Lecture 1: Introduction to PM

CRICOS Provider 00115M

Teaching Team

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Assessments:CSE3PM

Week Session	Date due	%	Assessment	Feedback method	SILOs assessed
4	Sun 7th Apr	30	Case study task analyzing project constraints and framework (equivalent to 1500 words)	Online written comments by your subject staff	03, 04
2-11		10	Lab Activity (1000 words per student)	Online written comments by your subject staff	03, 04, 05
9,11,12,13	TBA	60	Group Project management plan, presentation and reflection based on a capstone project (equivalent to 2000 words/student)	Online written comments by your subject staff	02

Assessments:CSE5PM

Week Session	Date due	%	Assessment	Feedback method	SILOs assessed
4	7th Apr 2024	25	Case study task analyzing project constraints and Project framework/methodology and risk management strategies (LMS task equivalent 1700 words)	Online written comments by your subject staff	01, 03
9,11,12,13	TBA	60	* Group Project management plan, reflection, and final presentation based on capstone project (2000 words per student)	Online written comments by your subject staff	01,02, 03,04
12	TBA	15	One hour Class test (1000 words)	Online written comments by your subject staff	01,03,04,

Reading List

Title	Resource Requirement	Author	Publisher
Information Technology Project Management 7E	Prescribed	Schwalbe, Kathy	Cengage-2019
Project Management Body of Knowledge PMBOK Guide	Prescribed	Project Management Institute	Project Management Institute

Your participation is important!!!

Listen to lectures if you can't attend in person

This is where the course material is presented:

- Introduces and explains basic concepts involved with all the course subject areas,
- Is the starting point for understanding and assimilation of all material being assessed over the duration of this course
- **As this is a 3rd/5th level subject – it is your responsibility to develop your personal knowledge and/or expertise in each subject area** by: external readings, revision and reflections, practise, contributions (during assessed tutorials and assignments), all in preparation for the final exam.
- Is also the common point for everyone to be able to discuss points of interest, ask questions, where notices for any changes coming events are given (if known at that time).

Your participation is important!!!

Attend Workshops

Many are assessed

– it is just not an attendance situation

– a contribution is required and many times this contribution is assessed

– both in an individual scenario as well as in a group scenario

About this Subject

Purpose of Project Management

- There are a few Project Management frameworks and industry certifications. We will cover these in the following modules.
- The purpose of this subject is not to introduce yet another PM certification or framework. The purpose of PM is:
  - To introduce you to key aspects of Project Management in order to understand how to manage a project successfully from beginning to end.
  - To provide a solid base for a pathway into one of the international Project Management certifications.
  - To provide context on the different PM frameworks so that you understand when it is ideal to use one approach compare to another.
  - To provide the immediate necessary awareness, aptitude and skills to manage a project or support a Project Manager.

Why Project Management

- Many people and organizations today have a new—or renewed—interest in project management.
- Until the 1980s, project management primarily focused on providing schedule and resource data to top management in the military, computer, and construction industries.
- Today's project management involves much more, and people in every industry and every country manage projects.
- Project management is a distinct profession with degree programs, certifications, and excellent career opportunities.
- New technologies have become a significant factor in many businesses. Computer hardware, software, networks, and the use of interdisciplinary and global work teams have radically changed the work environment.

Why Project Management

The following statistics demonstrate the significance of project management in today's society, especially for projects involving information technology (IT):

- Worldwide IT spending is projected to total $4.7 trillion in 2023, an increase of 4.3% from 2022,
- The Project Management Institute reported that the number of project related jobs reached almost 66 million in 2017, and demand continues to increase. "**By 2027, employers will need 87.7 million individuals working in project management–oriented roles."**
- The top skills employers look for in new college graduates are all related to project management: **team work, decision making, problem-solving, and verbal communications.**
- **Organizations waste $97 million for every $1 billion spent on projects,** according to PMI's Pulse of the Profession ® report. Excelling at project management definitely affects the bottom line.

