Assignment 1

Information Systems Project Management

1. **List some examples of IT projects?**

- Developing a new mobile application
- Creating a custom enterprise software solution
- implementing a new network infrastructure
- Migrating data centers to a cloud environment
- Implementing a new cybersecurity framework
- Conducting a comprehensive security audit
- Deploying a new service desk solution

2. **Discuss Project, Program, and Portfolio Management (the role of each management with examples).**

Projects

Projects, by their definition, have a defined start and end date. There is a point in time when the work did not exist (before the project), when it does exist (the project), and when it does not exist again (after the project). This is the key determinant of whether a piece of work is a project.

Projects also include a defined scope, finite budget and assigned resources. Another characteristic of a project is that they always build something. If you find that all you are doing is meeting, then you probably are not on a project. Projects always create one or more deliverables. Projects should be managed proactively using solid project management processes and techniques.

Programs

Some initiatives are so large that it makes sense to break them up into a set of smaller projects. These smaller projects are easier to plan, manage and finish successfully. However, the problem with breaking up work into smaller projects is that each project may start to make independent decisions that will be good for that project, but detrimental to the initiative as a whole.

The purpose of a program is to provide central management and control over a set of underlying projects that are all trying to deliver a common solution. The program allows the projects to achieve a common benefit that would be difficult for each project to achieve independently.

Portfolios

Portfolios are collections of work. The term is used a couple ways. Portfolios can actually be similar to departments in that they could exist on the organization chart. One day you could have a Finance Department and the next day you could have a Finance Portfolio.

However, in most cases the portfolio is not a formal organization but is a logical way to group, organize and manage a collection of work. The work may be related or it may not be. A portfolio typically contains projects, but they can also include support, operations and other types of work as well. Portfolio management is generally performed by managers. Projects are initiated, approved and prioritized at the portfolio level. The collection of active projects is then staffed, monitored and supported at the portfolio level.

Project Management

- **Role**: Focuses on planning, executing, and closing individual projects. It involves managing time, budget, scope, quality, and risks.
- **Example**: A project manager overseeing the development of a new e-commerce website ensures that the project is completed on time, within budget, and meets the specified requirements.

Program Management

- **Role**: Manages a group of related projects aimed at achieving a strategic business objective. Program management ensures that projects are aligned, coordinated, and deliver combined benefits.
- **Example**: A program manager overseeing a digital transformation initiative might manage multiple projects, such as implementing a CRM system, upgrading the e-commerce platform, and deploying a new analytics solution. The goal is to enhance the overall customer experience.

Portfolio Management

- **Role**: Involves overseeing a collection of programs and projects to ensure they align with the organization's strategic objectives. Portfolio management prioritizes and allocates resources to maximize the value of the entire portfolio.
- **Example**: A portfolio manager in a large IT company might manage a portfolio that includes various programs and projects such as software development, infrastructure upgrades, and cybersecurity initiatives. They ensure that these investments align with the company's strategic goals and deliver maximum return.

3. Developing an IT Project Management Methodology

1. Waterfall methodology

The Waterfall method is a traditional approach to project management. In it, tasks and phases are completed in a linear, sequential manner, and each stage of the project must be completed before the next begins.

The stages of Waterfall project management generally follow this sequence:

- *Requirements*
- *Analysis*
- *Design*
- *Construction*
- *Testing*
- *Deployment & maintenance*

Progress flows in one direction, like a real waterfall.

Also like a real waterfall, though, this can quickly get dangerous. Since everything is mapped out at the beginning, there's a lot of room for error if expectations don't match up with reality. And there's no going back to a previous stage once it's completed (just imagine trying to swim against a waterfall — not fun).

Try this project management methodology if:

- The end goal of your project is clearly defined — and isn't going to change.
- The stakeholders know exactly what they want (and it isn't going to change).
- Your project is consistent and predictable (i.e. isn't going to change).
- You're working in a regulated industry that needs extensive project tracking or documentation.
- You might need to bring new people into the project midway through and get them up to speed quickly.

This project management methodology might not be for you if:

- Your project is liable to change.
- You don't have a full picture of all the requirements before you start.
- You need to do continuous testing or adapt to feedback during the process.

2. Agile methodology

> Agile project leaders help their team balance at the edge of chaos - some structure, but not too much; adequate documentation, but not too much; some up-front architecture work, but not too much. Finding these balance points is the art of agile leadership." ~ Jim Highsmith, author and software engineer

The agile project management methodology came from a growing dissatisfaction with the linear approach of traditional project management methodologies.

