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# Project Management

## Getting Started

Research & Enterprise

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# How do you eat an elephant?

# Why Project Management?

"the knack for all research students regardless of discipline is to pinpoint what is required and model your work accordingly" (Burnham, 1994:33)

- Thesis whisperer
- Grad Hacker

# Session objectives

- Work through a process for planning projects
- Understand how to relate these to your research project
  - Reflect as we go along
  - Discuss after this session
- Apply these to conference planning
- Apply these to fellowship or funding applications

# What is ‘Project’

- Has a clear and specific objective
- Is someone’s responsibility
- Is any sort of planned undertaking which is finite and bounded

# Project constraints/risks

- Most projects operate under constraints
- What are the constraints on your project ?

# Possible constraints

- Time
- Clarity of scope
- Access to literature / resources
- Access to supervisor
- Funding
- ‘Publishable quality’

# Scope of your project

- What are you trying to achieve in your project ?
- Are you clear on the limits of your investigations ?
- How will you know when the project is complete ?

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# Beneficiaries

- Who will benefit from your work ?
- Who do you want to influence ?
- What impact do you want your work to have ?

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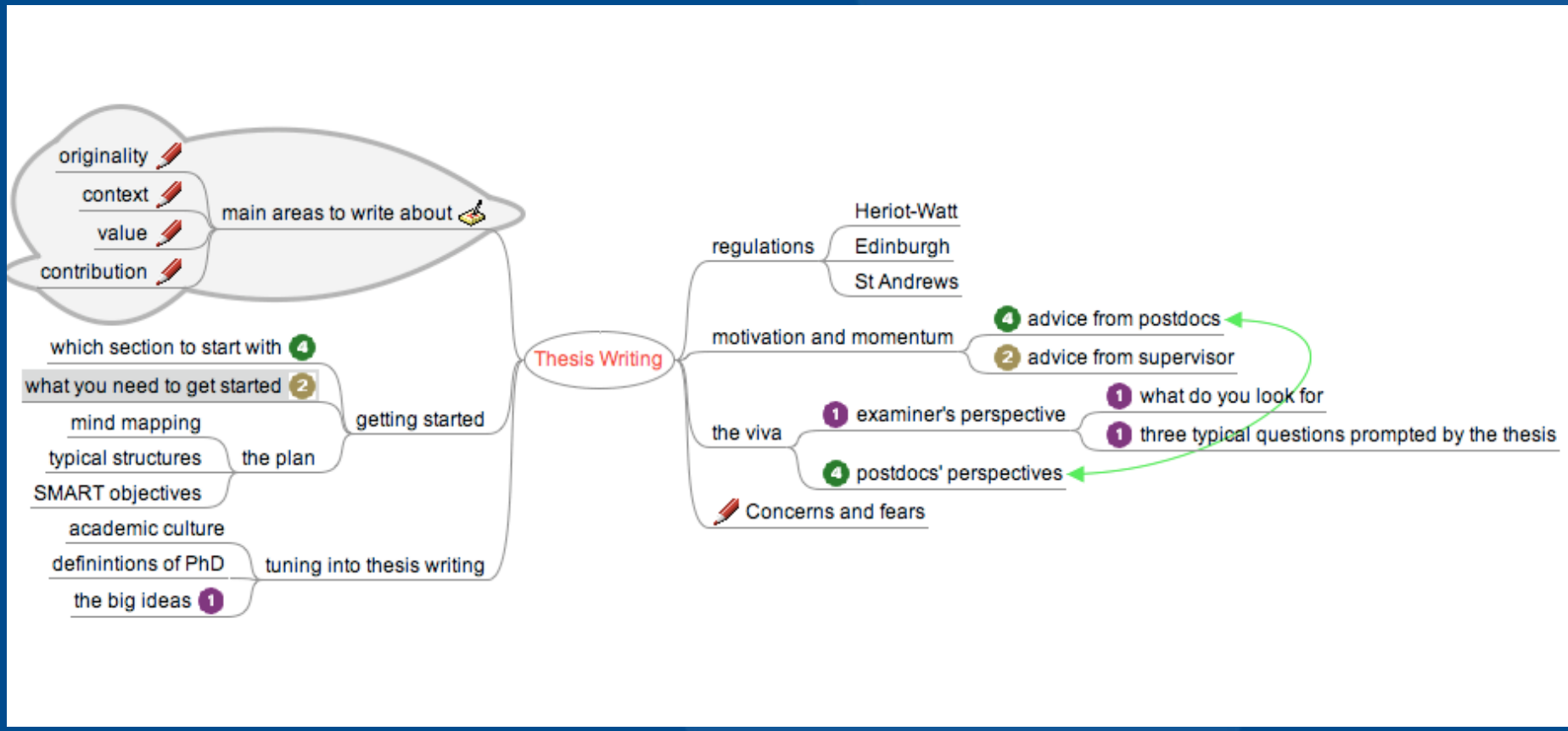
# Project Management Tools