Why Project Management

- The complexity and importance of IT projects, which involve using hardware, software, and networks to create a product, service, or result, have evolved dramatically.
- Today's companies, governments, and non profit organizations are recognizing that to be successful, they need to use modern project management techniques, especially for IT projects.
- Individuals are realizing that to remain competitive in the workplace, they must develop skills to become good project team members and project managers.
- They also realize that many of the concepts of project management will help them in their everyday lives as they work with people and technology on a day-to-day basis.

Why Software Projects Fail?

1. Unrealistic or unarticulated project goals
2. Inaccurate estimates of needed resources
3. Badly defined system requirements
4. Poor reporting of the project's status
5. Unmanaged risks
6. Poor communication: clients, developers, & users
7. Use of immature technology
8. Inability to handle the project's complexity
9. Sloppy development practices
10. Poor project management
11. Stakeholder politics
12. Commercial pressures

What is a Project?

To discuss project management, it is important to understand the concept of a project.

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

- Operations, on the other hand, is work done in organizations to sustain the business.
- It focuses on the ongoing production of goods and services.
- Projects are different from operations in that they end when their objectives have been reached or the project has been terminated.
- It is important to note that people focusing on operations and projects must work together for a smooth transition.

Examples of IT projects

Projects can be large or small and involve one person or thousands of people.

They can be done in one day or take years to complete.

As described earlier, IT projects involve using hardware, software, and networks to create a product, service, or result.

Examples of IT projects include the following:

1. A large network of healthcare providers updates its information systems and procedures to reduce hospital acquired diseases.
2. A team of students creates a smartphone application and sells it online.
3. A company implements a new system to increase sales force productivity and customer relationship management that will work on various laptops, smartphones, and tablets.
4. A television network implements a system to allow viewers to vote for contestants and provide other feedback on programs via social media sites.
5. A government group develops a system to track child immunizations.

Characteristics of Projects

Projects usually arise from a business need or vulnerability, and thus have a client or business sponsor looking to derive benefit at their completion.

They are easy to distinguish from “business as usual”(BAU) efforts as they have characteristics that set them apart. Amongst these the most commonly identifiable are:

1. Change
2. A finite Life
3. Cross functional
4. Uniqueness
5. Uncertainty

Characteristics of Projects

1. Change

- **Projects usually result in change**, be in introducing a new system, changing workflows or methods of accessing services.
- They can also be necessitated by changes in **the business environment, client needs, competition in the market, regulatory change and so forth**.
- Change is challenging for people, even an improvement can be unsettling, and will need to be managed as part of the project.

2. Finite Lives

- **Projects are temporary**, they have a pre-determined start date and aim to close by the set end date.
- Although deadlines may be missed (which is undesirable), they should cease once the objectives are met and deliverables produced.
- The on going running or maintenance of a product post project is not part of the project and should be handed back to the business as **“business as usual”** work.
- Time management is key to not only managing resources during the project but also in maintaining morale and business confidence.

Characteristics of Projects

3. Cross functional

- **Typically a project engages people from different departments**, with differing levels of seniority for the duration of the project.
- Their roles in the project team may also differ and change from project to project, with some people being stakeholders, subject matter experts and others carrying out the work.

As an example installing a new system to provision access, would require working with departments other than the tech team. The executive team might have a sponsor or representative on the project, legal and compliance would need to be engaged from a regulatory perspective. HR might assist in providing training material, and internal communications be leveraged to keep the company aware of what is happening.

This makes communication a very important tool in running and participating in projects.

Characteristics of Projects

4. Uniqueness

- **Every project is unique.** For example installing “system x” at company A, will be different to installing “system x” at company B, and present a new set of challenges and opportunities.
- This is also why it is important that project teams are cross functional and include both project experts and experts from within the business or department where the project is taking place.

5. Uncertainty

- **Each project brings with it a measure of uncertainty**. This is because each project is unique and the project manager is not absolutely sure how things will unfold.
- While dates can be set for the project, they may be pushed out or brought forward as business priorities shift and change.
- Members of the project team, may leave the firm or get promoted into other roles, and the clients/sponsor of the project may change their minds on certain things as the project progresses.
- This again makes communication and having a competent project manager key.

Project Size and Complexity

Constraints

Not all well managed projects are successful, as this may be due to circumstances outside the control of the project team. However, a poorly managed project is almost always doomed to fail.

