources:** People, equipment, and materials in place.
- **Time:** This does not just address how much time the project will take overall. It must be broken down into task durations, dependencies, and critical path.
- **Money:** Have a firm grasp on costs, contingencies, and profit.

The project scope is the definition of what the project is supposed to accomplish and the budgets of time and money that have been created to achieve these objectives. Any change to the scope of the project must have a matching change in budget, time, resources, or all three. If the project scope is to construct a building to house three widgets on a budget of \$100,000, the project manager is expected to do that. If the scope is changed to a building for four widgets, the project manager must obtain an appropriate change in time, money, and resources. While it is great to embrace the knowledge and read about the perfect processes to lead a team, it is also crucial to understand that there is no single perfect process that can be applied universally. In this article, I will run down

the most important skills that can help you to become a better project manager, regardless of the technique, framework, or methodology you use.

Project management involves the planning and organization of a company's resources to move a specific task, event, or duty towards completion. It can involve a one-time project or an ongoing activity, and resources managed include personnel, finances, technology, and intellectual property. Project management is often associated with fields in engineering and construction and, more lately, health care and information technology (IT), which typically have a complex set of components that have to be completed and assembled in a set fashion to create a functioning product.

No matter what the industry is, the project manager tends to have roughly the same job to help define the goals and objectives of the project and determine when the various project components are to be completed and by whom. They also create quality control checks to ensure completed components meet a certain standard. On a very basic level, project management includes the planning, initiation, execution, monitoring, and closing of a project. Many different types of project management methodologies and techniques exist, including traditional, waterfall, agile, and lean. Project management is used across industries and is an important part of the success of construction, engineering, and IT companies.

## **CHAPTER 3**

### **ONLINE WORLD**

#### **3.1) DESCRIBING THE ONLINE WORLD**

Since the first discovery of computers and the upgrade of various IT infrastructure invents it was the first discovery of the virtual connectivity discovered and led a long journey of human evolution with the online world. When AOL Instant Messenger launched in 1997, introducing the world to a new concept of digital interaction, only 18 percent of households had Internet access and access was limited by race and socioeconomic status. Within two decades, 92 percent from all demographic areas reported going online daily. Because the digital world has so rapidly expanded as an extension of the supply for the demand of the society everything we used to do traditionally had gone online with the remote access.

Virtual world (also called a virtual space) is a computer simulated environment which may be populated by many users who can create a personal avatar, and simultaneously and independently explore the virtual world, participate in its activities and communicate with others. These avatars can be textual, graphical representations, or live video avatars with auditory and touch sensations. In general, virtual worlds allow for multiple users but single player computer games, such as The Elder Scrolls V: Skyrim, can also be considered a type of virtual world. The user accesses a computer-simulated world which presents perceptual stimuli to the user, who in turn can manipulate elements of the modeled world and thus experience a degree of presence. Such modeled worlds and their rules may draw from reality or fantasy worlds. Example rules are gravity, topography, locomotion, real-time actions, and communication. Communication between users can range from text, graphical icons, visual gesture, sound, and rarely, forms using touch, voice command, and balance senses.

##### **3.1-i) Benefits of the online world**

The Internet has turned our existence upside down. It has revolutionized communications, to the extent that it is now our preferred medium of everyday communication. In almost everything we do, we use the Internet. Ordering a pizza, buying a television, sharing a moment with a friend, sending a picture over instant messaging.

Before the Internet, if someone wanted to keep up with the news, they had to walk down to the newsstand when it opened in the morning and buy a local edition reporting what had happened the previous day. But today a click or two is enough to read your local paper and any news source from anywhere in the world, updated up to the minute.

The Internet itself has been transformed. In its early days which from a historical perspective are still relatively recent it was a static network designed to shuttle a small freight of bytes or a short message between two terminals; it was a repository of information where content was published and maintained only by expert coders. Today, however, immense quantities of information are uploaded and downloaded over this electronic leviathan, and the content is very much our own, for now we are all commentators, publishers, and creators. The emergence of web 2.0 in the first decade of the twenty first century was itself a revolution in the short history of the Internet, fostering the rise of social media and other interactive, crowd-based communication tools. The Internet was no longer concerned with information exchange alone: it was a sophisticated multidisciplinary tool enabling individuals to create content, communicate with one another, and even escape reality. Today, we can send data from one end of the world to the other in a matter of seconds, make online presentations, live in parallel “game worlds,” and use pictures, video, sound, and text to share our real lives, our genuine identity. Personal stories go public, local issues become global.

The rise of the Internet has sparked a debate about how online communication affects social relationships. The Internet frees us from geographic fetters and brings us together in topic-based communities that are not tied down to any specific place. Ours is a networked, globalized society connected by new technologies. The Internet is the tool we use to interact with one another, and accordingly poses new challenges to privacy and security. Information technologies have wrought fundamental change throughout society, driving it forward from the industrial age to the networked era. In our world, global information networks are vital infrastructure but in what ways has this changed human relations? The Internet has changed business, education, government, healthcare, and even the ways in which we interact with our loved ones it has become one of the key drivers of social evolution.

### **3.1-ii) Goods and bad about use of online world**

Let’s start with the resoundingly positive attributes of the Internet. Firstly, it makes life extraordinarily easier. Banking, shopping, and direct communication with other

individuals and businesses are all simpler and faster. People can get more done in a shorter amount of time. It makes people smarter by providing them access to a knowledge base unprecedented in human history. It provides the opportunity to connect with like-minded people from anywhere in the world at minimal cost, giving people the ability to do wonderful things for others whom they may have never met. It provides businesses and individuals, alike, the access to better opportunities, more knowledge, and interactions with people who matter to them.

Speaking of business, it has changed things for entrepreneurs precipitously. Data storage and retrieval is faster. Cloud platforms of all types offer software, hardware, security, and development platforms that reduce the enormous capital costs many organizations were spending on their IT. It gives organizations access to a glut of resources, no more important than a growing mobile workforce that is available around the clock, promoting better productivity. It provides the opportunity to streamline all types of work, whether it be reducing face-to-face interactions with your vendors, or utilizing tracking software that helps administrators build more efficient business practices.

The Internet has provided a social outlet to people who didn't have one. The use of social media has revolutionized the way people share and communicate. Each person has the freedom to do whatever they choose online, and often this results in positive action. Many important groups that have been marginalized for one reason or another are now able to promote their platforms thoroughly. There are some things about the Internet that many people can give or take. In fact, for every benefit listed above, there is a drawback. The easier access to information opens the door for more misinformation. For all the ease of banking, shopping, and communication there are threat actors looking to steal resources and personal information for profit. For every like-minded person you meet, you meet all manners of Internet trolls and other undesirable people.

Social media has had an amazing amount of influence, but for all the good that it does, it also creates what is known as a "toxic mirror" effect. This is the concept of making people feel bad about themselves by constantly being exposed to information that would make them create negative opinions about themselves. The toxic mirror makes anything that isn't physical, emotional, and mental perfection, ugly and bad.

Beyond the toxic mirror, many people use social media in ways that hurt the people around them. The manifestation of a social persona can often present the opportunity for a user to put out very public misinformation. This break from reality



further muddies people's ability to properly identify risk, putting them in harmful situations. The Internet is filled with trolls, stalkers, and bullies. These groups are allowed to run rampant, as people don't have a lot of resources to ward against them. These individuals hide behind their Internet persona, making civil action against them extremely difficult. Cyberbullying, specifically, can cause great harm to people of all ages.

### **3.1-iii) How we use online world today.**

As long as the lifetime of any human being online world has become one of the most required fields to continue our day to day lives. The Internet has turned our existence upside down. It has revolutionized communications, to the extent that it is now our preferred medium of everyday communication. In almost everything we do, we use the Internet. Ordering a pizza, buying a television, sharing a moment with a friend, sending a picture over instant messaging. Before the Internet, if you wanted to keep up with the news, you had to walk down to the newsstand when it opened in the morning and buy a local edition reporting what had happened the previous day. But today a click or two is enough to read your local paper and any news source from anywhere in the world, updated up to the minute.

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In the 1980s and 1990s, the Internet widened in scope to encompass the IT capabilities of universities and research centers, and, later on, public entities, institutions, and private enterprises from around the world. The Internet underwent immense growth; it was no longer a state-controlled project, but the largest computer network in the world, comprising over 50,000 sub-networks, 4 million systems, and 70 million users. The emergence of web 2.0 in the first decade of the twenty-first century was itself a revolution in the short history of the Internet, fostering the rise of social media and other interactive, crowd-based communication tools.

### **3.1-iv) Online world and business**

Owning and maintaining an online business gives entrepreneurs the freedom to make money from anywhere in the world. The idea is enticing, and more possible than

ever, but many entrepreneurs don't know where to start. The most important step in starting a profitable online business is to find a business idea that matches your skills and strengths. Whether you are looking to become a full-time entrepreneur or just to start a part-time business for passive income, your product or service should fulfill a specific consumer need. We've compiled a series of profitable need-based businesses, with minimal startup costs, that you can start as soon as possible.

For the business, the Internet is a true double-edged sword. On one hand, if you don't utilize its features, you could be hindering the manner in which you conduct business, since more people are exposed to your business on the Internet than in any other place. A problem with this is that you then have to spend a lot of advertising capital to try and get your business exposed to potential customers. For some businesses this may be advantageous, but for the lion's share of businesses, it increases the capital that is required without any assurance that it will provide additional sales.

The Internet is actually a pretty dangerous place; and, it's a lot bigger than people think. While the usable part of the Internet is catalogued by most of the major search engines, there is a massive part of the Internet that is filled to the brim with risky behaviors. The deep web, and more specifically, the dark web, is filled with problematic content. While users can't just access this part of the Internet, the people who do are often the hackers and dissidents of the world. Some are evil, some just unfortunate, but most of the dark web is filled with a black market that makes available goods and services that the average person has no use for. Murder for hire? Check. Drug catalogues? Check. Hacking resources? Check. It's essentially an anti-social person's playground filled with hate and illegal material. Think of the dark web as a city. It just so happens that some places in that city (like many other cities) are very dangerous, and while you may just find something you can't find anywhere else, staying far away is a good way to avoid the negatives altogether.

For the business, the ugliest parts of the Internet are the countless hacking collectives and individual hackers who are almost constantly trying to gain access to their network. Computer viruses and other malware, including ransomware, are such a big threat that businesses spend billions and billions of dollars a year trying to protect themselves and their clients from people looking to steal their data and sell it off. The Internet is a lot of good to a lot of people, but as more derision, more hate, more criminal behavior, and more strategic subversion occur on the Internet, the more it becomes something it was never intended to be. The saving grace is the hundreds of millions of users who still use the Internet to make their lives, and the lives of people around them, better.

### **3.2) NECESSITY OF ONLINE WORLD**

The Internet was no longer concerned with information exchange alone it was a sophisticated multidisciplinary tool enabling individuals to create content, communicate with one another, and even escape reality. Today, we can send data from one end of the world to the other in a matter of seconds, make online presentations, live in parallel “game worlds,” and use pictures, video, sound, and text to share our real lives, our genuine identity. Personal stories go public; local issues become global. The rise of the Internet has sparked a debate about how online communication affects social relationships. The Internet frees us from geographic fetters and brings us together in topic-based communities that are not tied down to any specific place. Ours is a networked, globalized society connected by new technologies. The Internet is the tool we use to interact with one another, and accordingly poses new challenges to privacy and security.

Information technologies have wrought fundamental change throughout society, driving it forward from the industrial age to the networked era. In our world, global information networks are vital infrastructure but in what ways has this changed human relations. The Internet has changed business, education, government, healthcare, and even the ways in which we interact with our loved ones it has become one of the key drivers of social evolution. The changes in social communication are of particular significance. Although analogue tools still have their place in some sectors, new technologies are continuing to gain ground every day, transforming our communication practices and possibilities particularly among younger people. The Internet has removed all communication barriers. Online, the conventional constraints of space and time disappear and there is a dizzyingly wide range of communicative possibilities. The impact of social media applications has triggered discussion of the “new communication democracy.” The development of the Internet today is being shaped predominantly by instant, mobile communications. The mobile Internet is a fresh revolution. Comprehensive Internet connectivity via smartphones and tablets is leading to an increasingly mobile reality: we are not tied to any single specific device, and everything is in the cloud.

The Internet is one of the key factors driving today’s economy. No one can afford to be left behind. Even in a tough macroeconomic framework, the Internet can foster growth, coupled with enhanced productivity and competitiveness. The Internet provides opportunities for strengthening the economy. While Europe and Spain specifically are making efforts to make the best possible use of the Internet, there are areas in which their approach needs to improve. Europe faces a major challenge, and risks serious failure if it lets the United States run ahead on its own. The European Commission, in its “Startup Manifesto,” suggests that the Old World be more entrepreneur-friendly the proposal is

backed by companies like Spotify and Tuenti. Europe lacks some of the necessary know-how. We need to improve in financial services and in data privacy, moving past the obsolete regulatory framework we now have and making a bid to achieve a well-connected continent with a single market for 4G mobile connections. We need to make it easier to hire talent outside each given country.

The use of e-commerce should be encouraged among small and medium-sized enterprises so that growth opportunities can be exploited more intensely. Following the global trend of the Internet, companies should internalize their online business. And much more emphasis should be placed on new technologies training in the academic and business spheres. In the United States, for instance, diving headfirst into a personal Internet related startup is regarded as perfectly normal. No risk, no success. We need to take risks and keep one step ahead of the future. It is precisely the most disruptive innovations that require radical changes in approach and product, which might not even find a market yet ready for them these are the areas providing real opportunities to continue being relevant, to move forward and “earn” the future, creating value and maintaining leadership. It is the disruptive changes that enable a business, product, or service to revolutionize the market and, particularly in the technology sector, such changes are a necessity.

### **3.3) LINK BETWEEN ONLINE WORLD AND PROJECTS**

Working remotely are more than common these days, it is becoming a necessity for any number of reasons. There are advantages to securing the best talent wherever they might live. It helps an organization’s bottom line. Sometimes, an act of God will disrupt the normal flow of work. Whatever the reason, virtual project management comes with its own set of challenges that are added to the already difficult task of managing a project. There are traditional protocols for making assignments, managing resources, tracking progress and updating stakeholders, but not when they’re in a different locale or a foreign country. How to navigate this brave new world of virtual project management? We will get to that, but first it’s important to understand the big picture.

As a perfect one and only solution “The internet of things (IoT)” is becoming an increasingly growing topic of conversation both in the workplace and outside of it. It’s a concept that not only has the potential to impact how we live but also how we work. So what is the internet of things, really, and how does it intersect with project management? The IoT is essentially the global network of devices that can communicate with one another and end users through the internet. As recently as two decades ago, this network was made up of computers almost exclusively. But in the last decade, the IoT has

exploded through the proliferation of everything from smartphones, to microwaves and refrigerators, and even toasters, all sharing data with each other and the world around them. “Gartner, Inc. forecasts that 8.4 billion connected things will be in use worldwide in 2017, up 31 percent from 2016, and will reach 20.4 billion by 2020.” (Gartner)

That’s almost three devices per person, and each of those devices will be measuring data and facilitating communication. Many major technology firms are developing their own IoT platforms, such as Amazon Web Services, Microsoft Azure, and Google Cloud. But preparing for the IoT isn’t just a concern for mega corporations. Project managers and small business leaders also need to be ready for a connected workplace. The IoT intersects with project management on everything from team collaboration to data collection. You can expect real-time status reporting via IoT to usher in a new era of dynamic planning and revolutionized project execution.

