Managing Your Research Project Masterclass



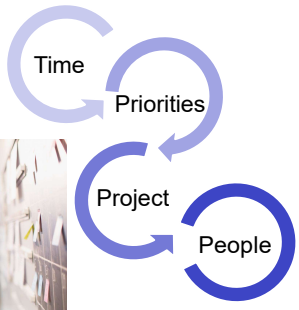
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To manage your research project you need to manage:





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What is a project?

"The principle identifying characteristic of a project is its novelty. It is a step into the unknown, fraught with risk and uncertainty"
(Dennis Lock)

"A unique set of activities to deliver an outcome which is finite and bounded"

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What is a project?

Some unique characteristics include:

- Non-routine/one-off activity
- Defined start/end dates
- Often intended to bring about something novel
- Bring together people not used to working with each other
- Multiple, interdependent activities
- Have a reputation for running over time/over budget
- Inherently risky in spite of extensive planning…

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Why do projects struggle?

Common reasons for project failure:

Poor planning
Poor communication
Lack of resources

- Poor project specification
- Unrealistic timescales
- Inappropriate staff /skills
- Insufficient involvement of senior managers
- Failure to manage stakeholder expectations.



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What is project management?

"The application of knowledge, skills, tools and techniques to project activities in order to meet stakeholder's needs and expectations from a project"

"..the process of integrating everything that needs to be done as the project evolves through its life cycle in order to meet the project objectives".

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Project management systems

There are many different systems available:

PRINCE2 (PRojects IN Controlled Environments)
- Used for government/public sector projects

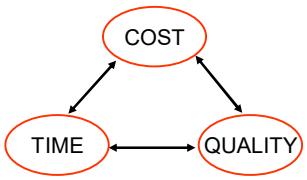
Can use Word, Excel, MS Project or a few sheets of A4 paper!

They formalise and give a structure to “common sense”.

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What are your project constraints?



Other constraints include:
- Health & safety
- Biosecurity
- Ethics
- IPR/patents

… Covid-19 lockdown?!

It is important to understand the constraints of the project and plan within these constraints.

What are the constraints on your project?

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How is success measured?

There are many measures of success:
- On or under budget
- On time
- Appropriate quality



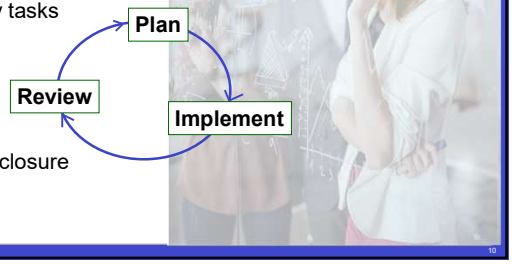
What is your biggest constraint?
How will the success of your project be judged?

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Planning your project

Identify stakeholders
Define scope
Identify risks
Identify tasks



Project closure

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Who are the stakeholders?

- Any individual or organisation who has interest in the performance or outcome of the project
- Stakeholders usually input resources into the project
- Key to project management is meeting stakeholder expectations and is successful if all expectations are met.

Who are the stakeholders in your project?
- What resources do they bring?
- What do they expect to get out of your project?

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Defining the scope

- Scope – what needs to be done to complete the project
- Define the boundaries of the project (what is / isn't expected)
- Identify goals, objectives and critical success factors
- Details of risks and assumptions
- Project management/control processes – who is responsible?!
- Estimates for costs
- Get all agreed up front as it will prevent problems later!

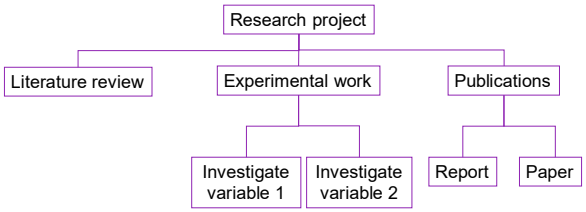
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Defining the scope

What the project will actually ***deliver*** :

For an MSc student project we might start with:



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Changing the scope

The most common reason for projects delivering late or over budget

Scope-creep…

De-scoping…

When changing scope ensure that:

- Changes are beneficial to the project
- Everybody is aware of the impact on the schedule and outcomes of the project

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The scope of your project

Are you clear about :

- The scope of your project
  - Try and formalise it using an objective tree
  - Write it down!!
- How well do you understand it?
- Is your understanding the same as your stakeholders?