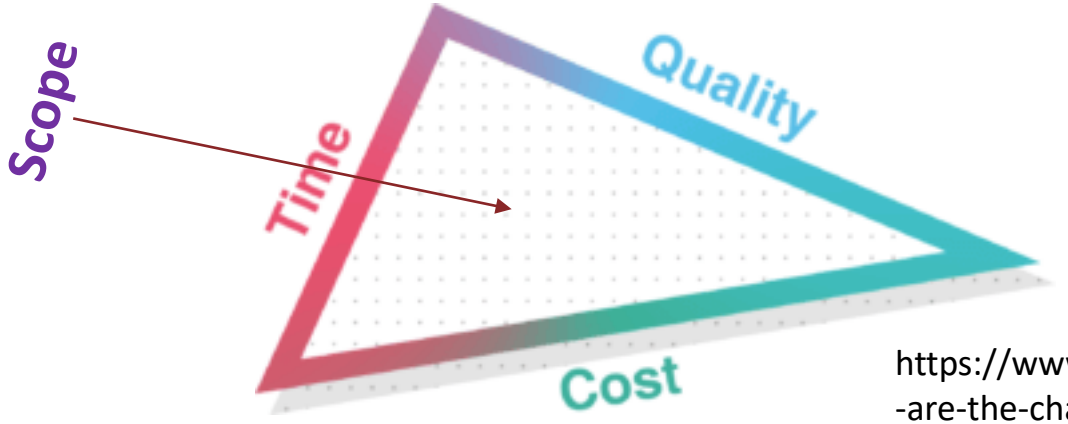
Good project management is about the efficient use of time and resources. The standard project faces four competing main constraints:

- **Scope** – This covers how broad or specific the project is. It addresses the requirements that the client has, explicit and implicit.
- **Quality** – addresses the standard is the project expected to deliver? Are the outputs of the project fit and sufficient for their intended purpose.
- **Time** – projects have a finite life. Will the project be delivered at the agreed time?
- **Resources** – there is an allocated budget of money and resources (staff, equipment etc) that are available and allocated to a project.

Project Size and Complexity

Time-Quality-Cost Triangle

These are conflicting constraints as it is not possible to agree and lock in these elements individually without compromising each of them. They must be looked at collectively.



https://www.brightwork.com/blog/what-are-the-characteristics-of-a-project

The time–quality–cost triangle can be used to assist with this. Time, quality, and cost are the sides of the triangle, each is stretched or shortened until they form a triangle. Such that fixing one of the constraints, requires and re-adjusting the other two to match and complete the triangle.

Project Size and Complexity

Project Size

The size of a project can be expressed in terms of the constraints.

Examples:

- **Scope** – The scope could be one specific process or landing page on a site, or revamping every process within a multinational organisation, or an overhaul of the entire website to make it more secure.
- **Quality** – This could be an incremental boost in quality of performance, or completely digitising an analogue/manual set of processes.
- **Time** – Project could have a timeline of a few days or be a multiyear project
- **Resources** – the budget and staff allocated could be very little, involving a few thousand dollars and one or two staff members and stakeholders, or have a multimillion dollar budget and involve not only staff but also external providers of consultants.

The size of the project will overall determine, the size of the constraints relative to the goals of the project.

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Lecture 1:

Part II: The Role of a Project Manager

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Topic Overview

- Understanding Project management
- Project management skills
- Importance of Project managers
- The importance of field knowledge/domain competence in project management
- Key Selection Criteria for Project managers
- Project managers in industry

Project Management

What is Project Management?

- Project management is the use of frameworks, knowledge, skills and experience to achieve project objectives.

What is a Project Manager?

- A project manager is a professionals in project management who is responsible for managing the temporary team that is assembled for the project.
- They are accountable for the project from start to finish and ensure that delivery is made in a timely manner, and that the deliverables are fit for purpose.
- Project managers must not only strive to meet specific scope, time, cost, and quality goals of projects, but also facilitate the entire process to meet the needs and expectations of people involved in project activities or affected by them.

Project Management Skills

It is important to distinguish between a successful project and successful project management. The successful project manager will need both soft and technical skills to succeed.

