Unit 12: Project Management and Managing Risk

Welcome to week 12 where we will be considering project management and how to manage risk within a project through adequate reporting and control tools.

Project management is the controlling of processes and activities that are related to a project. A Computing project refers to any project that deals with computing infrastructure and information systems. Whilst all projects may be focused, time specific and unique, what they seek to achieve and the environment within which they are being implemented can vary, greatly. It would be naive to assume therefore that a 'one size fits all' approach can be taken to project management. You will be introduced to some of the principal methodologies for managing projects.

It is unusual to encounter a project where project managers and team members feel all aspects of the project are under control. Selecting the best metrics to measure project performance is pivotal to the project's success. In turn, assessing risks can be problematic. The risk-free project does not exist, and it is not possible to avoid the risks completely. Many risks are not visible at the start of a project, but the most significant potential risks need to be calculated and planned.

The unit will also cover how to manage the inevitable changes that will occur within a project life. What can frequently happen during a project implementation is that a need or desire for change is identified. Sometimes this is because corrective action is required to keep the project on plan and within budget, sometimes it is because of environmental changes (i.e. the project itself needs to be amended and at other times it may be requested). To ensure that the impact of change is minimised and/or to identify how it will impact on the project plan, scope, outcomes, it is essential that the Project Manager controls changes through a change control process. The management of risk and change is important to ensure that project quality is maintained and to minimise impact on project cost and planned time frames whilst taking advantage of opportunities which may be identified during the process also.

Project management and risk management, as it applies to the individual capstone project, will be covered during the Project module.

In this unit we shall:

- Define and explain the concept of project management.
- Introduce you to the concept of project life cycles and project methodologies.
- Explore how projects can be impacted by risk and uncertainty.
- Learn about the relationship between risks, assumptions and constraints and the threats and opportunities which risks can pose.
- Learn how to develop a risk management plan and change management process for projects.

On completion of this unit you will be able to:

- Define and explain the concept of project management.
- Demonstrate an appreciation of project life cycles and methodologies.
- Appreciate some of the technologies/software needed to support remote collaboration.
- Understand and explain how projects can be impacted by risk and uncertainty.
- Prepare a risk management plan.
- Appreciate how to control risk and manage project change effectively.

Reflection:

Project Management:

Project management is the discipline of coordinating the activities required to complete a project in a timely manner while meeting all its goals and ensuring that they will be accepted by all stakeholders. The time and money available to complete a project's project results is limited (apm, 2017).

To improve the understanding of project management, consider the many projects you face daily, both professionally and personally.

- At work, you may create a report, website, application, item, or even a physical structure.

- At home, you may prepare a dinner, arrange a vacation, or undertake renovations.

- Just a few illustrations of genuine projects with a clear objective, timeline, scope, and funding level are provided. All of them need to be managed to some extent (Harned, 2022).

Types of Project Management

There are many distinct approaches to project management, each tailored to the requirements of a distinct field or set of tasks. The follows is a list of some of them:

1. Waterfall Model:

This is quite like conventional project management, with the added requirement that one step must be finished before moving on to the next. The process is sequential, and development occurs in a single, unidirectional stream, much like a waterfall.

2. Agile Model:

Unlike traditional project management methods, agile methods do not involve a linear progression of steps. Different people on the team work on different parts of the project at the same time. With this method, mistakes may be isolated and fixed without having to begin the process from scratch.

3. Lean Project Management

Reduced time and material expenditures are crucial to this approach. Japanese production methods served as inspiration for this approach. Their fundamental goal is to maximize consumer value while minimizing costs (Labarre, 2021).

Project Management Life Cycle

The five-stage structure known as the "Project Management life cycle" is designed to help managers of such endeavors bring their initiatives to fruition.

A project manager's most important skill is learning everything they can about the different phases of a project. Having familiarity with the five phases of project management will assist you arrange your projects and ensure they run smoothly (Brown, 2019).

There are normally four phases to a project's lifecycle:

i.   The first step in any endeavor is to "**initiate**" it. Possible sub-tasks include conducting a feasibility study; defining the project's scope; listing the project's deliverables; listing the people who will be involved in the project; writing a business case; drafting a statement of work; and estimating the project's upfront costs, pricing, and timetable.

ii.   Following the initiation phase's successful conclusion, the next step is **planning**. During this stage, a project plan is developed that details the project's activities, timeline, resources, and limitations. It is also during this stage that the project's budget is drafted. At this point, you should also be thinking about potential threats and developing strategies to counter them.

iii.   Third, the project is put into action, often known as the "**execution**" phase. The manager of the project makes sure that work is done on schedule and that the workflow doesn't stall by checking in with the people responsible for each task. Since problems will always develop and call for swift adjustments as the project progresses, this phase places a heavy emphasis on monitoring and controlling (managing the work and financials).

iv.   When all tasks have been performed and the project owner has given final **approval**, the project is considered closed. All records are turned over to the project owner and, if necessary, to a maintenance group. The project's success is measured by examining how well it accomplished its objectives (tasks completed, on time and on budget) (Project Business Technology Resources, n.d.).

Project Management Methodologies:

Any competent project manager will tell you that picking the appropriate approach is key to a successful outcome. Although there are many approaches to managing projects, we'll be focusing on the seven most common ones here (Dinnie Muslihat, 2018).

A methodology is "a system of practices, methods, policies, and norms followed by persons who work in a discipline," as described by the Project Management Institute (PMI). Methodologies for managing projects include the likes of "Lean," "Kanban," and "Six Sigma."