Think of your own project – what are the real ***deliverables***?

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Identify the risks

Every project has associated risks

Need to estimate the:

- sources of risk
- likelihood of this occurring
- the magnitude of the effect if it happens.

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Sources of risk

These could include :

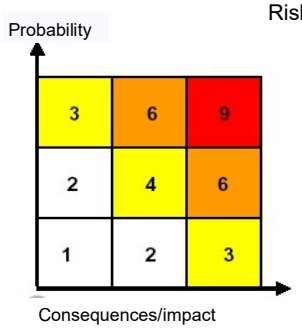
- People – being away on holiday or at conferences
- Experiments – foiled by equipment breakdown or too many students wanting to use it!
- Resources – not enough cases, samples, interviews.

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Likelihood of risk

Risk = probability x impact



Low risk =
low probability x low impact

Medium risk =
low probability x high impact
high probability x low impact

High risk =
high probability x high impact

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Appetite for risk

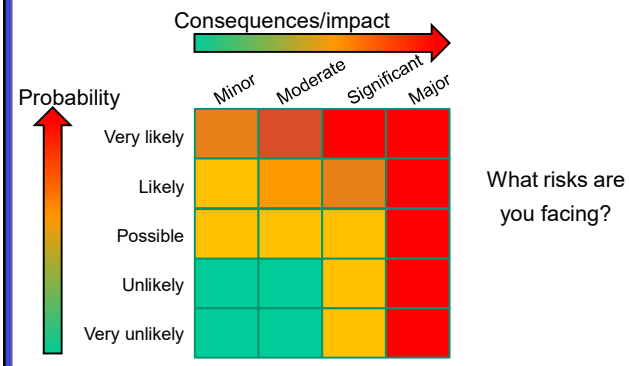
You may be more or less open to risk in some situations, eg:

- **Hungry**: seek innovative options and make choices offering the highest reward despite significant risks
- **Open**: consider all potential options, seek greater reward, take actions to moderate risks
- **Cautious**: seek safe options with a low degree of risk and limited reward
- **Minimalist**: seek very safe options with a low degree of risk which will return a very limited reward
- **Averse**: focus on avoiding risk & uncertainty. Activities will be those considered to carry virtually no inherent risk.

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Likelihood of risk



What risks are you facing?

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Plan for risk

Having identified possible risks it is wise to develop a back-up plan, just in case!



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What about your project?

- Who are the most important stakeholders?
- Where is scope-creep most likely?
- What are the biggest risks?

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Tasks common to all research projects?

- Advertising/recruitment/interviewing
- New staff induction
- Staff management meetings
- Training/CPD
- Conferences/papers
- Finance review/budget control.

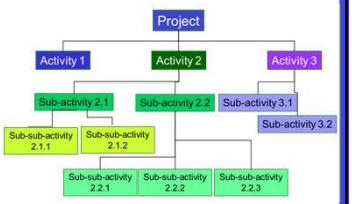
When are you going to plan for these tasks?

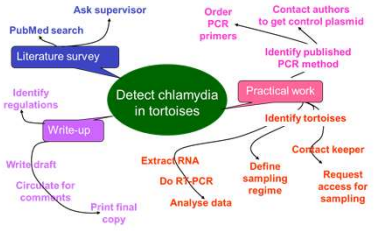
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Identify the tasks

Detail tasks and subtasks





Subtasks should be small enough chunks that you can easily assess your progress

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Planning your work

Having identified the tasks and the risks you can now plan in which order they will be done.