Soft skills:

1. Leadership
2. Motivation
3. Communication
4. Organization
5. Prioritization
6. Adaptability

Technical Skills

1. Scheduling
2. Resource allocation
3. Risk management
4. Budgeting
5. Change management
6. Issue management

Soft Project Management Skills

1. Leadership

- A good project manager, is able to step in and lead a newly formed team comprising of people from various departments.
- This is not just being in a position of authority, but being able to unite a newly formed team behind a common goal.
- The project manager has accountability as to whether the project is successful or not.

2. Motivation

- Projects by their nature can be stressful and full of frustration, the competing constraints, rate of change and uncertainty can lead to a loss of morale in the project team.
- It's key that the project manager sets the tone and keeps the team motivated and focused on the work at hand.

Soft Project Management Skills

3. Communication

- A project manager needs to be able to communicate effectively with both the client, and the project team, and be able to tailor their message to the target audience of each communication.
- Stakeholders across departments need to be kept abreast of the relevant facts, because the project team is usually cross departmental the it is key that the project manager can bridge the gap between departments and get everyone to work in tandem

4. Organisation

- The astute project manager needs to be able to organise themselves, and their team for success.
- Tasks need to be analysed and prioritised in order of importance, the more organised the project manager is, the higher the likelihood of the vision being clearer to the team.
- Documents and project artefacts need to be safely achieved and easily accessible for future access.

Soft Project Management Skills

5. Prioritisation

- The ability to sort through numerous updates from different work streams within is a project is key.
- Being able to work out what is, and isn't important, and what should and shouldn't be escalated to the Sponsor.

6. Adaptability

- The successful project manager needs to be able to adapt as required.
- Be in a position to congratulate a work stream that has done exceedingly well, but also be in a position to admonish one that is lagging behind if required.
- The project manager also needs to be able to flex and take alternate routes (Work arounds) if necessary to the intended goal as challenges arise.
- The project also has to be flexible as decision from senior management/sponsors/clients change or circumstances require. This all starts with the project manager

Technical Project Management Skills

1. Scheduling

- The project manager creates the project plan and timeline, and needs to keep a keen eye on the project schedule to ensure everything is running on track, as this is a living document they also need to be in a position to update it as required.
- It's the project managers job to socialise the project plan and timeline with senior management.

2. Resource Allocation

- Time, money and human capital need to be managed efficiently.
- The project manager needs to ensure that the right people are on the project (teams may prefer to give up their weaker performers), negotiate with management to ensure that project team members are given the capacity to work on their project deliverables.

3. Risk Management

- Pre-empting, monitoring, managing and mitigating risk is a key part of the project management.
- A risk register will need to be established, updated and shared with key stakeholders. Surprises in this space should be avoided. Strategies to manage risk that are in line with the companies risk profiles.

Technical Project Management Skills

4. Budgeting

- Prior to the project commencing, some forecasts will need to made.
- The project manager is a key contributor here.
- Once the budget for the project is allocated, the project manager will need to take ownership of this either individually or in conjunction with the finance department, and ensure everything stays on track and that budget forecasts are updated with the passage of time.

5. Change Management

- Well intended projects can often fail due to a lack of support from the people involved in BAU work.
- These folks are usually accustomed to a certain way of doing work, they might have processes and tools built around their current state.
- Usually a change introduced some discomfort as they learn and adapt to a new system, it is important that change management is effective, and that all affected have a clear understanding of the “Why?”, and what is in it for them where applicable.
- It’s the project managers job to ensure effective change management is in place.

Importance of Project Managers

- The benefit of having a project manager is it gives the whole business a single point of contact for any concerns, queries or updates related to the project.
- This also helps the business and clients know who is accountable for decisions and success, and who has the final say should the different members of the team disagree.
- The project manager becomes the conduit between the Sponsor/ Executive team/Client and the rest of the project team, and represents their needs to the business.

The importance of domain competence in project management

View point 1: No technical expertise necessary

Projects are by definition temporary, thus a project managers view is to manage the overall project, which includes selecting a competent and abled team to execute on the work.

This point of view asserts that, a project manager does not need in-depth knowledge of the subject matter as they have a competent team to fill them in as required.

Getting stuck in the weeds.

