



FIT 3161 – FIT 3163

CS – DS, Software Project 1

Introduction to Project Management
Week 2
Semester 2, 2023

Introduction to Project Management

What is a Project?

What are key elements of (IT) Project Management?

Look at:

Projects in relation to organisational activities and structures
IT/Software Projects: characteristics and examples

Knowledge areas
Triple Constraints (more next week)

Introduction to Project Management

What is a Project?

Definition:

“A project is a temporary endeavour undertaken to create a unique product, service, or result” (PMBOK® Guide, Sixth Edition, 2017)

(Better: “A project is a temporary endeavour undertaken to create a unique product, provide a unique service, or achieve a unique result”)

Endeavour → attempt → risk → degree of uncertainty → difficulty (→ failure?)

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Project v/s Operation

Project	Operation
Has a start and expected target end date	On going set of activities, no set end date
At end only ONE (set of outputs/results) is achieved.	The same output/result is <i>repeated</i> many times.
Has a fixed budget and consumes financial and other resources	Provides an income stream and profit for business

A Project can be part of an Operation and vice-versa! - Example?

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PROJECT *v/s* OPERATION

A PROJECT can be part of an OPERATION and vice-versa!. Example:

- *IBM is an IT business and part of its OPERATION is to deliver IT/ Software Solutions to other organisations, eg: Australian Gov. Agency*
- *IBM undertakes activities to deliver these solutions. Each such undertaking can be regarded as a separate PROJECT.*
- *Each PROJECT is also expected to deliver a profit to IBM.*
- *Part of the PROJECT may involve providing specific hardware components, which constitutes normal OPERATION activities for IBM.*

ie: it is not always black or white! Please get used to this in this unit!



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PORTFOLIO, PROGRAMS and PROJECTS

In a large organisation, eg: a University.

Portfolio has many Programs

*Programs: Educational Support Program
 Research Support Program
 Admin Support Program*

Educational Support Program has many Projects

*Projects: Moodle
 E-exam system
 Allocate, WES etc..*

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Information Technology (IT) Projects: based on definition of a project

*An **IT** project is a temporary endeavour undertaken to create a unique product, provide a unique service, or achieve a unique result, **involving the use of software, networks and/or IT hardware.***

Examples:

Team of students develops a smart phone application

Company develops a driverless car (likely a Program)

Business undertakes a major update of software system.

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(IT) Software Projects v/s Non-IT Projects

There are some differences or nuances that may arise:

Software Projects:

Do not always have a clear target end date!

Eg: Linux project is on going ...

Software undergo continuous maintenance and upgrade.

“Project cycles” instead of being “temporary endeavour”

IT Project Management

*What is **Management**?*

*Dictionary defn: **the control and organisation of something ...**^[1]*

Projects typically has many “somethings” or factors affecting it

*“What are these “**somethings**” in relation to software projects?*

flux.qa/8JCQBT - What are things to consider when managing and executing an IT Project?

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Factors that affect the progress and success of a software project:

- 1) *Project scope: what needs to be done in order to fulfil the aims of the project*
- 2) *Time: schedule*
- 3) *Resources: human and technical resources*
- 4) *Communication: within development team and with external stakeholders*
- 5) *Risks*
- 6) *Quality*
- 7) *Financial factors: cost, budget and procurement (not considered in detail in this unit)*
- 8) *Integration Management: managing ALL of the above effectively*

*These factors are interrelated and need to be **managed***

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Project success

What helps to make projects successful

What are indicators of success (or failure)

Can you come up with examples of successful v/s failed projects?

IT Project Management

What helps to make projects successful (in an organisation)

- 1) *Executive support from “people above”*
- 2) *Project alignment with **clear** business objective*
- 3) *Focused and skilled development team/staff/human resources*
- 4) *Effective use of appropriate tools and technical resources*
- 5) *Clear understanding of optimised project scope*
- 6) *Involvement of end users and external stakeholders*
- 7) *Agile process ^[1]: responsiveness to user needs and changes*

1. Agile process will be discussed in detail later

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Successful Project Teams do:

Use Project Management tools effectively (software and techniques)

Monitor project (ie: scope, communication, schedule, resources, risks, quality)

Learn/acquire new skills when required

Monitor customer satisfaction and financial indicators

“Grow project leaders emphasising business and soft skills”

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What are the indicators of success of a project?