- Need to identify any precedence :
  - data generation/collection before writing the results
- Often necessary to have several activities occurring at once
  - do you have the resources to support this?

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How do you decide what needs to be done first – how do you set priorities?

- This is the most urgent
- This is the most important
- My manager/most demanding client really wants this done
- *This* needs to be done before we/they can do *that*
- This needs to be perfect!
- This is what I said I'd do

What's your default driver?

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Could you filter your priorities?

- Is this central to/aligned with the project goals?
- Is this a suggestion or a need, a request or demand?
- What are the consequences of doing this?
- What are the consequences of delaying this?
- Doing this makes everything else easier!

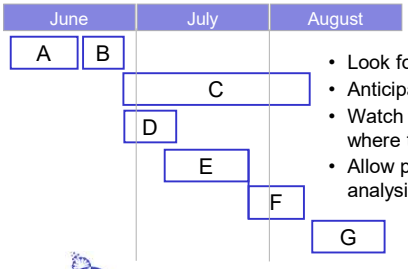
What would be a helpful filter for you?

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Gantt charts

Each task takes time – what's your best estimate – how much give?



- Look for busy times…
- Anticipate resource demand
- Watch for dependencies where the next task can't start
- Allow plenty of time for analysis and writing.

Seek advice from people with experience!

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Monitoring progress

Schedule meetings - regular research progress updates
- periodic project milestone reviews

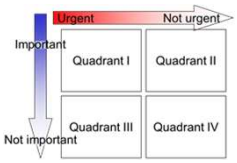
- Be systematic – evaluate against deadlines
- Identify tasks which are slipping and why
  –will additional resource help?
  –are there unexpected conflicts on resources?
- Keep critical activities on track
- Update project plans when things change and always work with latest version of the plan
- Most importantly BE HONEST.

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Managing yourself and your time

- Be organised
  - Keep a written plan and update it
  - Use a "to do" list, a check list or a mind map



- Prioritise your tasks
  - Identify A, B, C and D tasks
  - Do it, delegate it, dump it!
  - Important vs urgent

- Plan ahead – keep an eye on your deadlines
  - set reminders and share with others
  - watch out for multiple deadlines clashing.

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Not going to plan?!

- Make everybody aware of costs / implications of delays
- Discuss changes in plans
- Respond early before it is too late
- Remember it's only a plan - introduce some flexibility
- If the project is in crisis, involve the client and stakeholders
  - your sponsor
  - collaborators
  - research group
  - friends

Remember to regularly review progress regularly!

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Project closure

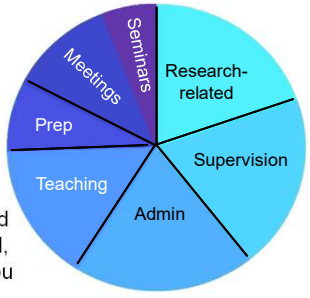
- Check the practical outcomes
- Tie-up loose ends
- Write final report
- Write papers
- Have stakeholders formally accepted outcomes?
- "Maintenance" procedures in place
- Disband the Project Team – allow for goodbyes.

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How do you spend your work time?

You could look at:
- Specific activities
  - email, meetings, research, teaching, distracted…
- Project associated
  - Relate to funding received
  - Relate to output achieved, KPIs, what's valued by you or by your manager



Keep checking – am I happy with this?

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If you fail to plan, you plan to fail!

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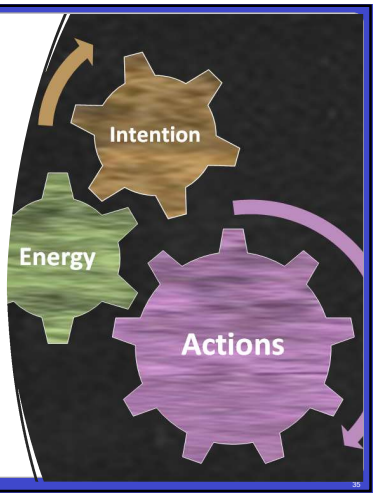
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