Data collection will happen seamlessly and constantly, allowing leaders to make more informed decisions. Inventory and resources will be easily monitored at all times. Devices can automatically sense and respond to what is happening around them or in their network, reducing the need for human intervention, lowering operating costs, increasing response times, and minimizing errors. Moreover, customers can expect to receive better and faster service. In terms of project management technology, the IoT will fundamentally alter the speed of project execution. Organizations that capitalize on the IoT will complete projects faster than those that don’t, and organizations that fail to adapt to the IoT revolution will be left hopelessly behind. At least six things will change, which will require project managers to adapt both technically and systematically.

#### 1. IoT enables hyper speed reporting

IoT substantially reduces the cost of communication. The hyperconnected devices and constant flow of data that automate systems will speed things up considerably. No more idle times are required in between activities. No more silos from support systems such as databases, storage, and IT operations. Say you’re an IT project manager, and you need to run a status report on all of your organization’s desktop and laptop computers and tablets and mobile devices. In the past, this process might take weeks. But with the IoT, a project manager could run a report on the quantity and condition of all of those pieces in an instant.

#### 2. IoT allows complete monitoring and process control

IoT allows project managers, management, and stakeholders to monitor and control activities in real time. The overall snapshot of a comprehensive system is monitored on a single screen, which allows overseers to immediately attend to any interruptions. Using equipment as an example, sensors will be used for monitoring and

predicting maintenance needs throughout a project's lifetime. The scope of devices, activities, and conditions that need to be tested will increase exponentially as projects become more complex. Ease of use and environments suddenly become critical.

### 3. IoT creates an explosion of valuable project data

In the past, archiving historical data was a time- and labor-intensive process. With the IoT, historical data will become available immediately, which is extremely helpful for current and future projects. Everything from budgeting to individual meetings with team members will be recorded in great detail, providing a solid foundation for future decisions. Project management tools will need to be more responsive and scalable to accommodate this data explosion. Organizations need to make sure that their project management software package is capable of growing to accommodate this incoming flood of data. They also need to know when it's time to upgrade for example, if your team is capping out on your storage allowance each month.

### 4. IoT allows super-deep data analytics

With the IoT comes advanced data analytics, and advanced data analytics require advanced interpretations and management. Project managers must upgrade their skills related to data handling, which could mean increasing spend and resources toward data management, hiring experienced data analysts, and accounting for data analysis when creating the project timeline. In other words, the more familiar project managers are with the importance of advanced data analysis, the better the chances for project success.

### 5. IoT ushers in stricter ethical and legal implications

Today's internet-connected devices send data to each other extremely fast. We're not dealing with dial-up modems anymore. One error could create a domino effect that could topple an entire project or, in extreme cases, an entire career before you can say "Enron." Businesses of all sizes need to impose stricter ethical and legal implications on any slight mistake or oversight. Project managers and team members should be aware of this early on so that the project can be completed with minimal ethical and legal risks.

### 6. IoT raises expectations for all stakeholders

Once companies adopt IoT, the marketplace will be transformed into a level playing field. Only the strongest and the fittest will survive. No longer can organizations hide behind old excuses such as, "We don't have access to that data" or, "We need a few weeks to get that report back." Project managers need to lead the charge when it comes to raising standards in the IoT era. As a project manager, your job is to be aware of the most useful technology available and enable your team to use it. The IoT will change how we interact, how we work, and how we push ourselves to survive in business. In fact, this

transformation has already begun. IoT will level out the overall competition, leaving those who continuously upgrade our project management skills, both technical and soft, to thrive.

As a project manager, here are some key takeaways you can use to be ready:

- Read up on the IoT so that you can talk to your team about it.
- Consult your IT department to determine the extent of connected devices already in use on your network.
- Set up automatic reports leveraging IoT data.
- Look into upgrading your project management software so that it's ready for the influx of data from the IoT.
- Beef up your data analysis knowledge and investigate adding full-time data analysts to your team.
- Do a cybersecurity audit and make sure your data protection is airtight.

### **3.4) COMBINATION OF PROJECTS AND ONLINE WORLD**

Online world has a very strong advanced combination we can see in the business due to the COVID19 that was identified as a pandemic situation in the world. Pushing of current pandemic situation to work remotely had led most of the business to use internet as the current platform to use as the network source. Even the IT unfriendly businesses where vast area of project management needed had no second choice to shift their business to the path of using online tools. A project professional of today lives in an increasingly virtual world, resulting in the need to lead virtual projects. The dynamics of a remote team requires project managers to communicate with their teams differently. In this paper, we introduce the current situation and share best practices and practical strategies. These will help a project leader bridge the culture, time and language barriers, and help to eliminate the distance across virtual teams, both teams within an organization, and those including freelancers and partners from different organizations. Virtual project teams are those where at least one member of the team is remote from the others. Due to a combination of globalization, outsourcing, the use of the most talented people wherever they are based, flexible working, and more, virtual projects are on the rise. Today's project manager needs to be able to deliver projects virtually.

Working remotely is more than common, it's becoming a necessity for any number of reasons. There are advantages to securing the best talent wherever they might live. It helps an organization's bottom line. Sometimes, an act of God will disrupt the normal flow of work. Whatever the reason, virtual project management comes with its own set of challenges that are added to the already difficult task of managing a project.

There are traditional protocols for making assignments, managing resources, tracking progress and updating stakeholders, but not when they're in a different locale or a foreign country. How do you navigate this brave new world of virtual project management? We'll get to that, but first it's important to understand the big picture.



## CHAPTER 4

### 4.1) PANDAMIC SITUATIONS OF THE MODERN WORLD

For more than a century, countries have wrestled with how to improve international cooperation in the face of major outbreaks of infectious diseases. The COVID-19 pandemic, which brought the world to a near halt in 2020 and has killed more than six million people, underscores the urgency. The COVID-19 pandemic has brought to the forefront the risk of major disease outbreaks and highlighted countries' lack of preparedness to fight them. Pandemics are large disease outbreaks that affect several countries and pose major health, social, and economic risks. A quick-moving pathogen spreading across the globe has the potential to kill tens of millions of people, disrupt economies, and destabilize national security just as COVID-19 has demonstrated. Climate change, urbanization, and the lack of water and sanitation are all factors that could contribute to fast-spreading, catastrophic outbreaks. COVID-19 has unleashed a worldwide shock wave with severe health, economic and social consequences which will affect many countries for years to come. Pandemic preparedness and disease surveillance anchored in strong health systems that reach all people especially the most vulnerable are crucial to ensure better protection from major disease outbreaks. Ensuring and investing in preparedness before a crisis strikes saves lives and ultimately saves money.

As the world grapples with the health and economic consequences of the coronavirus outbreak, the 1918 Spanish flu is receiving renewed attention. And with reason the Spanish flu infected about 500 million people worldwide and claimed around 50 million lives including about 675,000 Americans, or about 0.67% of the country's population. Much of existing economic work on the influenza pandemic has focused on understanding its impact on health and human capital. In light of the sizable immediate contraction in economic activity created by the coronavirus outbreak, there is renewed interest in assessing the economic impact of the 1918 influenza pandemic. In recent work, Barro et al. (2020) estimate the effect of flu-related deaths in 43 countries in 1918 to 1920 and conclude that higher flu death rates led to declines in GDP and consumption of about 6%. Other work has focused exclusively on the United States. Exploiting spatial variation in mortality rates, Correia et al. (2020) show that areas in the US that were hit by the pandemic experienced a sharp decline in economic activity, and that the effects persisted until at least 1923.

While interesting, comparisons across countries, or across cities in the US, obscure one salient feature of the 1918 pandemic. The Spanish flu left almost no discernible mark on the aggregate US economy. The ongoing coronavirus arrived to the

US at a time of booming stock market values. By contrast, the influenza outbreak in the spring of 1918 occurred right after a downturn: The Dow Jones Industrial Average had actually declined 21.7% in 1917. Yet the stock market recovered substantially during the pandemic, with the Dow index increasing by 10.5% in 1918 and by 30.5% in 1919. In fact, 1919 stands as the ninth best year for the Dow from 1915 to 2019. According to some estimates, real gross national product actually grew in 1919, albeit by a modest 1% (Romer 1988). In new work, Velde (2020) shows that most indicators of aggregate economic activity suffered modestly, and those that did decline more significantly right after the influenza outbreak, like industrial output, recovered within months. That the impact of the influenza pandemic on the aggregate US economy was mild should be surprising. In contrast to coronavirus, which is disproportionately severe for older adults, the Spanish flu was unusually deadly for those in their 20s and 30s in other words, those in prime working age.

The prediction for the immediate economic fallout of the coronavirus, of course, is disastrous. Analysts today expect a stunning 20-30% decline in GDP for Q2 2020, as well as a 15% jobless rate. And the Dow lost more than 36% of value from its peak in February 2020 to its worst point on 23 March 2020, though it has recovered somewhat since then. So why is the current crisis having such a large impact on the economy, while the Spanish flu did not? One possible explanation lies in the social distancing measures that the US and other nations have directed in order to flatten the curve and slow down the spread of the virus. While many jobs can now be done remotely from home, many cannot. Social distancing also cuts the demand for many goods and services (Muellbauer 2020). As a result, some sectors in the economy have come to a halt.

However, even in 1918 local governments implemented similar restrictions on public gathering to contain the disease. For instance, in 1918 the Commercial and Financial Chronicle, a leading business news outlet at that time, reported: “In Boston the question of closing the churches is being discussed as a mean of checking the epidemic. In Pennsylvania all places of public amusement, schools, churches and all saloons have been ordered closed until further notice.” And Dr. Rupert Blue, the then-Surgeon General of the US, explicitly deemed these closings “the only way to stop the spread of the virus”. As it is today, limiting social interaction was also the key mechanism to slow down contagion more than a century ago.

#### **4.1.1) DESCRIBING PANDAMIC SITUATIONS**

A pandemic is an outbreak of global proportions. It happens when infection due to a bacterium or virus becomes capable of spreading widely and rapidly. The disease behind a pandemic can cause severe illness and spread easily from one person to the next. According to the WHO, a pandemic involves the worldwide spread of a new disease. While an epidemic remains limited to one city, region, or country, a pandemic spread beyond national borders and possibly worldwide. Authorities consider a disease to be an epidemic when the number of people with the infection is higher than the forecast number within a specific region. If an infection becomes widespread in several countries at the same time, it may turn into a pandemic. A new virus strain or subtype that easily transmits between humans can cause a pandemic. Bacteria that become resistant to antibiotic treatment may also be behind the rapid spread. Sometimes, pandemics occur when new diseases develop the ability to spread rapidly, such as the Black Death, or bubonic plague.

Humans may have little or no immunity against a new virus. Often, a new virus cannot spread between animals and people. However, if the disease changes or mutates, it may start to spread easily, and a pandemic may result. Seasonal influenza (flu) epidemics generally occur as a result of subtypes of a virus that is already circulating among people. Novel subtypes, on the other hand, generally cause pandemics. These subtypes will not previously have circulated among humans. A pandemic affects a higher number of people and can be more deadly than an epidemic. It can also lead to more social disruption, economic loss, and general hardship on a wider scale.

#### **4.1.2) HISTORY AND RECENT PANDAMIC SITUATIONS**

For more than a century, countries have wrestled with how to improve international cooperation in the face of major outbreaks of infectious diseases. The COVID-19 pandemic, which killed more than 2.5 million people and brought the world to a near halt in 2020, underscores the urgency. Not only COVID did a great damage to human world here is the list of all the pandemic situations happened in the world by its order.

##### **4-1-2.a) Sixth Cholera Pandemic (1899 – 1923)**

A new outbreak of cholera, a bacterial infection contracted through the consumption of contaminated food and water, begins in India at the turn of the century. It's the latest wave of a disease that has caused pandemics intermittently since the early 1800s. The outbreak spreads to Russia, as well as to parts of the Middle East and North Africa, ultimately killing hundreds of thousands of people with particularly high death tolls in

India and Russia. Advancements in sanitation and public hygiene are credited with preventing the pandemic from taking hold in Europe and North America.

#### **4-1-2.b) Spanish Flu Engulfs the Globe (1918 – 1920)**

A new influenza virus begins to spread worldwide amid the upheavals of World War I. There is no consensus on the origin of the pandemic, but it is first publicly reported in Spain. It infects an estimated five hundred million people, roughly one-third of the world's population at the time, and kills some fifty million, with an unusually high fatality rate among otherwise healthy young adults. Many governments look to isolation measures, quarantines, and disinfecting efforts, but the global movement of troops hinders containment. At the time, there is no flu vaccine and antibiotics have not yet been developed to treat secondary bacterial infections. In the United States alone, about 675,000 people die, lowering the country's average life expectancy by more than twelve years.

#### **4-1-2.c) Penicillin Ushers in Antibiotics Era (1928)**

Scottish scientist Alexander Fleming discovers penicillin, the first antibiotic—a class of drugs used to treat bacterial infections—marking a major milestone for global health. Widespread use of antibiotics takes off in the early 1940s during World War II. They soon become the go-to treatment for common illnesses, such as strep throat and urinary tract infections, and significantly reduce the death rates for many ailments, including syphilis and tuberculosis.

#### **4-1-2.d) Asian Flu Pandemic (1957 – 1958)**

A new strain of influenza virus, designated H2N2, is reported in Singapore in February 1957, and soon spreads to China, Hong Kong, the United Kingdom, and the United States. Though less severe than the Spanish Flu, the Asian Flu kills more than one million people worldwide. A second wave of cases beginning at the end of that year is particularly deadly, and young children, elderly people, and pregnant women are hardest hit. A vaccine is quickly developed in 1957, but its deployment is limited and it does little to mitigate the outbreak, experts later say.

#### **4-1-2.e) World's Longest Pandemic (1961 – Present)**

A cholera pandemic originating in Indonesia spreads to other parts of Asia, the Middle East, and Africa over the course of a decade, and continues to this day. By the 1990s outbreaks also take hold in South America, the first on that continent in nearly a

century. An outbreak in Zimbabwe in 2008–09 kills more than four thousand people, and major outbreaks in Haiti and Yemen each affect more than a half million people. Some three million people are infected with the bacteria that cause cholera each year, and it remains endemic in close to fifty countries. Health experts say oral cholera vaccines, introduced in the 1990s, are not a replacement for improved sanitation.

#### **4-1-2.f) Hong Kong Flu Pandemic (1968 – 1969)**

A decade after the Asian Flu, a new strain called H3N2 emerges. Commonly called the Hong Kong Flu, it emerges first in Hong Kong, then a British colony, in July 1968. It soon travels across East and South Asia, then to Australia, Europe, and North America, and on to Africa and South America by 1969. U.S. troops returning from the Vietnam War are believed to have brought the virus to the United States. An estimated one million people die in the pandemic, about half of them Hong Kongers and many of them people sixty-five years of age or older. Descendants of the H3N2 virus continue to circulate seasonally worldwide.

#### **4-1-2.g) Smallpox Eradicated (1977 – 1980)**

The last known case of smallpox, a viral disease that plagued humans for millennia, is diagnosed in 1977 in Somalia, following a nearly two-decade-long global vaccination campaign. Three years later the WHO formally declares it eradicated around the globe. The elimination of the disease, which was fatal in as many as one-third of patients, marks unusual U.S.-Soviet cooperation during the Cold War. It also highlights major advancements in the study and use of vaccines: polio vaccines introduced in the 1950s and 1960s lead to similar success globally, and vaccines are credited with reducing rates of illnesses such as measles, diphtheria, and whooping cough to all-time lows.