From this view it is actually beneficial if project manager doesn't have the technical expertise as she will have an unbiased view, and will be able to avoid getting bogged down in the details and instead focus ensuring all the project objectives are achieved.

Project managers without subject matter knowledge are better able to avoid scope creep as they are not as passionate about the minutae.

Better communication

A less technical project manager acts as a liaison and is better able to project to them in plain language instead of inadvertently using technical jargon and buzz words.

The importance of domain competence in project management

View Point 2: Expertise is Key

A project matter that is also a subject matter expert, knows their industry well, what best practices are and the range of technologies in use. They are less reliant on blindly trusting the team, and able to actively engage in discussion and debates and allow for quicker decision making. When there are staff shortages or deadlines to be met, they can easily jump in and help out.

Improved planning

A good grasp of the subject matter allows the project manager to set more realistic deadlines as they know the time and effort required.

Project Managers without subject matter expertise can end up in conflicts with their teams as they have to rely on them for estimates of time and effort required. If the project manager sets unrealistic deadlines, or allows too much time this will set the project off to a bad start.

The importance of domain competence in project management

View Point 2: Expertise is Key

More efficient problem solving

A project manager that is also a subject matter expert has a better grasp of issues and problems, and are therefore better positioned to come up with solutions and ideas more readily. Quite often they have worked in similar roles to the team previously, or have a better understanding of how they work and the pressures they face and can be more empathetic and communicate more effectively than a project manager without the domain expertise.

View Point 3: Best of both worlds

The project manager is paired with an Subject matter expertise that acts as a consultant. This will give the project manager direct access to someone who can make more accurate input during the lifecycle of the project. This does come at a cost, and could add more pressure to the budget and resourcing requirements of the project.

Key Selection Criteria for Project managers

Selecting the right person to lead and manage the team is vital for the success of the project. A project manager also needs to manage and handle unexpected crisis and deviations from the plan during a project life cycle, communicate with the client and organization’s management, generate reports, manage budget and project resources, etc.

This why choosing the right project manager is very important.

Following are some of the key criteria's for selecting a project manager -

1. Credibility
2. Sensitivity
3. Leadership and management style
4. Ability to handle stress

Key Selection Criteria for Project managers

1. Credibility –

The project manager needs two kinds of credibility-

- Technical credibility – The project manager needs to possess sufficient technical knowledge to manage and direct the project.
- Administrative credibility – keep the project on schedule and within the budget. Deliver accurate reports and in time to project stakeholders. Most of the project manager's time is spent on communicating with the many stakeholder groups of the project.

2. Sensitivity –

There are several ways for project managers to display sensitivity. This includes –

- Understanding the organization's political structure
- Sense interpersonal conflict on the project team or between team members and outsiders
- In case a conflict arises, the project manager should confront and deal with it before it escalates.

Key Selection Criteria for Project managers

3. Leadership –

   - It is one of the most valued trait in a project manager.
   - Leadership is related to interpersonal behaviour, the process of communication, the capacity to motivate and most importantly the ability to inspire others.
   - It's about influencing groups and individuals to achieve an organisation's vision and objectives, which in this case could be providing a high quality end product or service to the customer.
   - An effective leader has the ability to –
     - translate direction and mission in to reality
     - align people with the chosen direction by building trust
     - comfort any uncertainty during the project cycle
     - set and lead by example
     - tune in emotionally to their surroundings and to themselves.

Key Selection Criteria for Project managers

4. Handle stress -

   - One characteristic of any project is its uniqueness and with that come a series of its unique set of problems
   - Change in project requirements, last minute schedule and technical changes are inevitable in a project and are hard to manage. This may result in the team ‘burnout’, which can result in failure of the project.
   - A project manager must be able to constructively handle these issues and mitigate the risks associated with them.
   - He/she should be able to devise an effective risk management and mitigation strategy at start of the project to ensure a smooth project lifecycle.

Reading for this week: Project Management in Industry: NBN

Australia's largest ever infrastructure project

2007 Estimate $15 billion

2019 estimates $41 billion

Ongoing estimated to cost $70 billion

https://www.abc.net.au/news/2018-03-29/nbn-speeds-close-to-those-advertised-first-major-testing-shows/9601892

Thank you

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