1. Agile

The Agile approach to managing projects is becoming increasingly popular. However, Agile isn't actually a methodology in the traditional sense. It is more accurately understood as a fundamental principle of project management. Fundamental to an Agile methodology are:

Values people over procedures; is iterative; uses data to inform decisions; is collaborative

2. Waterfall

Another often used structure is the waterfall model. In contrast to Agile, the waterfall technique is a real thing and it's not very complicated. The waterfall approach, also known as the software development life cycle (SDLC), is a continuous and linear process in which tasks are completed in a cascading fashion (like a waterfall) (Asana, 2021)

4. Sprints

Sprints are iterative periods of work in the Scrum methodology. The duration of each cycle is between one and two weeks, and it is often organized with groups of ten people or less. In contrast to the waterfall method, in which tasks are completed in order of their dependencies, this method allows for the completion of tasks in parallel (Cote, 2019).

Remote collaboration tools:

To accomplish organizational goals, dispersed teams can use remote collaboration technologies such as computer programmes, smartphone apps, and web-based services.

These remote collaboration technologies make it possible for teams to effectively communicate and work together regardless of physical proximity. After the global epidemic, remote collaboration technologies became necessities. As such, they are an indispensable asset to every company's growth and survival (www.wrike.com, n.d.).

Risk

A risk is an unanticipated circumstance with the potential to disrupt your project's intended outcomes. If the risk has a good impact on your project, it is positive; if it has a negative impact, it is unfavorable. Each positive and negative risk has its own unique risk response strategy.

One type of risk strategic approach seeks to lessen the likelihood or severity of potential harm, whereas the other type seeks to increase either of these outcomes. The terms "known danger" and "unknown risk" may also come up. There are two types of hazards: those that you were able to discover throughout the identify risks procedure and those that you were not.

For anticipated dangers, you prepare a contingency plan and fund an emergency fund. However, the management reserve is used as a workaround to deal with unforeseen hazards.

Uncertainty

When there isn't 100% assurance, we call that "uncertainty." When faced with ambiguity, you have no way of knowing how something will turn out because you lack all relevant knowledge.The risk of uncertainty is not hidden.

Uncertainty is characterized by a total lack of context for a recognized incident. When it comes to an unknown risk, you know what you're doing in terms of context, yet you still failed to notice it throughout the identify hazards phase (Anon, n.d.).

Risk Management plan:

Managing hazards is a subset of project management. One of the most crucial parts of managing a project is figuring out how to mitigate potential problems. A risk management plan details the steps that will be taken to mitigate any threats to your project. All resources allotted for identifying, assessing, mitigating, and monitoring risks are included in this.

Following are the primary stages of the risk management procedure:

i. The first step in risk management is **recognizing** that there are hazards to the project. To evaluate all the possible hazards that can affect your project, you'll need to leverage data sources like information from previous projects or the opinions of subject matter experts.
ii. After you've catalogued all the potential dangers to your project, it's time to **rank** them in terms of how likely they are to occur and how much damage they could do if they did.

iii.   Risk **Mitigation**: Develop a backup plan including measures to lessen the impact of any hazards on your project. You should also identify who in your team will act as "risk owners," or people in charge of keeping an eye on and mitigating any threats.

iv.   To keep risks under control, it is important to keep an eye on them throughout the project's life cycle through a risk monitoring strategy (Scavetta, 2019).

References:

Anon, (n.d.). *Risk vs Uncertainty in Project Management | PM Study Circle*. [online] Available at: https://pmstudycircle.com/risk-vs-uncertainty/.

apm (2017). *What is project management?* [online] www.apm.org.uk. Available at: https://www.apm.org.uk/resources/what-is-project-management/#:~:text=Project%20management%20is%20the%20application.

Asana (2021). *Project Management Methodologies: 12 Popular Frameworks • Asana*. [online] Asana. Available at: https://asana.com/resources/project-management-methodologies.

Brown, L. (2019). *5 Phases of Project Management Life Cycle You Need to Know - Invensis Learning Blog*. [online] Invensis Learning Blog. Available at: https://www.invensislearning.com/blog/5-phases-project-management-lifecycle/.

Cote, A. (2019). *Project Management Methods, Methodologies, and Frameworks*. [online] Paymo. Available at: https://www.paymoapp.com/blog/project-management-methodologies/.

Dinnie Muslihat (2018). *7 Popular Project Management Methodologies And What They're Best Suited For*. [online] Zenkit. Available at: https://zenkit.com/en/blog/7-popular-project-management-methodologies-and-what-theyre-best-suited-for/.

Harned, B. (2022). *What is project management: Definition and terms | project management guide*. [online] www.teamgantt.com. Available at: https://www.teamgantt.com/project-management-guide/what-is-project-management.

Labarre, O. (2021). *What Is Project Management?* [online] Investopedia. Available at: https://www.investopedia.com/terms/p/project-management.asp.

Project Business Technology Resources. (n.d.). *What is the Project Lifecycle?* [online] Available at: https://www.adeaca.com/blog/faq-items/what-is-the-project-lifecycle/) [Accessed 5 Oct. 2022].

Scavetta, A. (2019). *How to Make a Risk Management Plan.* [online] ProjectManager.com. Available at: https://www.projectmanager.com/blog/risk-management-plan.

www.wrike.com. (n.d.). *Choosing Remote Collaboration Tools & Software | Remote Work Guide.* [online] Available at: https://www.wrike.com/remote-work-guide/remote-collaboration-tools-software/ [Accessed 30 May 2022].