#### **4-1-2.h) HIV/AIDS Pandemic (1981 – Present)**

A 1981 report by what is now the U.S. Centers for Disease Control and Prevention (CDC) describes a rare form of pneumonia that is later identified as Acquired Immunodeficiency Syndrome, or AIDS. It is the most advanced stage of Human Immunodeficiency Virus (HIV). This marks the start of an explosive growth of cases, and by the early 1990s AIDS becomes the leading cause of death in men between the ages of twenty-five and forty-four in the United States. In 1996, the United Nations establishes UNAIDS to coordinate global action. The introduction of antiretroviral therapy helps to bring down the U.S. death toll, but the epidemic grows across Africa. The 2003 U.S. President's Emergency Plan for AIDS Relief (PEPFAR) boosts international funding, and

between 2000 and 2018 HIV-related deaths decrease by 45 percent. Today, close to forty million people have HIV/AIDS, more than two-thirds of whom are in sub-Saharan Africa. Tens of millions of people have died from the disease.

#### **4-1-2.i) SARS Emerges in China (2002 – 2003)**

The Severe Acute Respiratory Syndrome (SARS) coronavirus, part of a family of viruses that commonly cause respiratory symptoms such as coughing and shortness of breath, is first identified in late 2002 in southern China. SARS spreads to more than two dozen countries across four continents, infecting more than eight thousand people. In March 2003, the WHO triggers its Global Outbreak Alert and Response Network (GOARN) to coordinate research by teams of international experts and the deployment of supplies and health workers to affected countries. Health experts sharply criticize Beijing for covering up the initial spread of the virus. SARS kills close to eight hundred, most within China and Hong Kong, by the time the outbreak is quelled in mid-2003. The virus is thought to have been transmitted to humans via contact with civet cats.

#### **4-1-2.j) U.S. at Center of H1N1 Pandemic (2009 – 2010)**

A new influenza virus, labeled H1N1 and commonly referred to as the swine flu because of its links to influenza viruses that circulate in pigs, begins to spread in early 2009 in Mexico and the United States. Unlike other strains of influenza, H1N1 disproportionately affects children and younger people. The CDC calls it the “first global flu pandemic in forty years.” The WHO declares a PHEIC in April 2009, then designates the spread of H1N1 a pandemic in June, after the virus reaches more than seventy countries. In response, some countries advise against travel to North America, and China imposes mandatory quarantines for patients and their close contacts. The CDC estimates that between 151,700 and 575,400 people die worldwide around 12,500 in the United States in the first year after the virus is discovered. Around 80 percent of those who die are younger than sixty-five. The WHO announces the pandemic’s end in August 2010, though the strain continues to circulate seasonally.

#### **4-1-2.k) MERS Uncovered in Middle East (2012)**

A new coronavirus, named Middle East Respiratory Syndrome (MERS), is transmitted to humans from camels in 2012 in Saudi Arabia. The largest outbreak occurs on the Arabian Peninsula in the first half of 2014, with the Saudi city of Jeddah as its epicenter. In 2015, South Korea is home to the second-largest outbreak. More than two dozen countries report cases of the viral respiratory disease in the following years, though

the majority of cases are in Saudi Arabia. The virus commonly causes pneumonia in those infected and has a relatively high fatality rate: of the roughly 2,500 people diagnosed with MERS since its discovery, more than 850 have died from the disease.

#### **4-1-2.l) Uptick in Polio Prompts WHO Emergency (2014)**

In May 2014, WHO Director-General Margaret Chan declares a PHEIC over a rise in polio cases in Africa and Asia. The virus, which paralyzed or killed a half million people yearly at its peak in the early 1950s, had been nearly eradicated after mass vaccination campaigns starting in the late 1950s. The disease, which disproportionately affects young people, proves hard to eliminate completely, particularly in conflict zones. Widespread mistrust of vaccination programs is a major challenge. As of early 2020, the PHEIC over the possible spread of polio remains in place, and the disease is still endemic in three countries: Afghanistan, Nigeria, and Pakistan.

#### **4-1-2.m) Ebola Sweeps West Africa (2014-2016)**

In early 2014, cases of the Ebola virus, a rare and severe infectious disease that leads to death in roughly half of those who contract it, are detected in Guinea and soon after in Liberia and Sierra Leone. It is the first time the disease moves into densely populated urban areas, allowing for rapid transmission. The outbreak eventually spreads to seven other countries, including several European states and the United States, causing more than eleven thousand deaths in all. Mistrust of health workers and rumors again present challenges to containment. The WHO, which declares the outbreak a PHEIC in August 2014, is criticized for what many call a slow response. In September 2014, the UN Security Council adopts a resolution calling on member states to pool global resources to combat the crisis, and countries including the United States and United Kingdom deploy health workers and other aid. The hardest-hit countries declare themselves Ebola-free in June 2016.

#### **4-1-2.n) Fight Against Mosquito-Borne Diseases Continues (2015)**

The WHO reports in 2015 that malaria infections are down by more than one-third globally compared to 2000, as the United Nations and the Bill & Melinda Gates Foundation launch a major joint effort to eradicate the disease by 2040. Malaria still kills several hundred thousand people yearly, two-thirds of whom are children under five. Eradication efforts focus on the eleven countries where the large majority of malaria cases occur, all of which are in sub-Saharan Africa except for India. Meanwhile, cases of dengue, another mosquito-borne disease, spike between 2000 and 2015, partly due to

increased reporting. Dengue is endemic in more than a hundred countries, with the majority of the 100–400 million yearly cases occurring in Asia. These diseases have proven difficult to eliminate, as researchers confront numerous challenges to developing successful vaccines.

#### **4-1-2.o) Zika Spreads Across Americas (2015-2016)**

An outbreak of the Zika virus, first discovered in Uganda in the 1940s and transmitted mainly by mosquitoes, takes off in Brazil in early 2015. In February 2016, the WHO declares the outbreak a PHEIC, and by the middle of the year more than sixty countries report cases of the virus, including the United States. Thousands of women infected with the virus while pregnant give birth to babies with microcephaly, a condition in which a child's head is smaller than normal, and other congenital conditions. Some governments urge women to delay pregnancy amid the outbreak. Despite calls for cancellation, the 2016 Summer Olympics in Rio de Janeiro go ahead as planned. The WHO declares the end of the epidemic in November 2016.

#### **4-1-2.p) Ebola Returns in Conflict-Stricken Congo (2018 – Present)**

In August 2018, the Democratic Republic of Congo (DRC) declares an outbreak of the Ebola virus in the country's northeast. Several cases are later reported across the border in Uganda. Protracted conflict in the area hampers the response, as health workers face attacks by armed groups; misinformation and mistrust among the local population are also challenges. By June 2019, the Ebola outbreak becomes the second largest in history, and in July the WHO declares a PHEIC, urging increased international support to end the crisis. More than 3,400 people are infected with the virus, and close to 2,300 die. In June 2020, nearly two years after the outbreak's start, the WHO declares it over. However, new cases emerge afterward in the DRC and in Guinea, prompting international efforts to try to prevent the virus from spreading.

#### **4-1-2.q) COVID-19 Runs Rampant (2019 – Present)**

A new coronavirus emerges in China's Hubei Province in late 2019, spreading rapidly to other parts of China and infecting tens of thousands of people. The disease soon travels throughout the rest of the world, and in March 2020, the WHO designates the outbreak a pandemic. Many governments impose restrictions to try to stop the virus's spread, including lockdowns, mandates to wear face masks, limits on large gatherings, and quarantines for people who are infected. Within a year, more than 2.5 million people die, with a half million deaths in the United States alone. The economic toll is described



as the worst decline since the Great Depression, with supply chain disruptions and job losses reverberating worldwide. Meanwhile, efforts to develop a vaccine yield several highly effective options, the fastest-ever creation of a successful vaccine.

#### **4.2) PANDAMICS AND BUSINESS IMPACT OF MODERN WORLD**

The Covid-19 pandemic and government efforts to halt the spread of coronavirus have had serious negative consequences for small and medium-sized enterprises (SMEs), but less so for many large companies and multinational corporations (Turner and Akinremi, 2020). SMEs are more vulnerable to shocks, such as pandemics, which big businesses are often able to survive (Verbano and Venturini, 2013). Despite this, economic research has given little attention to this important difference (Turner and Akinremi, 2020). Although the modern economy is far more connected than in earlier centuries, previous pandemics and epidemics can give us some insights about what to expect in the longer term. Analyzing the three largest pandemics to strike Britain – the Black Death (1347-52), the Great Plague of London (1665-66), and the Spanish flu (1918-19) – allows us to draw some insightful parallels with modern events (Colvin, 2020).

Large companies are usually more able to prevent losses and adapt to new circumstances, including pandemics, than are smaller companies. The ability of governments to prevent business collapse is significant, but policies do not always have equal benefits. We require microeconomic data (data on companies and individuals) to explain how past pandemics have affected big business, but economists have tended to conduct macroeconomic (large-scale) studies (Turner and Akinremi, 2020). It is also difficult to make comparisons between different periods of history, especially as wider events alter how pandemics affect the economy (Jordà et al, 2020).

But allowing for the limited amount of data and economic research, we can still draw some conclusions from past pandemics. The extreme death toll of the Black Death, and the nature of the 14th century economy, meant that its effect on big business was substantially different than other pandemics and epidemics. The Black Death killed between 40% and 60% of Europe's population, at least 75 million people. This led to radical socio-economic changes, most importantly the redistribution of wealth among the survivors and the decline of serfdom (Herlihy, 1997).

The redistribution of wealth was particularly important for artisans and other urban residents, who gained new opportunities for commercial and social advancement. In England, the wool trade, England's most valuable export, was damaged by export duties designed to fund the Hundred Years' War and compensate for the decline in revenue caused by the Black Death. This, however, boosted the woollen cloth industry. Those

companies that were able to make the switch – or, more often, new generations of merchants who were more suited to the changing market – could profit handsomely (Lloyd, 1977).

The impact of the Black Death on big business is more difficult to judge because of the effect of contemporaneous events. When the Black Death struck, Italian companies, Europe's largest, had already shrunk in size after a series of bankruptcies in the 1340s (Hunt, 1994). These bankruptcies also meant that later companies were far more cautious in their operations (de Roover, 1963). There were, however, some opportunities for big companies. In the absence of Italian bankers, the de la Pole family, originally from Hull, became the Crown's most important creditors at a time when the Black Death had increased its financial requirements (Fryde, 1988)

The economic outcome of the Black Death, therefore, was of radical change and transformation, with both disastrous and beneficial consequences for all types of businesses. In 1665, London and some provincial towns were struck by a particularly severe outbreak of the bubonic plague, which killed perhaps 100,000 people and temporarily halted almost all commerce, to the detriment of the city's traders. In London, there were high death rates among the poor, who lived in crowded conditions. Those merchants without the money to flee London struggled to sell their wares and were obliged to reduce their prices (Moote and Moote, 2004).

Wealthier citizens did better. According to Daniel Defoe, some of the wealthiest trade masters continued to manufacture goods throughout the epidemic. This both kept their poor workers in employment and – so they hoped – would allow them to capitalise on the anticipated spike in demand that would follow the outbreak. But most wealthy merchants and goldsmith-bankers fled the city (Defoe, [1722] 2015). The diarist Samuel Pepys, who was also Chief Secretary to the Admiralty, recorded that the Royal Exchange, London's stock exchange, was empty of its usual crowd of wealthy merchants and goldsmith-bankers. Their absence meant that the Crown was unable to find creditors willing or able to fund the Second Anglo-Dutch war. When he attempted to raise a loan, Pepys was told by one banker-goldsmith that there was 'no money got by trade, nor the persons that have it by them in the City to be come at' (Pepys, [1665] 2018).

After the plague, London's trade recovered swiftly (Defoe, [1722] 2015). Perhaps surprisingly, the Great Fire of 1666 helped with the general economic recovery, as the torching of warehouses produced an even greater demand for manufacturing (Mitchell, 1994). London's foreign export trade had a spike in demand, fuelled by continental European markets that had been deprived of English manufactures for many months (Defoe, [1722] 2015). Likewise, regional trading towns, such as Colchester, quickly

recovered, whereas towns that failed to attract new immigrants, such as Ipswich, experienced recessions (Porter, 2009).

Overall, the duration of the Great Plague was short enough, and London was dynamic enough, that the long-term economic effects were short-lived. The facts suggest, however, that larger businesses weathered the Great Plague more easily than smaller firms, which were unable to keep manufacturing or to delay trading until market conditions improved. If this is true, it would echo the situation we see today, where large companies are more able to adapt their business models to sudden changes (Verbano and Venturini, 2013). The Spanish flu killed perhaps 50 million people in three waves between 1918 and 1919 (Colvin, 2020). It overlapped with and was spread by soldiers fighting in the First World War, which also substantially altered its economic impact. In the United States, where most of the economic research has focused, the Dow Jones index was comparatively unaffected (Taylor, 2020).

The First World War also mitigated the impact of the flu by acting as a stimulus for certain economic sectors. In neutral Sweden, the war boosted agricultural exports (Karlsson et al, 2020). In the United States, the government ordered factories to stay open for the war effort (Benmelech and Frydman, 2020). Unlike large industrial and agricultural firms, many American SMEs suffered serious losses from Spanish flu (Turner and Akinremi, 2020). The differences between the two groups indicate that the fate of the stock exchange does not give a complete picture of the economic ramifications of a pandemic. The Spanish flu and Covid-19 share a pattern in which large companies and multinational corporations weather or even benefit, often partly as a result of government support, while SMEs suffer substantial losses.

This brief summary of each historical outbreak and its economic consequences for big business demonstrates some continuous trends that we can use when analyzing the present. First, that pandemics and epidemics have serious consequences for trade and finance, but that the short- and long-term consequences may be very different from each other. Second, that larger companies are more able to survive pandemics and other shocks than are smaller businesses. And third, that the economic ramifications of pandemics are often closely intertwined with surrounding events.

We know that large companies are better at surviving and adapting to pandemics and other market shocks, but we do not know all the details and the topic remains understudied (Turner and Akinremi, 2020). In particular, we do not yet have studies that have sought to differentiate between large and small firms in the aftermath of the Great Plague of London. The consequences of the Spanish flu for SMEs are also awaiting more comprehensive research. We also know that government mitigation efforts often help

larger companies more than smaller ones. But we do not know how crucial a role this played in previous disease outbreaks, nor do we know the extent of government support.

#### **4.3) INFLUENCE WITH THE PANDAMICS AND MODERN WORLD**

We are currently witnesses to the sharp short-term economic impact of Covid-19 as it cuts supply and demand, disrupts trade, drives up unemployment and bankruptcies, and creates enormous uncertainty about the future. As the disease is brought under control, the global economy should recover, although how fast and how fully remain to be seen. The longer-term economic effects of pandemics have a different character to the short-term turmoil they create. The most obvious impact comes when higher mortality reduces the working population. All else being equal, once the initial disruption has past, fewer workers will mean higher wages for those who remain. Conversely, the returns to physical capital buildings, machinery and so on will be lower for a while. One result of this is that inequality should fall, as workers gain better terms while the wealthiest people, those who own much of the world's capital, take a smaller slice of the pie. Plagues can thus make societies richer at an individual level and less unequal (Scheidel, 2017) – although this depends greatly on two things: first, which age group is most affected by the disease; and second, any attempts by governments to prevent change. Finally, where these shifts occur in societies that are already under stress for other reasons, epidemics can provoke wider and long-term changes in attitudes and institutions.