Frustrated with the limitations of project management methods that couldn't adapt with a project as it progressed, the focus began to shift to more iterative models that allowed teams to revise their project as needed during the process instead of having to wait until the end to review and amend.

The concept of agile project management has gone on to spark several specific sub-frameworks and methodologies, such as scrum, kanban, and lean. But what do they all have in common? The key principles of agile project management methodologies are:

- It's collaborative.
- It's quick.
- It's open to data-driven change.

As such, agile project management methodologies usually involve short phases of work with frequent testing, reassessment, and adaptation throughout.

In many agile methods, all of the work to be done is added to a backlog that teams can work through in each phase or cycle, with project managers or product owners prioritizing the backlog so teams know what to focus on first.

Try this project management methodology if:

- Your project is liable to change.
- You're not sure at the outset what the solution will look like.
- You need to work quickly, and it's more important that you see speedy progress than perfect results.
- Your stakeholders or client needs (or wants) to be involved at every stage.

This project management methodology isn't for you if:

- You need a lot of documentation (for example, if you'll be bringing new people on-board during the project).
- You need a predictable deliverable, and you need to be crystal clear about what that looks like from the outset.
- Your project can't afford to change during its course.
- You don't have self-motivated people.
- You have strict deadlines or deliverables that you need to stay on top of.

3. Scrum methodology

Scrum is a form of agile project management. You can think of it more like a framework than as a project management methodology in itself.

With Scrum, work is split into short cycles known as "sprints", which usually last about 1-2 weeks. Work is taken from the backlog (see: Agile project management, above) for each sprint iteration,

Small teams are led by a Scrum Master (who is not the same as the project manager) for the duration of the sprint, after which they review their performance in a "sprint retrospective" and make any necessary changes before starting the next sprint.

Try this project management methodology if:

- You're striving for continuous improvement.

This project management methodology might not be for you if:

- You don't have the full commitment from the team needed to make it work.

4. Adaptive project framework (APF) methodology

The adaptive project framework (APF) methodology, also known as adaptive project management (APM), is a type of agile project management methodology that was designed with the inevitability of change in mind.

The adaptive project framework knows that, as John Steinbeck might say, even the best-laid projects of mice and men often go awry. So the fundamental attribute of APF is that teams need to be able to adaptively respond to change.

That means that using adaptive project framework methods, teams must try to anticipate the risks and prepare for the unexpected in their project. They need to understand that key components are constantly in flux, and be able to constantly re-evaluate results and decisions with these moving parts in mind.

This requires lots of communication with all stakeholders and — like other agile project management methodologies — be able to work collaboratively.

Try this project management methodology if:

- You know your ultimate goals (in project management terms, you've outlined your Conditions of Satisfaction; or, in Beastie Boys terms, you're clear about you're clear about whatcha whatcha whatcha want).

This project management methodology isn't for you if:

- You need predictability.
- You don't have the resources to handle the potential negatives of adaptability (e.g. scope creep, rework, misuse of time).

5. Lean methodology

Lean is another project management methodology that has its origins in manufacturing (and specifically the Toyota Production System). It's all about applying lean principles to your project management methods to maximize value and minimize waste.

While this originally referred to reducing physical waste in the manufacturing process, it now refers to other wasteful practices in the project management process. These are known as the 3Ms: muda, mura, and muri.

Muda (wastefulness) consumes resources without adding value for the customer.

Mura (unevenness) occurs when you have overproduction in one area that throws all of your other areas out of whack, leaving you with too much inventory (wasteful!) or inefficient processes (also wasteful!).

Muri (overburden) occurs when there is too much strain on resources such as equipment and people, which can often lead to breakdowns — in both machines and humans.

Using the key principles of lean, a project manager can reduce these types of waste to create more efficient workflows.

Try this project management methodology if:

- You're looking for a set of principles that will help you cut the fat and optimize your flow.
- You're always trying to improve and add value for the customer.
- You want to ultimately decrease costs.

This project management methodology might not be for you if:

- You can't afford to run into supply problems (e.g. you don't have enough inventory in stock) or lose room for error (e.g. in the case of essential equipment failure).
- You don't have the budget to invest in it (while lean project management aims to reduce costs overall, it can be costly to implement).
- You're a raccoon and you love waste, actually.

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