- 1) Project objectives are met!*
- 2) Project end users/customers and sponsors are satisfied*
- 3) Project meets “Triple Constraints” of*
 - Scope*
 - Time*
 - Cost*

(Triple Constraints will be discussed in a later session)

IT Project Management

Success → Matching developer capabilities and resources to Projects

Useful in deciding which Project is more beneficial to execute

How? → Apply a Weighted Scoring Model (WSM)

- 1) Identify a set of criteria to use in comparing projects and decision making*
- 2) Assign weights to each criteria in decision making process*
- 3) Score each criteria in relation to each project*
- 4) Calculate overall score for each project*
- 5) Best scoring project is considered to be the most beneficial*

IT Project Management

Matching developer capabilities and resources to Projects

Eg: Choose 1 of 4 Projects to improve Public Transport system

- 1. Build new ticketing system for trains, trams and bus*
- 2. Develop new scheduling system for trains, trams and bus services*
- 3. Build new tunnel for train*
- 4. Acquire new trains*

Criteria	Weights
Budget constraints: probability not exceed \$100million	30
Improve public transport users experience	30
Developer experience in similar project	20
Require developer to gain new skills/resources	10

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Build the WSM

Criteria	Prj 1 (score/10)	Prj 2	Prj 3	Prj 4
Improve public transport users experience (40)	5	8
Budget constraints:.. not exceed \$100million (30)	8	6
Developer experience in similar project (20)	10	6
Require developer to gain new skills/resources (10)	8	5
Overall Score (100)	72 ⁽¹⁾	67	48	54

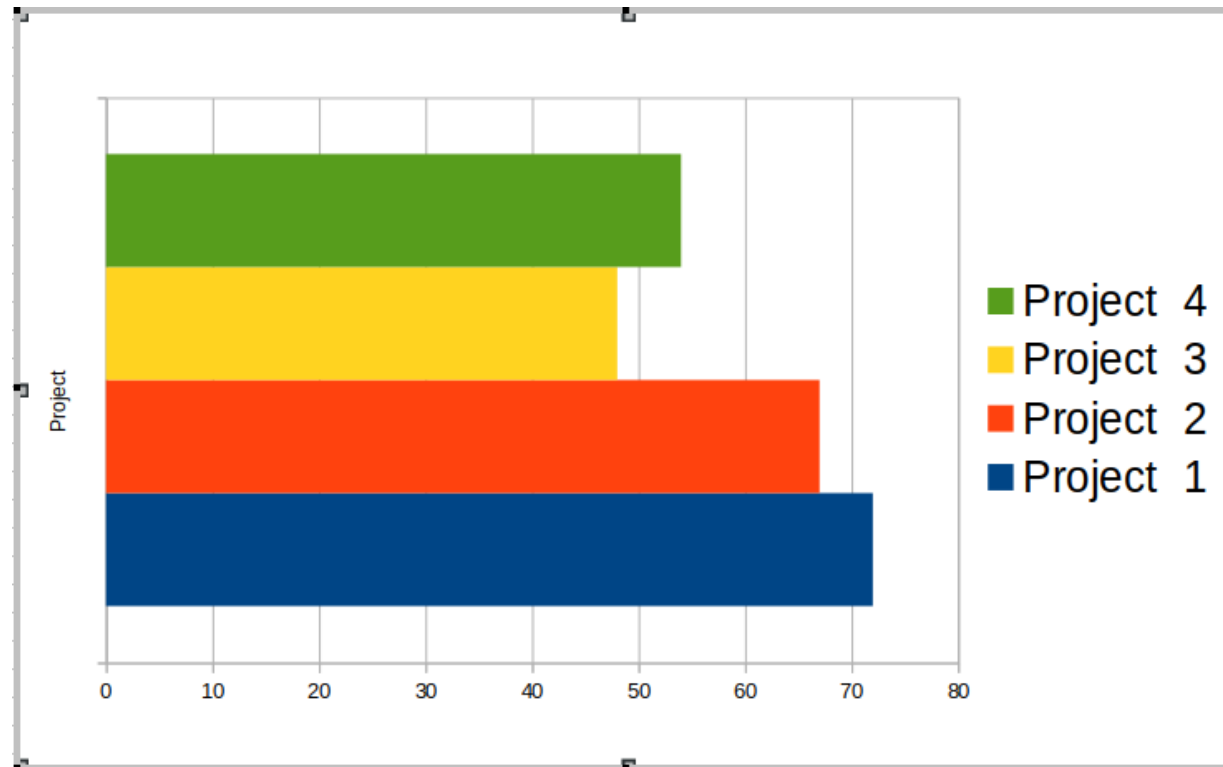
Ensure High score for criteria is Better!!, ie: wording of criteria is important