## **CHAPTER 5**

### **5.1) PANDAMIC SITUATIONS AND PROJECT MANAGEMENT**

All businesses will be impacted by the COVID-19 pandemic, most negatively, some positively. The importance of understanding the effects of the COVID-19 pandemic on SMEs specifically stems from three main factors. First, larger firms with more significant financial resources may be better able to survive shocks than SMEs, which are often characterized as having limited resources and structural features that expose them to risks that may be detrimental to their business (Verbano and Venturini, 2013). The risk of an extreme event, or ‘an environmental jolt’ (Meyer, 1982) exposes an SME to higher levels of strategic uncertainty which impacts upon its every-day activities and may, in some cases, threaten its survival (Sullivan-Taylor and Branicki, 2011). Second, operating across a wide range of sectors, failures among SMEs have the potential to impact upon the normal functioning of daily life, be it through the disruption of service provision, or through the many supply-chain networks which exist (Sullivan-Taylor and Branicki, 2011). SMEs also play a crucial part in terms of social inclusion, local employment and innovation in rural and less-favoured areas (Auzzir et al., 2018). Third, SMEs have disproportionately driven job creation since 2010 (Nesta, 2017), and the dynamism of the SME sector will be critical to re-building growth post-crisis.

#### **5.1.1) PANDAMICS AND BUSINESS IMPACT**

While experts can estimate what the economic fallout from a pandemic, such as COVID-19, will be, the precise impact will vary based on how many people are affected, how severely it hits, and which societal interventions are necessary to contain its spread. Many workers and potential shoppers sequestered themselves in the early days of the COVID-19 pandemic, which had a momentous impact on the global economy, as well as that of the United States. In the U.S., for example, retail sales plunged in April 2020 before recovering in July. On top of that, data from the Federal Reserve shows the worst dip in manufacturing output since the 1940s.

Of course, that sudden drop in demand had a disastrous effect on employment. The national unemployment rate climbed as high as 14.8% in April 2020 before dropping to 6.2% in February 2021. Additional estimates indicated more than 25.7 million workers were affected by the pandemic. This figure included those whose hours or compensation were cut and those who were completely unemployed, among others. Those economic shock-waves are being felt from Beijing to Madrid, creating a drag on the world economy

that hasn't been seen for decades. In January 2021, the International Monetary Fund (IMF) forecasted the global economy had contracted by 3.5% in 2020 the worst slide in recent memory. However, the IMF envisioned a robust recovery in 2021 and 2022, with worldwide growth of 5.5% and 4.2%, respectively.

How long the pain will last remains an open question? A century ago, the economic toll from the Spanish Flu was not particularly long-lasting. However, no one can say for certain whether that will be the case this time around. Certainly, the more effective governments in the U.S. and abroad are in facilitating medical care and reducing the rate of transmission, the more muted the economic impact will be.

### **5.1.2) CURRENT PANDAMICS OF WORLD AND HOW PEOPLE ADOPT IT**

Sudden unexpected pandemic appeared to the world and when millions of people around the world entered a virtual lockdown, a ripple effect throughout the economy was inevitable. Certainly, specific industries have borne the brunt of the damage. Shops and restaurants closed their doors altogether or opened with low seating capacity and low demand to dine in. Non-essential travel evaporated, causing massive lost revenues for not just airlines and cruise-ship operators, but smaller businesses that rely on tourism revenue.

However, those employed in seemingly unrelated industries also felt the secondary effects of social distancing. For example, manufacturers, especially those outside the medical field, saw fewer orders as shopping slowed down and demand for nonessential goods, like new clothes, dwindled. Banks absorbed the loss of mortgage payments, due to government-mandated forbearance rules. And oil companies saw prices plummet even turning negative in April 2020, for the first time in history as investors sensed weaker demand, given the lack of even everyday travel. The fear of the unknown only exacerbated these economic impacts. That means even individuals and families with ostensibly stable employment limited their purchases in case the financial aftershock couldn't be contained.

Every pandemic is unique, which makes measuring the repercussions of any crisis more challenging. What's more, there simply aren't many examples that compare to the worst-case estimates of something like COVID-19. For example, the H1N1 flu of 2009 was widespread, but not as deadly. The Centers for Disease Control estimate there were 60 million cases in the U.S., resulting in fewer than 13,000 deaths. The closest modern comparison to the COVID-19 pandemic occurred more than a century ago when the so called Spanish Flu (another H1N1 virus, though a different strain than the 2009 version) ravaged the globe between 1918 and 1919. According to CDC estimates, roughly 500

million people became ill with the disease, which ultimately took the lives of about 50 million worldwide.

## **5.2) PANDAMIC SITUATIONS AND PROJECT MANAGEMENT**

Building on the success of the Lean-based approaches in product development, construction and agile development, we believe that the future of project management is Lean. Project Management has undergone a long evolution, yet it still faces many challenges and brings inconsistent results. In recent decades, we've witnessed disruptive innovations in this area but the traditional understanding of how and why we should manage projects, and the uncertainty it often creates, still prevails. The time has come for significant changes that need to start with rethinking the definition of a project and the role of project management. Therefore, we decided to introduce you to our new project management framework by explaining our Manifesto on Projects and Project Management.

## **5.3) CONDUCT THE PROJECT MANAGEMENT IN THE WORLD WITH A PANDEMIC SITUATION**

Nobody could imagine few months ago about the current pandemic worldwide situation. We, as project managers, that need to dream, reflect upon, plan and take action, now are constrained by the current challenging and difficult environment finding ourselves living in pandemic times. It's apparent that this extreme experience is new for everyone, everywhere. It is hard to see how this tragedy is little by little getting worst. Risk and uncertainty are surrounding us day by day.

It's unclear how many people prepared themselves for these times. In fact, as a PM consultant I have experienced a lack of training and consulting business demand since February this year. Even when all of us should be aware of our current situation and need to move forward for business and personal survival. How to be prepared for challenging and hard times is also a need for any complete project manager. We need to develop better and better skills, that for sure will not avoid events like what I mentioned, but at least they will be enduring us for the future.

1. Develop project manager immunity: I believe we need to cultivate physical and mental health. The physical immune system needs to handle the infection and invasion of the COVID-19 virus. The second kind of immunity we need is the emotional immune system to deal with the rapid infection and spread of fear, anxiety, negative attitude and worry.

2. Learning to deal with continuous adversity: Some people called resilience, flexibility or endurance. We now need to deal with 360-degree adversity arriving all day long. It's a situation in which we attempt to solve a problem but it is resulting only in temporary or minor improvement. One part of me barely gets upright before getting knocked down by the COVID-19 mallet, then another part pops up and gets whacked, and then another part gets whacked; you know the feeling. Be persistent by learning from previous experiences and you will improve.

3. Cultivate a positive attitude: To whack back, it's important to gather the energy and resources needed to get up every morning, stay upright during tough days, and bounce back fast as new challenges emerge throughout the day. Be focused on the small positive things that we have. Please find them every day (they are there, you are still alive, you need to manage projects to contribute to your society, business, family...).

#### **5.4) AREAS TO BE ON ALERT WITH A PANDEMIC SITUATION RELATED TO A PROJECT**

Traditional project management has a capacity of necessary areas those need to be full fill as the fuel tank of pipeline that is always ready to launch and accomplish the project goals. Main criteria factors of project management need to be adopt with the current situation of the rest of the world. In case of a pandemic situation there are risks of every part of the project management process that we need to mitigate. In order to keep the process on track project managers need to aware and focus on how to manage the project.

##### **5.4.1) Defend against on-site transmission without shortchanging safety objects.**

Project owners must first defend against on-site transmission by intensifying existing safety measures to account for COVID-19, such as by changing operating practices to ensure physical distancing and proper sanitation.

The range of interventions does not stop there. Fewer on-site leaders may mean supervision suffers, or fewer spot inspectors will be available to check for health, safety, and environmental (HSE) issues. Smaller crew sizes may engender a “make do” attitude that leads to fatigue, strains, and sprains. Longer wait times for proper safety equipment could inadvertently lead to more frequent shortcuts, such as skipping fall-protection steps or cutting corners on required personal protective equipment (PPE) such as steel-toed boots. Balancing both COVID-19 precautions and safety measures will require HSE professionals to uncover and manage the extent of the risks.



#### **5.4.2) Develop a flexible contingency system**

Owners expect a set of variables over the course of their projects—seasonal changes in particular. Many have dealt with surprises, such as temporary shutdowns of supply chains due to severe weather events or unexpected subsurface conditions. However, even the most experienced owners lack a response plan for more profoundly disruptive events, something that the COVID-19 crisis desperately calls for. Acting swiftly in the face of changing policies requires project owners to develop a strategy that stratifies risks, defines triggers for action, and provides guidance on what to do. Having this system in place means they can more quickly identify threat levels and advise their workers.

#### **5.4.3) Address workers' underlying concerns directly**

Project owners should take care to monitor morale, stress, and mental health while communicating regularly. Livelihoods are at stake, and record numbers of unemployment claims are processed every week. As such, many workers particularly those who can't work remotely have justifiable concerns over being able to provide for their families through this crisis while minimizing exposure to the virus. Owners may therefore seek alternative, flexible benefits for workers, such as enhanced paid sick leave and government relief for payroll. Ultimately, directly addressing workers' concerns can help them feel more engaged and safer on the job.

#### **5.4.4) Protect the project**

Projects are now facing unforeseen market conditions, contracting challenges (including potential bankruptcies or invocations of force-majeure clauses), supply-chain bottlenecks, and cash-flow shortages. Owners will likely want full visibility into potential risks, and can help safeguard the project's overall business case by taking four steps. These will likely be new for project owners, so we provide an overview here to help them get started.

#### **5.4.5) Launch a value-improvement exercise**

For most projects, the assumptions and conditions that underpinned previous execution-strategy decisions have changed, jeopardizing the business case. For example, project owners may not be able to justify expensive public-transit projects when the pandemic has drastically reduced ridership. Launching a value-improvement exercise could identify risks on continuing projects and opportunities that take on new relevance in the face of COVID-19. The exercise comprises a set of actions to help project owners keep the business case and execution strategy viable

#### **5.4.6) Conduct a contractor analysis**

Contractors may not be financially positioned to complete the project, and owners could see change orders and claims as a result of COVID-19. For “critical” contractors high-value or specialized the risks are heightened. A thorough, regular analysis throughout the project life cycle promotes productivity and labor continuity. This analysis should include a pre-pandemic snapshot of progress, delays, and expected contractor claims to establish a baseline, followed by an assessment to measure contractors’ financial strength and how critical they are to the project. Owners should also analyze contracts to prepare for change orders and claims. Potential mitigation will focus on bolstering critical contractors and sourcing alternatives for noncritical contractors.

#### **5.4.7) Map the end-to-end supply chain**

Complex global supply chains that move materials through different jurisdictions with varying COVID-19 effects are prone to weak links that could jeopardize the overall project; loss or unavailability of even a single critical part can lead to a total halt. Project owners should map out their entire supply chain to take more proactive measures during COVID-19, including identifying alternatives, considering where to stockpile, and reviewing contingency budgets to source and expedite critical materials.

#### **5.4.8) Strategically preserve resources**

Capital projects consume immense amounts of cash, which in the current environment can be even more critical than earnings. Methodical approaches including greater collaboration with functions such as procurement, labor, or finance, can help project owners conserve cash. Potential actions include negotiating with vendors on discounts and payment-deferral plans, aggregating demand for commoditized materials across multiple projects to take advantage of bulk discounts, or identifying and applying for appropriate stimulus or relief funds, when available.

#### **5.4.9) Protect performance**

The bar for capital-project performance will not change, leading owners to explore how best to adjust their operating models across engineering, procurement, and construction so that performance can be maintained in the face of COVID-19. Digital technology will underpin many of these changes; digital solutions that can be deployed rapidly will help preserve project continuity, while more advanced, transformative technologies (such as digital twins and artificial intelligence enabled processes) can help position project owners more advantageously after the first wave of COVID-19 subsides.

#### **5.4.10) Modernize engineering processes**

Traditionally siloed engineering teams now find it even more difficult to access critical data or interact with one other and stakeholders; modernizing processes and adopting digital solutions can help. Detailed mapping of the engineering process provides greater visibility across stakeholders, and information modeling and digital twins establish a single source of truth across teams, aiding remote sign-offs and handoffs. Designing with greater agility, such incorporating more prefab and modular components into a project plan, can help engineers iterate more easily on a remote basis and respond to supply chains and workforces that are more prone to disruption.

#### **5.4.11) Create a supply-chain nerve center**

Procurement can go beyond traditional functions and even go on the offensive. In the face of disruption, a supply-chain nerve center an agile, coordinated, cross-functional team can help manage and optimize procurement processes. The nerve center's objectives will be diversifying the supply chain, managing demand more efficiently, enabling agility, and managing use of off-site assembly and modular approaches. Together, the nerve center should manage five work streams: Suppliers focusing on risk transparency, restarts, orders, priorities, and qualification

Scenario-based demand requirement for construction scopes of work and planning for manufacturing and sourcing logistics, ports, capacity (shipping, rail, and air freight), and optimized routes clean-sheet pricing and contract negotiation to optimize cost effectiveness and deliverability dedicated, continuous improvement of procurement processes, including by examining opportunities for technology and digitization (such as e-sourcing)

#### **5.4.12) Identify digital solutions for immediate and long-term needs**

Although precious few investment dollars for technology may be available, digital solutions will help project owners with continuity as they attempt to work remotely, manage workflows and data accessibility, and monitor sites and progress. Project owners should honestly assess their requirements and current capabilities to prioritize those investments. Many solutions can be rapidly implemented or scaled. For example, a European commercial real estate developer is using web-based workflow tool that helps remote workers provide input on planning cycles, update crew sizes, and manage supply-chain disruptions due to COVID-19 in real time.

Project owners should also consider how to emerge from the crisis better positioned and more resilient. Larger investments in more advanced digital technology can help.

Certain technologies digital twins, Internet of Things connected assets and worker monitoring, augmented reality, and labor and process automation are all on the rise in the industry. One multinational engineering and construction firm is already using a digital twin of an in-progress site for rapid design iterations and constant remote monitoring of physical assets. These types of innovations can help project owners not only preserve project continuity but deliver faster, better results for all.

### **5.5) HUMAN RESOURCE RELATION TO PROJECT MANAGEMENT WITH A PADEMIC SITUATION.**

You need to be inspired to inspire anybody else. Some skills are coming to my mind that are recommended to develop:

- Compassion comes first because we are navigating a colossal amount of suffering. This situation requires a new kind of mindset. Breathe deeply every day and concentrate on the positive small facts. You cannot change the facts but you can manage your reactions in front of them.

- Being connected with everyone we know and don't know. We are all in this together. Please think about you are an excellent person (I mean you are always ready to run a more mile to achieve your objective.).

- Being kind, kindness and care for ourselves and our fellow human beings, some who are in harm's way and others who are doing their best to avoid or prevent harm.

- Being calm because we can't focus, think straight, or make the right decisions and choices in each moment without calming a fearful, frenzied mind.

- Being strong and positive is being grounded in our inner and outer resources gained from past adverse experiences, unique strengths we've cultivated, and support systems that we can lean on for a boost from time to time. Strength also comes from consciously and continually attending to the positive harvesting the good things in our lives, all that we have to be grateful for, and all the possible upsides of this experience.

- Being purposeful is very important. We need an inner compass to give our activities direction, one that is deeply motivating. What is our vision for who we want to be in these times? What meaningful contribution do we want to make? What higher purpose does this experience serve? What can we do that we will be proud of when this phase is in the rear-view mirror? What intention is important to bring to each moment? Some habits for Pandemic Times.