- Mind Map
- Drill Down
- Gantt Charts
- Risk Analysis

# Mind Map

- Useful at the earliest stage of a project
- Set out all possibilities and issues
- Helps gives structure to project
- Makes linkages more evident


Thesis Writing
main areas to write about
originality
context
value
contribution
getting started
which section to start with
what you need to get started
the plan
mind mapping
typical structures
SMART objectives
tuning into thesis writing
academic culture
definintions of PhD
the big ideas
regulations
Heriot-Watt
Edinburgh
St Andrews
motivation and momentum
advice from postdocs
advice from supervisor
the viva
examiner's perspective
what do you look for
three typical questions prompted by the thesis
postdocs' perspectives
Concerns and fears

- Use single words or simple phrases - print ?
- Use colour to separate different ideas
- Use symbols and images
- Using cross-linkages

http://www.mindtools.com/pages/article/newISS_01.htm

- In the centre of the page, write a phrase which summarises your research idea

- Now allow your ideas to flow..


project
for me
the future
Why am I doing research ?
Why is this project happening ?
risks
impact
How is it happening ? (methodology)
Who will benefit ?
Challenges
for me
project

# Drill down

- A technique to identify all tasks associated with a project
- Start on the LHS with the project objective
- Identify obvious tasks
- Break these down into smallest parts
- List questions or points to clarify

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# And now to you

- A novel way to fund your PhDs!
- It will require careful planning
- Together we can drill down through the problem to identify the key tasks and questions...