*→ Better worded as : “**Developer has necessary skill set**”*

(1) $72 = (5*40+8*30+10*20+8*10)/10$

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WSM: Useful to visualise as a bar chart



Showing WSM
bar chart
comparing 4
projects.

WSM Scores

P1: 72

P2: 67

P3: 48

P4: 54

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Students will: build a WSM for your assigned project in assignment 1

You will cheat here!!

Compare any 4 projects from list available, including yours

You can cheat on scoring to make your selected project win

Justify and explain all criteria, weight and scoring for each project.

IT Project Management: Building a Business Case.

Purpose of a Business Case document:

Why this Project?

- Explains why the project is appropriate
 - ➔ How it can benefit the client organisation
- Provides justification for the cost (in relation to Return on Investment)
- List main business objectives

Example : See JWD Business case on Moodle

IT Project Management: Building a Business Case.

A Business Case document:

Structure of a Business Case Document

- 1) Introduction/background
- 2) Business Objectives
- 3) **Problem or Opportunity statement (or Mission statement)**
- 4) Analysis of possible solutions and recommendation
- 5) High level project overview
- 6) Cost-Benefit analysis
- 7) Supporting Documents or other relevant info (if available)

IT Project Management: Building a Business Case.

Important to have a Problem or Opportunity statement:

Need to say **clearly** what you are aiming for.

What particular **problem** are you trying to resolve with project?

or What **opportunity** are you taking with project? (improvement)

State in a few sentences (1-3).

Eg: Project will aim to create an application to help better educate children about indigenous languages. The application will be customisable for children of different age groups.

IT Project Management

Project Managers:

What is the role?
What do they do?

The Role of the Project Manager

Holding project kickoff meeting	Encouraging the team to focus on deadlines
Laying out the project targets, plan and workflow	Evaluating the performance
Negotiating for resources	Briefing the project sponsor
Establishing the project's policies and procedures	Managing the costs - procurement
Obtaining funds	Briefing the team
Executing the plan	Briefing the customer
Closing out the project	

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Project Managers skills:

- *People skills : Leadership skill, team building and trust building*
- *Communication: written and oral*
- *Conflict management and resolution*
- *Problem solving*
- *Critical thinking*
- *Risk Management skills*
- *Application area knowledge is highly desirable (...can be necessary)*

- *Integrity and ethical behaviour*

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Project Managers skills:

Different situations and projects may require strengths in particular skills:

- ***Large projects:*** Leadership, relevant prior experience, planning, people skills, verbal communication, and team-building skills were most important.
- ***High uncertainty projects:*** Risk management, expectation management, leadership, people skills, and planning skills were most important
- ***Very novel projects:*** Leadership, people skills, having vision and goals, self confidence, expectations management, and listening skills were most important

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Project Managers: Ethics in Project Management

*Ethics can be loosely defined as a set of principles that guide our decision making based on **personal values** of what is “**right**” and “**wrong**”.*

Project managers often face ethical dilemmas.

PMI publishes the Code of Ethics and Professional Conduct ^[1] to instill confidence in the PM profession and to help individuals make wise decisions.

*The values that the global project management community defined as most important were **Responsibility, Respect, Fairness and Honesty***

Of course these values are valid for ALL project Team Members, and not only Project Managers!

1. <https://www.pmi.org/about/ethics/code>

Introduction to Project Management

What is a Project?

Which of the following is a/are project/s?

- 1) Baking a cake at home
- 2) Baking a cake in a bakery
- 3) Setting up a bakery business
- 4) Running a bakery business
- 5) None of the above

Flux: flux.qa/8JCQBT

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Videos

<https://www.youtube.com/watch?v=aTEK0BmsH-g> ***

https://www.youtube.com/watch?v=qoY6VX_nRCs