These difficult times call for new habits of mind and body that fuel and refuel, similar habits to those that foster well-being in better times, but with an upgrade to deal with extremes. Engage in mindset habits of compassion, calm, strength, positive attitude

and purpose to keep moving forward. Your team members and stakeholders will thank you because now you are not physically close to them. Be disciplined, wake up at the same time every day and do some physical exercise, take a bath or a shower, have healthy food, sleep well, and zooming warm social connections and rich conversations. A little fun, humor and creativity go a long way too, like dealing with social isolation, or singing or playing music. Skype with your team members and peers and chat about non-business-related subjects. Exchange thoughts and ideas.

As project managers we are supposed to be good leaders, but we need to start by leading ourselves in our current situation. Start with you. We have been converted into virtual workers, now you are managing people by engaging them with your comments, gestures and expressions. Many of us cannot exit home and we need to get our teams working and connected looking for effective results. Practice in front of the mirror every day and smile as your first feeling in the morning. Charge your batteries of positivism for the day and persist. Apply my three Ps (passion, persistence and patience) and I am sure you will succeed as a human being and as a good leader.

#### **5.6) EXAMPLE PROJECTS IN THE ONLINE WORLD.**

As the whole world is changing dramatically the way how we used to handle things having all the tools we need to conduct any project in the online world most of us are in to finding ways to get back to the same track where we were used to be. Project owners need to develop new working norms, adopt a more flexible working system, and address broader concerns associated with the pandemic to protect one of the most valuable resources that is people.

Every week, 70% of global employees work remotely at least once a week, according to a 2018 survey of more than 18,000 professionals from the International Workplace Group (IWG). Of that amount, 53% work remotely for half the week or more, and one in 10 employees (11%) work remotely five times a week. The number of employees who work from home has increased by 140% since 2005, almost 10 times faster than the rest of the workforce or the self-employed, according to 2018 data on telecommunication from Global Workplace Analytics. Approximately 4.3 million employees worldwide (3.2% of the workforce) work from home at least half of the time. By understanding how to properly manage a remote team and provide employees with the right tools and technology, company leaders can take action to avoid potential telecommunication challenges and create a successful remote working environment.

## **5.7) WHY TO CONDUCT THE PROJECTS IN THE ONLINE WORLD**

The pandemic has accelerated the shift towards a more digital world and triggered changes in online behaviors that are likely to have lasting effects during almost the past two years. The COVID-19 pandemic has forever changed online shopping behaviors, according to a survey of about 3,700 consumers in nine emerging and developed economies.

The survey, entitled “COVID-19 and E-commerce”, examined how the pandemic has changed the way consumers use e-commerce and digital solutions. It covered Brazil, China, Germany, Italy, the Republic of Korea, Russian Federation, South Africa, Switzerland and Turkey. Following the pandemic, more than half of the survey’s respondents now shop online more frequently and rely on the internet more for news, health-related information and digital entertainment. Consumers in emerging economies have made the greatest shift to online shopping, the survey shows. “The COVID-19 pandemic has accelerated the shift towards a more digital world. The changes we make now will have lasting effects as the world economy begins to recover,” said UNCTAD Secretary General Mukhisa Kituyi. He said the acceleration of online shopping globally underscores the urgency of ensuring all countries can seize the opportunities offered by digitalization as the world moves from pandemic response to recovery.

The COVID-19 pandemic is a health crisis that has leaders across the world grappling with the well-being and livelihoods of their communities. The economic challenges wrought by the pandemic continue to mount and with them comes much uncertainty about the future. Capital projects have been hit particularly hard, with worker absences, supply-chain disruptions, and deteriorating investor confidence taking a toll.

Although many projects will continue in fact, our analysis suggests that despite economic headwinds, \$8 trillion in capital delivery is expected to continue throughout 2020 three primary challenges have emerged, all requiring new levels of agility from project owners:

- Fluctuating guidance and restrictions. Policies put in place to flatten the coronavirus curve have already disrupted the availability of labor, materials, and equipment, and are likely to continue doing so even as they ease. Further waves of the virus, and global variations in severity and timing, will make it difficult for project owners to predict the impact as governments balance healthcare outcomes with reopening the economy.
- Market conditions. Supply chains and contractors will be strained, and project owners must be prepared for the possibility of insolvency or bankruptcy alongside cash flow shortages.

- Cash and working capital. Resources will be increasingly scarce as the markets and economy falter and then recover, and a challenge that may be compounded by low cash reserves.

Yet, irrespective of the pandemic, projects still face a performance bar and owners face an uphill battle. Although they will likely look to governments and corporate stakeholders for initial guidance, the burden of leadership at the work site falls squarely on their shoulders. The COVID-19 crisis will test even the most sophisticated project owners, and passing that test will take a focus on three core priorities: protecting people, the project, and performance.

### **5.8) ADOPTION OF NEW NORMAL OF PROJECT MANAGEMENT**

Moving forward from traditional methods to adoption of the project management, we can clearly see the online world has become the new normal of most areas. Counting from basic needs of a new born child to the last minutes of the human life online world has become one of the most important part that we need. The rise of Everything-as-a-Service (XaaS) has radically changed the way organizations build their infrastructure, relying less on on-premise services and shifting their attention to online and cloud-based solutions. The ubiquitous nature of mobile and online-capable devices means that employees in a company can have full access to their devices from anywhere in the world, and with significant ease.

Even so, there are countless stories of organizations spending millions on shiny new platforms and online applications only to see their investments wither and waste away from lack of use. Although these new tools are built to simplify users' lives, it can be difficult to achieve adoption when organizations do not do enough to justify a new platform or clearly highlight its values. As such, ensuring a product's digital adoption is a vital concern for any organization in the process of installing or implementing a new service or tool. Especially in an online world, digital adoption is no longer optional.

Disruptive technologies force businesses to change what they do and how they do it, and organizations that are not set up to evolve, or refuse to, can be upended. Print media outlets, music record stores and travel agencies are examples of businesses that have been disrupted by technology. However, businesses that are committed to restructuring their strategy based on the rise of disruptive technologies can thrive in an era of constant change. Technological advances like artificial intelligence, virtual reality and predictive analytics have disrupted businesses positively by offering organizations a way to increase efficiency, reach new markets and make better, data-driven decisions.

Technology has become a central part of project management. The theme throughout the Pulse report is that project managers need a high PMTQ – project management technology quotient. In other words, they need a firm grasp on how to integrate technology into project management for improved results. This situation – driven by disruptive technology and the need to understand it and put it to use – is what has led to “the new normal.”

### **5-8-1) Why new implementations stutter**

There is not a single reason why adoption of a new service or company-wide initiative fails, but rather a network of interrelated factors. It begins with a lack of focus on what exactly an implementation or transformation is supposed to achieve. When companies do not have a clear view of what they are hoping to achieve, it is difficult to engage others to adopt a new tool. Similarly, a lack of support from the C-level and management will also likely stop digital adoption straight in its tracks.

Another crucial component that many companies ignore when rolling out new pricey platforms and software is a focus on the users themselves. Executives’ decisions are sometimes based on factors that completely ignore their stakeholders, price, flash, trendiness and can seriously stunt adoption.

Users who are unhappy with a new tool are more likely to keep using their legacy systems and affect the effectiveness of new tools. This is also connected to a lack of information and education when companies invest heavily in a new solution, but not enough in training their employees to use and adapt to the new software. Finally, a lack of a clear strategy for integration will stall adoption long before employees even touch a new application.

### **5.8-2) Why adoption matters**

With such a difficult road, it is little surprise that so many “digital transformation” projects fail. A lack of digital adoption can seriously cripple a new implementation, and it can result in thousands and potentially millions of dollars lost in the long term. Instead of simply focusing on installing a new state-of-the-art ERP, CRM, or analytics suite, companies must focus on creating a concrete and comprehensive digital adoption plan.

The most obvious reason why digital adoption is important is simple no matter how effective or powerful a new software solution is; it is only as good as the number of people using it. In massive organizations, deployment and roll-out of new programs is carefully planned to guarantee that as many people as possible will make the shift as quickly as feasible. More importantly, perhaps, is the fact that rapid digital adoption is the best way



to ensure new digital assets software, applications, tools generate a return on investment. This is true both for internal applications and external ones. An organization that implements an expensive CRM will need it to generate a tangible improvement in sales, conversions, and leads to justify its cost. Similarly, a new application or portal for users must result in higher traffic or more clicks. Without a strong surge of digital adoption, both cases would result in losses for an organization.

Finally, digital adoption means that a company is working with its best possible tools. Organizations that continue to work on legacy systems are quickly lapped by those that fully embrace and successfully implement changes. Even so, simply adding new solutions does little to improve efficiency. Digital adoption ensures that every stakeholder in an organization is working from the same foundation and with the same tools. This improves communication, provides the expected outcomes, and streamlines operations further by standardizing work and software across a company. Organizations looking to complete digital transformation processes, or migrate their existing services online require buy-in and adoption from their users, or they risk losses that could do more than set back their IT budget.

### **5.8-3) A new focus on digital adoption**

As more companies shift many of their services and operations online, finding ways to improve adoption rates and succeed in digital transformations is crucial. For businesses that are looking to abandon legacy systems, a lack of digital adoption can result in losses, delays, poor service, and unhappy stakeholders.

With each new implementation and digital transformation, companies must be aware of every factor to make sure that transitions and new deployments are smooth and welcome by all. A strong focus on education, support from management, and a clear course of action can help, and a targeted approach by every stakeholder in an organization can guarantee that new solutions will be embraced rather than ignored. Digital transformation is neither a buzzword nor an ugly trend. It is a societal phenomenon that affects our private life as well as our professional life. The introduction of new technologies and the emergence of new uses have changed our world from a cultural, structural and organizational point of view.

How does this translate into the professional world? New technologies, such as cloud, IoT, big data, virtual reality, 3D printing, mobility, etc., are gradually integrating companies. Apart from the use of these new tools, the convergence of the digital world and professional world lead companies to work on several points: digitalization, communication and sharing, internationalization, competitiveness/competition and

collaboration. By definition (according to Wikipedia), digital transformation is “the use of digital technology to solve traditional problems.” These digital solutions provide new types of creativity and innovation instead of simply enhancing and supporting traditional methods. With the digital revolution, businesses are seeing new competitors and new customer requirements. They must, more than ever, work on their strategic transformation issues for them to remain competitive.

For some businesses, the digital transformation is at the beginning of a transformation of the customers, their uses, their behaviors, their habits, and their expectations. Businesses must adapt to this digital transformation if they want to stay relevant. Digital transformation will force companies to move from a self-centered and product-oriented operation (they hire marketers and salespersons to sell what is produced) to a customer-driven operation - their needs and expectations. Digital transformation is, therefore, a tool and not a goal. The goal is not digital transformation but to adapt to changes and transformation of ideas and practices. Beyond the equipment in customer relationship management (CRM), dematerialized services, software, management tools, messaging services, social networks or marketing software, companies must now prepare for the human-machine collaboration. Big data, artificial intelligence, machine learning, Internet of Things and mixed reality are the future of the business environment.

Consequently, the digital transformation of a company is linked to technologies, which are also deployed in the processes to adapt best to the uses. A good digital strategy of any company is to observe its customers and see how to meet their needs and create tools to engage them. Therefore, the more a company wants to have a competitive advantage in this new economy, the more its tools should be of high technological value and "customer-centric."

#### **5.8-4) Digital transition and change management in the online world**

There is no doubt that digital transformation impacts the operation of a company. The technological changes of a company cannot be successful without the active participation of all the employees/human resources. From the tools and interactions with its ecosystem, everything must be redesigned so that each employee can use the features without any hassle. Therefore, all employees must be involved and carried along in this strategic shift. General management and HR's role are to communicate the reasons for this choice, its consistency with the corporate culture and the progress of this change. IT will encourage the use of new tools by demonstrating their benefits. Managers will transform themselves into change coaches. Employees become ambassadors for the digitization project. This encourages a clear communication on the impacts and benefits

of the transition; and significant involvement of the leaders, who will have to unite the employees around a common vision.

Above all, digital transformation impacts on the traditional organization of work. Technologies eliminate spatial and temporal barriers, connectivity allows collaborative work (anywhere, anytime, any device), new "devices" (digital objects) make it possible to unify physical working tools with digital working tools, and finally, the universality of the internet places the human resource in a global framework. The role of the manager as a change leader is central. The team leader exemplifies the change: he must, therefore, motivate and support his employees. A communicative, adaptive and educational approach guarantees successful support.

However, the arrival of digital transformation is shaking up established cultural strategies. Lack of technological know-how or the fear of change is palpable and perfectly understandable challenges. To maximize the flexibility offered by digitalization and facilitate decision-making within a company, transparency and information sharing must be encouraged by all employees. The digital transformation of a company thus requires the modernization of internal practices. That will lead to easier decision-making and a significant reduction in the time spent on secondary tasks in the company. A profound change in organization and ideas must take place so that the company can take advantage of the enormous and diverse benefits offered by digital transformation. The keywords are responsiveness and adaptability. If this digital transformation "mindset" revolution takes place in a company, they will begin to see and feel the impact on productivity almost immediately.

## **CHAPTER 6**

### **6.1) CHALLENGES FOR PROJECT MANAGEMENT IN THE ONLINE WORLD**

As far as traditional project management methods shifted from the existing practices and then moved to the hybrid methods of project management Advancing infrastructure projects means owners must protect people, projects, and performance. This will require adopting an agile posture, continually assessing risks, and adjusting operations. One common form of social distancing is working from home, which is obviously not an option for construction projects. But it is possible that some portion of the team is not required to be on site every day and could work from home. Moreover, the ultimate goal of reducing physical proximity between workers can be achieved in other ways: make water bottles available in place of communal drinking fountains; establish protocols for virtual meetings, as opposed to in-person meetings; or permit people to stagger break time to reduce density in break rooms. Consider how to cultivate a new workplace culture that keeps worker morale strong even as you discourage physical proximity between work friends in common areas.

It is imperative that employees are properly educated and trained on COVID-19-related safety enhancements and procedures. In fact, some jurisdictions require such training and include specific requirements for the training itself. In general, the training should be easy to follow and should include policies and procedures for maximizing social distancing, using personal protective equipment properly, and addressing actual or suspected COVID-19 cases in a manner that minimizes continued spread of the virus. Educating employees includes not only verbal training presentations, but also posting signage and keeping written training material in visible places on the jobsite.

#### **6.1.1) Building Trust**

The number-one issue is trust. This is true with any project. Teams must be trusted to execute their tasks as best they can with the skills that got them hired. Not having your team in the office with you creates a fear that they're not going to work as diligently as they would if you were looking over their shoulder. The truth is that building trust takes time and that might be a long time if you're working in a corporate culture that's new to virtual project management.

#### **6.1.2) Monitoring Progress**

Being able to monitor and track progress sort of piggybacks on the trust issue. But even if you have complete faith in your team to work hard, any project manager worth

their spreadsheet knows that without metrics to measure their work things can get out of hand quickly. Having virtual teams to manage makes monitoring and tracking progress more difficult. You can't just walk into their office and get an update or see where they are in the process.

### **6.1.3) Office Culture**

The corporate culture at your organization can be a benefit or a challenge, but more likely than not it's another hurdle to clear. Even with a list as long as your arm noting how virtual project management can help projects and organizations, old habits die hard. If executives do not buy into the idea of virtual project management, then it's bound to fail. But getting that genuine acceptance from the top can be difficult.

### **6.1.4) Slow Communication**

Time is one of the triple constraints in a project. Streamlining process is how projects work more efficiently. But when working with virtual project management and distributed teams, there can often be a delay between the assignment of a task and its execution. There's also the day-to-day communication that is so important for any project. Having a channel for communications is crucial, something more immediate than email, and making sure people are paying attention to it.

## **6.2) BENEFITS FOR PROJECT MANAGEMENT IN THE ONLINE WORLD**

This goes hand-in-glove with technology advances that have made it easier to manage remote workers. The development of a virtual office has made the transition to virtual project management that much smoother. The generational change of workers is also at play in the rise of virtual project management. New workers are entering the workforce, but older workers who are able to adapt are staying in with the help of virtual teams.

This creates an even more productive team, one that is energized by youthful enthusiasm and new ideas, but anchored by the experience and skills of older team members. Also, many younger workers are attracted to working in virtual teams. They are often more familiar with digital tools and appreciate the freedom. Fortunately, none of this compromises the central tenants of good project management. The advantages of virtual project management are tied to the benefits of having virtual teams. Virtual project management, after all, exists only as a method to manage those remote teams.

### **6.2.1) Good for Your Bottom Line**

The one that is likely most persuasive to business is the impact on its bottom line. Having virtual teams and virtual project management to manage them means less office space, less equipment, less utility bills, etc.

### **6.2.2) Access More Talent**

As noted earlier, virtual project management means virtual teams, which are a great lure to attract talent beyond your region. This is how many organizations frame the importance of having virtual project management, but what is not always addressed is how remote teams also help with retention of that talent.

### **6.2.3) Higher Employee Retention**

When managing virtually, your organization is not only attracting talent from beyond its geographic reach, but retaining those skilled workers. More employees are demanding a balance of life and work. Being part of a virtual team usually provides them with the flexibility to care for young children, set their hours and get other perks that keep them loyal to the organization. They're less likely to get restless and seek employment elsewhere.

### **6.2.4) Greater Productivity**

While it might seem counterintuitive, virtual project management boosts productivity. According to a survey from Global Workplace Analytics, "a typical employer can save an average of \$11,000 per half-time telecommuter per year. The primary savings are the result of increased productivity, lower real estate costs, reduced absenteeism and turnover, and better disaster preparedness." That's not even including less travel time and unnecessary meetings.

## **6.3) RISKS OF PROJECT MANAGEMENT IN THE ONLINE WORLD**

Since the entire world was effected by the pandemic situation more than 50% of the entire world had shifted from traditional working style to work from anywhere, work from home and remote work (virtual working habits). That doesn't mean virtual project management isn't without its challenges. There are always going to be hurdles to clear. In recent years, the way that projects take shape has evolved at or near the same pace as the information and communications technology we use in our business and personal lives. Not long ago, a project team was either co-located (all team members in the same close proximity), or connected together via express couriers and air travel (regular travel to

meet face-to-face was reasonable, prudent, the best method, and acceptable in cost). Then came the email revolution. Project teams could readily and efficiently communicate in an asynchronous manner, „virtual“ team members were welcomed and new ways of achieving productivity were discovered. Project productivity certainly benefitted from this approach, but risks also became apparent (which we will elaborate on below). Nowadays, video conferencing, application sharing technologies, and other technology advances have enabled project teams to be assembled with talent from anywhere, regardless of location, while minimizing location costs.

Communications technologies are so readily available that the virtual project team member is now commonplace in today's working environment. Depending on the industry in which you operate, the percentage of virtual team members on a project will vary and in some cases your entire project team may be virtual – meaning no two members geographically reside in the same location, nor meet often (if at all). The Linux development was a classic example of such a team. For sure, projects where something physical is being put together always require people in the same physical location to coordinate it (such as construction of a new building, or a new mining development), however these projects also have many more virtual partners than before (such as designers and offsite manufacturers working remotely). Regardless of the percentage allocation of your team that is “virtual”, communication risks exist. What are the key risks and how can the project manager effectively mitigate them?

The basic theory of communication involves a sender, a receiver, a message and a medium. When the medium of the message is virtual, such as email or instant messaging, risks exist in that the “intended message” may not be the “message received”, Email and the like does not give you the emphasis, inflection, tone, or body language that you have when dealing with people face to face, or to a lesser extent by phone. Over the course of our careers, we have all probably been guilty of at least once, or known someone, who has sent an email, or instant message only to live to regret it as the intended message got distorted and ended up requiring far more “patching up” communication to resolve the matter than the time taken to craft the original email message. Lack of body language, tone, facial expressions and hand gestures make it very difficult to effectively communicate across all forms of virtual communication, especially when cultural and generational differences are factored into the equation. A project manager needs to be aware of these differences as well as the communication preferences of every stakeholder and adapt their communications accordingly. In order to mitigate communication risks, the project manager should think hard about how their team members select and use the

most appropriate communication mediums for the messages being delivered. Here are some suggestions for considering communication mediums.

#### **6.4) IS ONLINE PROJECT MANAGEMENT EFFECTIVE**

For those who do have access to the right technology, there is evidence that online project management can be more effective in a number of ways. This is mostly due to some project managers in specific areas such as IT industry being able to work faster online accelerating through concepts as they choose.

Nevertheless, the effectiveness of online learning varies amongst age groups. The general consensus on children, especially younger ones, is that a structured environment is required, because kids are more easily distracted. To get the full benefit of online learning, there needs to be a concerted effort to provide this structure and go beyond replicating a physical class/lecture through video capabilities, instead, using a range of collaboration tools and engagement methods that promote “inclusion, personalization and intelligence”, according to Dowson Tong, Senior Executive Vice President of Tencent and President of its Cloud and Smart Industries Group.

Since studies have shown that children extensively use their senses to learn, making learning fun and effective through use of technology is crucial, according to BYJU's Mrinal Mohit. “Over a period, we have observed that clever integration of games has demonstrated higher engagement and increased motivation towards learning especially among younger students, making them truly fall in love with learning”, he says.

In 2013, Yahoo Inc. announced they would be ending their remote working program, which ignited the debate whether virtual teams are more productive than employees working in a standard office environment. You can make the case that teams who sit together in an office may have increased collaboration and productivity than teams communicating through a computer screen or working on a project in different time zones. However, a generational workforce shift may cause companies to abandon the traditional work model.

Speaking to CNBC, Upwork CEO Shephane Kasriel said he believes remote working will be commonplace within the next decade as younger generations move into leadership roles. “Millennials will be the next CEOs and CXOs. As younger generations take management reins, remote-work and flexible-work models will just be the norm to them. They’ll hire more remote people and empower their teams to work that way”, Kasriel said.

According to Gallup’s 2017 State of the American Workplace report, remote employees log an average of four more hours per week than employees who work on-site,



while virtual teams are generally more engaged (32%) than their on-site counterparts (28%). A two-year study from Stanford also found that employee attrition decreased by 50% among remote workers, employees were less distracted at home than the office, and they took shorter breaks, and asked for fewer sick days and vacation days.

Depending on the business and industry, remote working has the potential to be as successful as in-office work for companies. The challenges of fully implementing remote working typically depends on the virtual team in question and whether they can meet the needs of the business working outside the office. This responsibility often falls on team leaders to encourage frequent communication and set clear expectations among remote employees.

## **6.5) HOW TO KEEP YOUR VIRTUAL TEAM ON TRACK**

Project management best practices can apply to virtual project teams. In the case of managing a virtual team, there may be slight modifications project leaders should adopt in order to best manage the team and keep team confusion to a minimum. Project team members could be dispersed across the world, especially since the demand for talent continues to rapidly increase in developing countries such as China and India, according to the Project Management Institute's 2017-2027 Job Growth and Talent Gap report. Exemplifying strong communication habits, understanding team dynamics and knowing how to keep your virtual team on track during a project's lifecycle is essential for project managers. The tips below can help managers build team cohesiveness and promote a collaborative work environment.

### **6.5.1) Choose a Method of Communication**

In the virtual world, with team members potentially located in different time zones, deciding how and when you communicate is important. One of the first steps project managers should do, especially in large teams, is select a communication platform that everyone can easily use to stay informed on project timelines and collaborate.

A large team without a consistent communication tool could cause employees to miss important project updates or limit their ability to work together and share ideas. Some popular communication tools include: Zoom, Skype for Business, Microsoft's Office 365, Slack, GoToMeeting, WebEx, Google Hangouts, Atlassian and Basecamp.

### **6.5.2) Define Roles and Responsibilities**

Each project team member should understand their role and what they are responsible for on a daily basis. It may help to track everyone's roles and responsibilities

in a central document, which can visibly show what tasks are not yet assigned to team members. Assigning roles and responsibilities can also help employees understand project expectations. One way to level-set expectations is to ask everyone on the project team to summarize what they believe their roles and responsibilities are, regarding the specific project they are working with. This can help project managers determine whether their expectations match that of their employees.

### **6.5.3) Implement Routine Meetings**

Gathering together as a group at a specific time each week is imperative for virtual project teams. Whether it be through a chat app or a video conferencing tool, setting a daily or weekly meeting cadence can help keep everyone informed of what's going on during a project's lifecycle, and can be used to communicate client or stakeholder feedback. It can also create a sense of community – a feeling that remote workers may miss (compared to their in-office counterparts). Routine meetings, such as daily 15-minute standups, can help team members communicate project deliverables and inform key stakeholders of risks or obstacles in the way of completing the project on time or to the expectations of the customer.

### **6.5.4) Make Good Use of Project Management Tools**

Project management tools like network diagrams, project evaluation and review techniques, Gantt Charts and work breakdown structures are essential for virtual teams to function effectively. These tools can help managers and their teams monitor the progress of projects by sending reminders about essential tasks to specific team members and tracking time to ensure each remote employee spends an adequate amount of their workday on completing project deliverables.

## **CHAPTER 7**

### **7.1) USEFUL TOOLS FOR PROJECT MANAGEMENT IN THE ONLINE WORLD**

Until recently, disruption in IT meant something very different than sending everybody home to work for a year. But the COVID-19 pandemic has shaken up the technology landscape, stalling some approaches and systems, while speeding the adoption of others. In our recent State of the CIO survey, tech leaders placed AI and machine learning at the top of their list of technologies most likely to significantly impact how businesses operate in 2021. IT leaders also see big data and analytics having a distinct impact, along with less widely adopted technologies such as block chain. As the project management via online world is expanding there are various tools we need to use for various tasks to accomplish the project management process. There should be various areas we need to succeed in the online projects some areas are as follow.

- Communicate through group chat.
- Raise issues and these get resolved easily.
- Sharing of files, documents and information becomes simple.
- Notes functionality will help group members to write content together.
- Sharing of ideas becomes very easy.
- It also lets you connect with your projects on the go from their mobile.
- Great calendar view lets you see everything you need.
- Kanban view turns tasks into boards that are also easy to see at a glance.

Prudential Financial's acquisition of Assurance IQ in 2019 signaled an interest in accommodating consumer preferences for interacting with brands via digital channels. Assurance matches buyers with life, health, Medicare and auto insurance, giving them options to purchase products online or with the help of a live agent.

To support Prudential's digital strategy, the company's engineers leverage agile and DevOps processes, collaborating cross-functional teams that include product managers, analysts and other key business staff, says CIO Stacey Goodman. Staff are standing up self-service capabilities to help "test and learn and fail fast and ideate" as they build new apps. Engineers are leaning heavily into Microsoft Teams and other tools to collaborate on code and other aspects of their jobs.

While Prudential's hybrid model of cloud and data center operations remains robust in the face of the pandemic employees operate trading environments from home Goodman's goals include boosting time to market for new software products, which

ideally will improve the experiences for customers and employees. “We want to be in lockstep with that to be able to respond to the market,” Goodman says, adding that she wants to improve mobile capabilities as Prudential continues to support its hybrid model of allowing people to work from the office and remotely during the pandemic.

Moving with the market has been a critical imperative for Julie Averill since she joined Lululemon as CTO in 2017. Averill, who has launched several international websites and mobile applications since joining the apparel retailer, says she is migrating most compute functions to Microsoft Azure to “provide more flexibility to our guests.” Mobility is a key focus, as Lululemon strives to allow customers to search its product inventory from their smartphones, Averill says. “We’re fueling our growth through product innovation and improved guest experiences in key markets across the world,” Averill says.

Overcoming the challenges and taking advantage of the benefits is where virtual project management tools come in. More people are working remotely and more managers are having to control that work virtually. These are some of the tools that help managers and teams alike to do their jobs better.

## **G Suite**

G Suite from Google Cloud is all your office software under one roof. Not only does it include Gmail, Docs, Drive, Calendar and more for businesses, but it’s all stored online and easy to share with teams. Meetings can be set up, and Calendar alerts the team. Team members can collaborate on documents in real-time. This is the paper virtual trail that leads to solid virtual project management.

## **Zoom**

Zoom is a video conferencing software that has stepped up as the virtual leader in online communications for virtual project management. It’s great for briefings, meetings and one-on-one discussions. The service has recently added passwords to plug security holes it had in the past.

## **Project Management Software**

Productivity tools and video conferencing are but two of the pillars that hold up virtual project management. But it cannot stand without project management software. What project management software does is enable virtual teams to work better together and managers to assign, monitor and track progress. It does this with a suite of features.

## **7.2) HOW THE WORLD OF PROJECT MANAGEMENT ADOPT THE ONLINE WORLD**

Taking back to the traditional methods we had been following before the world identify there is a pandemic situation about the hit the entire process of human day to day work, so far sudden changes of the society had forced humans to get in to the track of sudden movement of conduct everything remotely without having physical contacts with each other. One of the effects of the Covid-19 pandemic has been the forced adoption of remote working for many companies, and the consequent issues related to access to documents, assets and information from different locations. For most of them this has been a 'not-planned' emergency plan from an IT point of view, resulting in an initial rush to implement the minimal conditions to enable communication and sharing document tools to assure business continuity. The companies that take advantage of the shared sense of emergency and need for change to improve company culture and working tools will most likely get some positive benefit in the long run. On the contrary, not adopting the required steps can bring inefficiency and frustrated employees, resulting in business and talent loss. In this scenario, it is of key importance to quickly assess the current situation to not lose the opportunity and rapidly deploy a solution to enable an efficient and effective infrastructure to access documents, assets and information from different locations. How can organizations enable a remote workforce? Focus on key areas to lead the entire process No solution fits all needs, but Reply has identified areas within which to focus the analysis, using a human-centered design approach to lead the entire process. Reply is helping companies to reconcile employees' needs with companywide vision and strategy by implementing the best solution with an end-to-end approach.

### **7.2.1) Productivity and collaboration**

Identify easy to use cloud-based productivity tools that facilitate collaboration and document-sharing. Videoconferencing and collaboration tools are not the only examples of how the cloud can help organizations in these moments of forced distance between people. Cloud means fast and secure remote work management, control over network access and user connection to VDI, secure access to on-premises core services and systems with federated access, enhanced flexibility and scalability of mobile and remote environment and overall control of the total cost of ownership. Augmented Reality Cloud technology could help in the post-pandemic scenario as well as increase collaboration thanks to Digital Twins, on-site design reviews in AR/MR, location data to visualize a heat map in AR/MR, immersive training, augmented intelligence for object recognition and much more.

### **7.2.2) Communication**

Keeping employees aligned with the decision process and openly sharing information within the entire team in an efficient and reliable way is important to avoid inefficiency. Reply is helping companies in identifying the needs and the best communication tools to allow people and teams to improve communication efficiency. Conference calls, video calls, chat, e-mail not only have to be available, but more importantly have to coexist and be leveraged based on the real needs of the decision process. Last but not least, these tools have to be reliable and easy-to-access for all. Immersive telepresence can provide a much more life-like experience, with holographic meetings using 3D volumetric video streaming and collaboration tools.

### **7.2.3) Data access**

Data is crucial to the decision-making process. Allowing easy and distributed access to data while working remotely is a key factor in making the right business decision. Cybersecurity this is an area that usually is under-evaluated by remote workers. Remote working brings an increased risk of scams and cyberattacks attempting to exploit less-secure connections. For this reason, organizations should focus on setting up and protecting the entire infrastructure security, bandwidth, access permissions and hardware. Ensuring data security does not negatively affect the daily routine is of enormous importance. In a period of forced remote working basic IT support might be overwhelmed. Reinforcing the IT Support Team with facilitators that can help other employees (less-experienced colleagues, new-joiners) overcome hurdles might decrease the pressure and improve efficiency.

## **7.3) ONLINE WORLD WITH A NEW FACE IN THE PANDEMIC WORLD**

Few years back where there was no sign of any pandemic war spreading in the world we never thought the day to day business has to be moved and land in a remote work. Today more than 50% of the entire world working remotely and many government agencies are pushing the private sectors to carry their work force on this new Normal concept of remote working. Digital is impacting businesses at multiple levels. Just think about what your business looked like a decade ago. “It’s Increasingly clear that traditional ideas about the business value of IT are inadequate for understanding the true value that digital now offers,” says Saul Judah, research director at Gartner. Digital transformation poses multidimensional challenges for business leaders. Currently, up to 88 percent of

digital transformation projects fail, according to Alistair Sergeant, CEO of Purple Consultancy.

- Align objectives with business goals. Answer the question: What business outcomes do you want to achieve for customers? Prudential's Goodman says it's incumbent upon IT leaders to know the problem the business is trying to solve and align their goals with the outcome the business strives to achieve. "The companies that I come from that have done well were all aligned to the business outcome," Goodman says. Use your customer journey map as a guide.
- Be bold when setting the scope. Successful digital transformations are 1.5 times more likely than others to be enterprise-wide in scale, says Laura LaBerge, a McKinsey senior knowledge expert. This will also help CIOs recognize the biggest bang from their tech investments. "If they're stuck on incremental changes they may miss the big move they might have seen," LaBerge says.
- IT and business must co-create. Traditionally, IT departments were called on to fix broken services, says Lululemon's Averill. Today, IT must work as co-creator with the business to solve problems and deliver value for customers.
- "We had to work together to change the culture of the whole company," Averill says. "It has to go both ways. The business can't just sit there and demand tech; they have to know what they're asking for."
- Embrace adaptive design. The days of upfront investment requirements and rigid KPIs are over. Adaptive design enables CIOs to pursue monthly or even weekly tweaks to the transformation strategy, including reallocating talent.
- "We see this adaptability ingrained in the design of successful transformations," LaBerge says, adding that business leaders reporting success were more than three times more likely to facilitate monthly adjustments to strategy.
- Adopt agile execution. Encourage risk taking, enabling even lower-level employees to make decisions, fail fast and learn. This has been a key tenet of IT's success at Prudential, Goodman says.

It's okay to disrupt yourself. Even though many organizations rush to address rivals, the best digital transformations require preemptive changes rather than reacting to competitive pressures, says Martin Reeves, of BCG's Henderson Institute. He says companies should begin searching well before they exhaust their current sources of profit and employ a mix of big steps to explore uncharted terrain and smaller steps to tap adjacent markets. Regardless, having a strong bias toward change is critical.

#### **7.4) SOLVING ISSUES OF ONLINE PROJECT MANAGEMENT.**

A solution that sounded like a nice-to-have yesterday could actually be a life-saver for project managers in 2020. This implies that project team has the right technical equipment (computer, Internet connection, remote access to company softwares), that the work CAN be done remotely and that the scope of work and responsibilities are clearly defined for both team members and managers.

##### **7.4.1) Clear communication collaboration**

Without regular status meetings, without seeing colleagues every day in the office, the chance to ask or answer questions or to "just check in" doesn't present itself as easily. This is the opportunity to try and use other means of communication. However, don't compensate by sending 10,000 emails a day. This would defeat the purpose, and just frustrate project teams. The idea is to build virtual teams that feel connected and stay in touch regularly where ever they are present in the world.

At Sciforma, we have significantly reduced the number of internal emails. For simple questions, that do not require extensive answers, we use our chat. There is no point in sending an email if you can get an immediate response. We are not very fond of incessant phone calls either, as the chat allows our colleagues to manage their time and respond at their own pace. For regular meetings, use a simple video conferencing tool like Zoom, Skype, or even Google Hangouts (which is free). It recreates the atmosphere of the conference room, facilitates communication, and maintains connection between team members that can easily feel isolated.

With constant communication, as a Project Manager, you'll easily be able to identify and solve issues, which will enable you to meet your deadlines and deliver on time. TIP: Don't forget informal meetings. Schedule "coffee and tea chitchat meetings" so you can recreate the coffee break and maintain the bond without limiting the interactions to work. It will help keep your coworkers motivated in the long run.



### **7.4.2) Data centralization**

One of the biggest problems that our clients face is missing or unreliable data. Each team works on a different Excel sheet, so the primary need is to be able to collect and synchronize all these data. With the current lockdown context, organizations have no other option than to centralize the information (communication, work sheets, reports, documents). Without a centralized information system, there can no longer be proper project management.

The solution here is pretty simple: a Project & Portfolio Management tool. The Project Manager should be able to log in and immediately see everything that is happening in real time, and to track the progress of each project to ensure that everything goes as planned. You could, of course, use collaboration tools like Google Drive, but if you don't adopt organizational processes at the company level, you'll still waste time looking for documents in the maze of individual project folders.

Keeping everything in a shared location ensures all team members know what they're responsible for and what they need to work on. No one can claim they haven't seen task assignments or didn't know something was due. TIP: Project Managers are among the people responsible for keeping your tool or your tracking system up to date. See to it that, within their weekly schedule, they take time to make sure all tasks are completed, deadlines are met, and resources are not overloaded (or, take corrective action). Project maintenance is important for all team members, including manager

### **7.4.3) Efficient monitoring**

Just like with data centralization, the context forces us to monitor project status more closely. Most companies can't afford extra costs, delays or missing resources that would translate into massive ROI loss throughout the year. Even within a conducive economic context, a one-day delay could spell the loss of thousands of dollars. More than ever, monitoring is key to efficient project management. With a good data centralization tool, you should be able to achieve efficient reporting. Your monitoring and centralizing systems should be synchronized so that you get real time information, enabling you to take immediate action when necessary.

Define your KPIs, build monitoring dashboards and make sure you can visualize them in real time. For instance, in Sciforma, each project can be tracked using a Health Score which gives each Project Manager, PMO Manager or stakeholder an idea of where the project stands at a specific time. Make sure to set notifications and warnings for potential issues or risks. You'll see that these 3 factors are interconnected. Without efficient communication, you can monitor as you please, but you'll never be able to act

on issues. Without centralized information, there's not point in monitoring partial or wrong data. Finally, you can't do anything if you team does not feel connected, supported, and empowered to make sure that the projects move on. Getting these 3 success factors right can not only help you weather the ongoing storm, but also drive long term PPM improvement in your organization. If you were considering Project & Portfolio Management solutions, now could be a good time to dig deeper. Taking action now would enable you to start reaping the benefits in the coming months.

## **CHAPTER 8**

### **8.1) ADAPTING TO THE NEW NORMAL OF PROJECT MANAGEMENT**

Today, the daily lives of many are extremely different. Though some things will return to how they were previously, it's important for project managers and their teams to embrace and adapt to a new normal. The pandemic has brought many changes to the world of work; some are temporary but others permanent, especially those that save costs and time. For example, in-person public engagement will return but, as a precaution and recognizing opportunity for efficiencies, some events will be held virtually. Certain project phases such as online bid openings, as explored below – will eventually replace traditional methods entirely. Ultimately, the pandemic has reaffirmed the need for A/E project managers and project owners to think differently. As an engineer and project manager working remotely, seeking to help clients through this new normal and learning to adapt the following graphic shares five traits I've found to be critical in today's ever-changing, unpredictable environment. Project managers who carry these traits, to name just a few, will be best positioned to help project owners adapt in the years ahead.

Another important part of dealing with challenging situations is the ability of leaders to be consistent, visible and competent. This will be particularly important during times of recovery. Resilience and confidence are the two magic skills here. To find out about your personal level of resilience and confidence ask yourself the simple question: “how do I feel?” And follow-up with: “How comfortable do I feel with the work I’m doing?” This will give you a good indication of where you are.

Project managers very often work under lots of pressure, but stakeholders expect them to be 100% “on the ball”. This means you need to show the rest of the team that you are in control. For this you need to have a clear understanding of your targets, your stakeholders’ expectations and what you need in place to satisfy them. Organizations’ progress will be dictated by successful change programmers, which come from successful projects being implemented. So, doing the best job possible and demonstrating your value to the organization will help your resilience.

The project manager also must be visible to everyone and be available for whatever the team needs. If this isn't the case, project team members can start to get worried. And it's a sure sign that a project manager's resilience is low. If you go “missing” in tough times, e.g. not attending critical workshops, double-booking meetings or not replying to emails, then stakeholders lose trust in the project manager and this could eventually hurt the project. For a successful working relationship, the project manager also needs interpersonal skills such as empathy, humility, keeping cool under pressure while also

being personally accountable and making others aware of their accountability. An interesting finding from AXELOS's Power of Professional Certification research from 2019 is that training and certification improves practitioners' confidence in their workplace skills. Knowing the project management method, you're using, and having proven that by passing an exam, is a confidence booster.

None of us know what the future of the economy in the post-pandemic recovery period is going to look like as it's simply very difficult to predict; what you, as a project manager, can do is be your best. When you can prove you have the ability to deliver in the most challenging conditions, then you are a valuable asset to your company. It shows you've got the confidence and the resilience to keep going and get the job done.

## **8.2) EXPANDING THE CRITICAL TRAITS ON PROJECT MANAGEMENT.**

### **8.2.1) Protective**

“Safety first” is a forever commitment – for project managers, this means protecting project teams, stakeholders, the communities within which we work, our families and the general public at all times. The global pandemic may have reemphasized the need for safety, but the best project managers have always and will continue to prioritize the health of the communities we serve. Certain project phases, such as design reviews and site visits, will often be handled behind computer screens and through virtual communication in the months ahead. However, once construction arrives, workers need to be on-site. In response, every project team should have pandemic site safety response plan as part of their overall site safety response plan. At SEH, project managers are providing clients with pandemic site safety response plans well in advance of shovels hitting the dirt. Our project managers also proactively hold standing agenda items to review in-place site safety plans, asking questions like: “Are workers and the public practicing social distancing” and “Have you observed the public getting too close to construction?” If the public is inching too close, we work with our clients to engage and educate public safety staff. By providing and carefully walking through plans like you see above, project managers have the opportunity to remove ambiguity, discomfort and confusion around how the project will progress when construction commences, and various team members visit the site. This is one small step project managers can take to protect the well-being of all; it must also be part of an overarching strategy and fundamental commitment to safety rather than solely a reaction to a current event.

### **8.2.2) Virtual Communicator**

Like many across the professional landscape, at SEH nearly all of our employees have temporarily moved to home offices as a means to protect our people and the clients we serve. Where we work will undoubtedly shift in the days ahead, but the need for years to come remains true: today's project managers need to be agile in the face of sudden change and capable of communicating well when circumstances shift without notice. As a project manager working remotely right now, I spend a significant amount of time in virtual meetings with clients. To provide the information needed, rather than solely relying on phone calls or email, I am also using video conferencing tools like Zoom, GoToMeeting, WebEx, Skype, FaceTime and Microsoft Teams to ensure critical information is clearly presented. We need to become proficient with these tools to be an effective project manager in this new environment.

### **8.2.3) Technologically Savvy**

Strategic project management in this new normal extends far beyond online meeting tools and video conferencing. Project managers need to wield the technology tools available to move projects forward as efficiently and strategically (if not more so) as they would through traditional methods. Examples of these tools include online bid openings, replacing time-consuming tasks with automation and real-time, virtual site tours through the use of drones:

### **8.2.4) Online Bid Openings**

Based on necessity, SEH project managers have transitioned to conducting project bid openings via webinar format within virtual bid rooms; we partner with the QuestCDN virtual bid network which has been highly effective, though there are many available tools to help you move forward. Simply stated, online bid openings are saving project owners and contractors money. Traditional project bidding often involves project teams uploading project documents; contractors downloading/printing the necessary forms and hand-writing unit costs; then mailing or dropping off the documents in person. From here, the project team and some contractors travel to a bid opening site; open each paper bid by hand; read the bids aloud; and, following the opening, the project owner or consultant completes a time-consuming data entry exercise to check for mathematical errors. Online bidding is the opposite. Bids are submitted online by a set deadline and automatically (in minutes rather than hours) uploaded to a single, reviewable summary. This process limits the likelihood of errors through human data entry when bids are prepared and saves valuable time, travel, mailing and labor costs.

### **8.2.5) Virtual Site Tours**

Drones have several strategic uses, such as hosting real-time, interactive, virtual project site walkthroughs. These tours not only reduce the need for crowded, in-person and challenging to coordinate site visits – but can also save project owners valuable time and expenses by allowing the project team and stakeholders to log-in from wherever they're located and interact with the drone operators. The videos walks through virtual site tours, including how they work, benefits and a first-hand example for newbies who are join this kind of experience for the first time.

### **8.2.6) Proactive**

Proactive project managers recognize how the pandemic will forever change the way we work, but also how this is just one example of continued change throughout the industry. Proactive project managers always seek to improve their skill-sets and are capable of adapting regardless of changes that come. We can't wait to become more digitally/virtually oriented; projects are moving forward as quickly as the pace of change and need our strategic attention and care. As an example, during the pandemic, on-site meetings or site walkthroughs haven't been possible or have been challenging to plan and hold safely. The silver lining, here, is that regardless of external circumstances technology has made these meetings less necessary. Proactive project managers recognize when in-person meetings are needed, but also when time and finances could be saved by leading meetings with the tools noted above, with 360-degree interactive webcams like you see below, or with other virtual avenues. Reactive project managers solve matters as they arise and respond when questions arrive. Proactive project managers recognize that change is happening and take action to remain ahead of the curve. They are the first to engage and always on the hunt for value-added services. They also recognize the financial ramifications of sudden, unplanned changes on the communities they're serving; they enter each project with a strategic plan to help clients uncover and fully understand their funding options.

### **8.2.7) Deliberate**

As a result of changes brought by the pandemic but also in lieu of technology advances, tightening budgets and other important client needs, project managers are having to find non-traditional ways of tackling tasks we've done a particular way for years. We're used to being in front of clients and on-site. Having to work physically apart more regularly and assuming this persists moving forward, it can be easy for project managers to become complacent behind their computer screens. Your projects depend on

us refusing complacency.

Project managers have to be intentional about using video calls to communicate important information that may be misinterpreted via email. We have to prioritize and plan strategic public engagement even when in-person engagement isn't possible or necessary. We have to look across our companies and the industry as a whole to gain insight into the tools most beneficial during this time then be willing to put in the work to learn them and educate our client partners. True accountability improves success rates by 95 percent according to the American Society of Training and Development. Accountability means following through on our commitments to clients regardless of working situation. It also means being deliberate and proactive. Deliberate and proactive project managers will step outside of their comfort zones to make sure you and your stakeholders remain in yours.

### **8.3) GOOD AND BAD OF PANDEMIC SITUATION FOR THE PROJECT MANAGEMENT**

Restaurants are closing, grocery stores are either closing or limiting hours and can't keep products on the shelves long enough for panicked shoppers to get what they are there to buy or stock up on. Schools are closing. Universities are closing. Sports leagues like the National Basketball Association (NBA) and the National Hockey League (NHL) have suspended play. Even the casinos here in Las Vegas are starting to shut their doors. The idea, of course, is to avoid gatherings of people where the virus can spread. It's the only way to win and eventually stop the virus from spreading.

Big tech corporations are taking it seriously as well. Workers are being sent home to work. Giants like Facebook, Microsoft and Twitter wisely started the mass exodus and others are following suit. The worldwide numbers of infected individuals and deaths is still rising daily, but these measures will help. But what how about our tech projects? How does this virus and the movement to work remotely affect projects starting up or that are in process? If you're a project manager or project centric organization, you know full well that risk planning is critical. If you haven't already been sent home to work, let's consider what the overall affect to tech projects and project managers and teams will be in project centric organizations today and when the next emergency like this comes up...

#### **8.3.1) Project Opportunities Will Dwindle.**

There's no doubt that project opportunities will dwindle and therefore tech revenues

will dwindle. The tech team and tech organizations are going to have to look hard at finding ways to grow more projects into new business and extended opportunities for more projects from existing clients. I'm not saying that remote project managers need to make sales, but every project manager should be eyeing potential needs within their client's organizations for need gaps they can fill with new project opportunities or change orders on current projects that expand the revenue footprint of the current projects in motion.

### **8.3.2) 3rd Party Vendors Will Be Closed or Will Not Have Available Supplies To Ship.**

This is going to have to be a major concern and one looked at as a very likely risk and planned for as well. What if you can't get that critical database update from a 3rd party vendor completed in time for it to be used on the project in May as documented in your project timeline? Timelines are going to slide – no question. But how will that affect the project overall? Have you planned for that potential issue? Will the end users still be able to get project delivery from you within the necessary timeframe? When we are faced with these situations then sometimes the timeline will need to be put together with the thought of “under promise and over deliver.” Don't set customer expectations too high from the beginning. Be sure they also know and agree to the risks.

### **8.3.3) Remote Work Must Happen.**

Again, when it is serious and people need to be separated from each other, remote work and remote projects will happen. Be sure to have the right people who can handle it and won't fail under the pressure. Organizations in the future are going to want to consider stocking their teams at least to some degree with individuals who have experience with being very productive and effective in the work from home environment. Look for project managers who have successfully led projects while possibly never having met their team face-to-face. Not everyone can do it organization is key and being an excellent communicator is critical.

### **8.3.4) Virtual Teams Will Be the Most Productive.**

If you have virtual teams already in place, then you are best prepared to immediately realize efficiency and productivity in your project delivery. That equals project success and customer satisfaction. Remember, the customer is affected as well and very stressed in situations like this. You want to ease their minds that your project will be successful. Having talented individuals working remotely already delivering projects will help them stay confident and stay long term project clients for your organization. Be ready to deliver



when events like this happen. Use it as selling point going forward. Embrace the fact that when this is all over remote projects, remote workforces and virtual teams may be the new normal and it's a good thing. You can get the best workers now without having to bring them onsite to work. Costs can go down while productivity goes up. It can be a win-win situation.

### **8.3.5) Organizational Leadership Will Be Affected.**

No doubt that organizational leadership will be affected. Will senior management be available to help make decisions on projects? Do you have great communicators and experienced decision makers in place leading teams and projects so reliance on senior leadership during emergency situations like this is kept to a minimum? They are going to have many things to worry about and remote teams that are prepared to run with the project and make key decisions are going to win and keep the project on track as needed. Plan for that in the organization's workforce makeup and teams must plan for that as a potential risk.

## **8.4) CURRENT AND NEW NORMAL OF PROJECT MANAGEMENT**

During the COVID 19 Pandemic period, we can have noticed a lot of positive things reinforcing the project management. People increased their knowledge and skills on project management as many training sessions have been attended, many certifications have been delivered. Project Management Institute (PMI) and the Project Business Foundation have challenged many organizations and people to take a survey for research purposes. The goal of the survey is to help both organizations and our communities better understand the impact of the virus on project management. The survey was sent to 10,000 random people from PMI's database via an email invitation to participate. An invitation to take the survey was also posted on several social media sites. Responses were collected for approximately three weeks from 12 April through the start of May 2020, a time when the COVID-19 crisis was initially peaking in various countries. Business transformation projects contribute significantly to create opportunities, and the projects' performance has been positively impacted during this crisis period.

More companies are now investing in and building on-premise and cloud infrastructures for remote work. The need is present to enforce security policies and secure privacy information to let their business run remotely as normal as possible. Some of them have taken laws permitting their employees to work remotely, other they offered solutions letting them working from the house efficiently. At the same time, the pandemic has raised questions about what our employees can expect in the future, so we provided

some guidance this week to employees on our thinking about work flexibility. Moving forward, it is our goal to offer as much flexibility as possible to support individual work styles while balancing business needs and ensuring we live our culture. Kathleen Hogan, Executive Vice President and Chief People Officer at Microsoft. Our guidance is to help employees plan ahead for the future. For now, returning to many of our offices around the world is still optional for employees, except for essential onsite roles. », Kathleen Hogan, Executive Vice President and Chief People Officer at Microsoft.

A long list of big companies tries to improve the skills of their employees to work and participate in meetings from home. Many tools have been developed and reviewed to make them more applicable for sharing online, where the employees are distributed geographically. The digital environment has increased the effectiveness and availability more than ever before by reducing costs and charges on business project management. Freelancers reported a positive impact of the COVID-19 crisis on project business in their organizations. People attended and asked for training and certifications during the pandemic period more than ever. PMI is offering e-learning courses and an Online Proctored Testing option for candidates to take the PMP exam and other certification exams online from their office or home. Many companies are offering multiple free of cost training helping people to upgrade their skills. People are having the opportunity to increase their network and partnerships as it's essential for building relationships and sharing knowledge.

### **8.5) TRADITIONAL vs NEW NORMAL OF PROJECT MANAGEMET IN THE PANDEMIC WORLD**

The post-pandemic world needs to be approached with caution and care. Businesses can no longer rely on old tools and strategies. Project Managers (PMs) have adopted more agile processes to overcome business challenges in recent months. The current COVID-19 pandemic has established that Project Management will be either entirely remote managed or involve some form of hybrid work management in the future. According to Forbes, by the end of 2022, 25% of all professional jobs in North America will be remote. Today, organizations are attracting and retaining the best talent, regardless of where the talent lives. To do this, organizations are already establishing ways to collaborate effectively online and build a strong culture. Going by these trends, I believe that a PM's job will become more challenging. I believe that the future of Project Management is "Remote Project Management." Remote Project Management involves

working with remote and hybrid teams to ensure that everyone works together to meet the objectives of the project.

The pandemic has created new organizational learning and development opportunities despite its challenges. Discovering ways to adapt technical skills in an era of remote working has been a discovery process for many Project Managers. The Project Management Institute Chapters worldwide have been implementing PMI training sessions and certifications focusing on transferring and developing new skills for this agile and remote work environment. A recent survey by the Project Management Institute (Luxemburg Chapter) and the Project Business Foundation says that many companies are currently investing in cloud infrastructures for remote work. They are implementing security policies for their businesses to run remote operations as generally as possible. Many enterprises have allowed their employees to work from anywhere, while others offer a hybrid work-style model. Remote Project Management is a practical approach in today's world when projects need not be location-specific and do not require a team working together on-site at the business location.

- Remote work is here to stay – We have observed that remote work will be a part of technical project delivery in the future. It is not a stretch to state that history will forever reference the COVID-19 pandemic as a turning point in how software projects are delivered. Given that many companies have announced permanent work from home or some form of hybrid work structure, we foresee that remote work is here to stay for the foreseeable future.

- Hybrid Project Management – A hybrid approach to Project Management combines traditional Waterfall and Agile practices to meet the demands of digital transformation. We have experienced success when we have taken the flexibility and adaptability of Agile methodologies and combined it with the rigid approach of Waterfall Project Management for tasks that can be listed sequentially. For example, for an IT project developing software and infrastructure, it is ideal to use Scrum for the software portion and Waterfall for the infrastructure portion. As a best practice, we decide what aspects of each methodology we will follow and what we will not before the start of the project. The hybrid approach leads to more successful projects than a single, rigid framework process. Therefore, as Project Managers, we should be flexible enough to familiarize ourselves with different hybrid techniques.

- Tracking work with Project Management tools – Project Management tools, even in pre-covid days, helped organizations stay on track while maximizing resources, promoting collaboration, and empowering teams to deliver exceptional customer experiences. In a post-covid world, it has become essential to leverage the maximum from Project Management and communication tools such as Slack, Microsoft Teams, GitHub, Asana, Zoom, etc., to deliver projects seamlessly and successfully. At Opteamix, we have been using a combination of these tools based on client and project needs to ensure that work is tracked to completion. As a best practice, we have laid down ground rules for using these tools to clear any confusion and promote efficiency and collaboration within teams.

- Strong Communication – One of the significant observations we have had is that forceful communication bonds between the Project Manager and Opteamizers have helped remote project management work seamlessly. When people are not together under the same roof, the chance of misinterpretation is exceptionally high. Both Project Managers and team members need to talk often and clearly about what needs to be done and what has been completed. As a best practice, we have established communication guidelines that all teams need to adhere to reduce miscommunication.

- Implement Feedback Loops – From our experience, one of the most critical aspects of successful project delivery is implementing the feedback received from people that might impact the delivery of a project. Our Project Managers are trained to ask for feedback and be open to receiving feedback from the team. The People Services and Employee Well-being team does regular surveys to get more details about the feedback and its implementation.

- Employee Well-being and Engagement – At Opteamix, we believe that one of the main reasons why our projects have been successful is the time and effort spent by the Project Managers, People Services and the Employee Well-being team to ensure that our people have the best employee experience that results in happiness and growth. This approach motivates people to deliver their best and ensures that they are not burned out from working remotely. This is the most critical aspect of the success of remote project management. At Opteamix, we have also created an in-house performance tool (Perfometer) to assess the progress of our employees' careers. Performer helps maintains

transparency on work delivered between Project Managers, employees, and the organization.

- Embracing Automation – Project Managers can use Artificial Intelligence (AI) to automate various tasks, including scheduling and visualizing data. By driving Project Management through AI, they can reduce overall time spent on administrative work and collect, track, and generate reports on data more efficiently.

## **8.6) HOW THE FUTURE OF THE PROJECT MANAGEMENT IN THE ONLINE WORLD WILL BE**

During the COVID 19 Pandemic period, we can have noticed a lot of positive things reinforcing the project management. People increased their knowledge and skills on project management as many training sessions have been attended, many certifications have been delivered. The contribution of PMI and different chapters such as PMI Luxembourg Chapter is important for transferring and increasing skills with their multiple programs as well as their free shared content and training. This pandemic is going on right now and more and more organizations are taking the drastic measures necessary to help begin to mitigate the spread of the virus. Will this happen again in our lifetimes? It could. Will a movement to remote work and remote teams and virtual workforces help on project delivery? I think so... and I believe this current move will leave us in a new situation or scenario where work from home – especially for project delivery – will be the new norm. Organizations will see the benefits and productivity gains and employees will be confident that they can make it work and achieve a nice work/life balance.

It's hard to predict what the years ahead will look like in terms of where, when and how we work. We can, however, learn from the past and present to better prepare for the future. What 2020 has reminded us is that we need to be prepared for the unexpected in the years ahead. As project managers, we need to continuously listen, learn, experiment and engage in non-traditional ways of completing projects. We need to commit to the traits above (to name just a few), so that we can follow through on our commitments of getting your projects where they need to be regardless of situation or surrounding challenges. A combination of full-time, part-time, virtual working and hybrid working staff will probably typify the new normal. Project managers and their teams will want to balance and adapt the newer ways of working from recent months with the desire of some people to resume the pre-lockdown normality.

At a corporate level, there will probably be an examination of existing projects (what should continue, what should re-start, what should stop) and for the project manager

what happens will be analogous to a PRINCE2 stage boundary. This involves reviewing what's been done and what should happen next, while considering the current/future impact on the business case and project plan. For organizations returning to a hybrid workplace, technical training will likely hinge on developing skills for the new normal, such as using collaborative software. However, having more people trained in well-established, proven methods such as PRINCE2 is more relevant than ever before. The guidance is built to be tailored, so is just as pertinent to the new normal as the old.

For project managers, the single most important responsibility is to build and lead teams. Therefore, understanding how to manage a completely virtual team and mastering collaborative environments will be vital. The project manager's primary value is facilitation; the better able to do that, the more the team can achieve its goals. And what leaders shouldn't forget is that people's experience in recent months will be very different, based on their individual exposure to ill-health, loss and how much they think of this period as a positive new opportunity or a period of difficulty and sadness. Listening with empathy and responding appropriately will be important as we all think about the best ways to move forward in the new normal.

## CHAPTER 9

### CONCLUSION

We live in strange times. Who would have thought last year that 2020 would be the year of Covid-19, the year of lockdown, the year of working from home (at least for many of us)? So, what will the future bring for businesses? Any strategic planning for this year has probably gone out of the window, so organizations and leaders will need to decide on what the new, future state will look like. A structured project management method, can help to achieving that future will involve a project or a number of projects to deliver that vision and generate value. The COVID-19 pandemic has highlighted that our working environments are characterized by volatility, uncertainty, complexity and ambiguity. How each organization is adapting to the current challenges differs, but there appears to be four common horizons of response and subsequent impact to effective project delivery.

According to Global Workplace Analytics' analysis of 2018 American Community Service (ACS) data, 5 million employees (3.6% of the workforce) currently work-at-home half-time or more and regular work-at-home has grown 173% since 2005.

Actually, the ongoing crisis could invite a welcome reality check. As it magnifies all those small issues and inefficiencies that we usually tolerate in our daily work, it can help recognize and understand what could be done better, and it could provide the nudge we need to start solving them, paving the way for tomorrow's better, more efficient project management strategy. Remote project management issues... are no different from usual PM issues

At this point it would be worthwhile to take a moment and reflect on the words "virtual project team". Taking these in reverse order, team is the most basic concept. A project leader should question, what makes up a good team? Appropriate answers would be qualified individuals; commitment of members; and communication among players. These are simply the foundation of any group activity. Narrowing the focus, a little further, what makes a successful project given a good team? Appropriate answers would be clearly defined goals, access to resources, and a supportive environment. Finally, factor in the virtual qualifier. How does this change what is required of the team and the project. The answer here is that it changes none of the requirements. It does, however, make the requirements more difficult to arrive at because of reduced communication channels. The technologies made available in the past five years merely add broadband to once narrow channels. This broadband not only increases the amount of data that can be transferred, but improves the richness of communication.

Manheim & Medina propose that virtual behaviors are influenced by

- 1) the nature of the work,
- 2) management of critical supporting work processes,
- 3) organizational context
- 4) geographical context
- 5) communications support
- 6) other environmental contextual factors
- 7) individual characteristics.

Lipnack and Stamps more simply state that “The best collocated teams use principles incorporated by the most successful virtual teams: a clear purpose, a focus on people, and concentration on the links that connect them.” (“Dispersed Teams Are the People ware for the 21st Century”). In the end, a successful virtual project team is successful because they emphasized the necessary components of project teams. The introduction of the virtual world may be beneficial because it demands that the leader and players take a step back and ask themselves, “with this new twist on project teams, what is required of my group and me?” It requires an absolute commitment to project management methodologies. Virtual project teams are successful because the leaders and members put forth the extra effort to overcome communication barriers.



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