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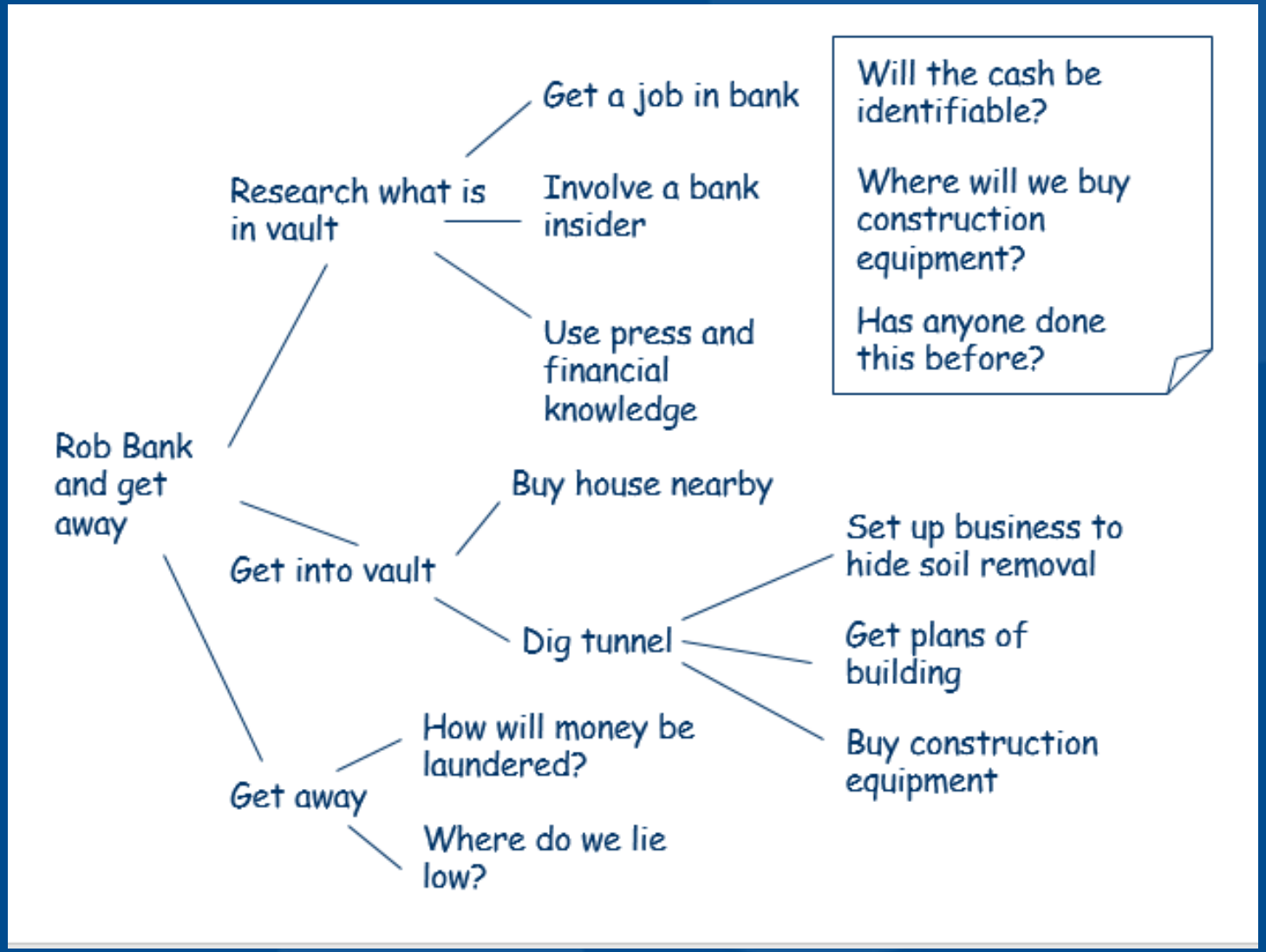
# The Heist

- **Thieves in Brazil have stolen up to $65m (27m NZD) after tunnelling into a bank in what police say could be the country's biggest bank heist.**
- The thieves dug a 200m (656ft) tunnel into the bank from a nearby house in the northern city of Fortaleza.
- Neighbours said between six and 10 men worked at the house, rented in the name of a company making artificial turf.
- The theft happened over the weekend, but was not discovered until Monday morning because the bank was closed.
- Neighbours reported seeing vanloads of material being removed each day.
- "It's something you see in the movies... They dug a tunnel that goes underneath two [city] blocks. They've been digging for three months," investigator Francisco Queiroga told the Reuters news agency.
- The Banco Central said the robbers opened five containers with 50 real ($22) bills.
- The value of the stolen bank notes has not been determined. However police sources said the heist may have yielded as much as 150m reais, which would make it the biggest bank robbery in Brazil's history.


Rob Bank and get away
Research what is in vault
Get a job in bank
Involve a bank insider
Use press and financial knowledge
Get into vault
Buy house nearby
Dig tunnel
Set up business to hide soil removal
Get plans of building
Buy construction equipment
Get away
How will money be laundered?
Where do we lie low?
Will the cash be identifiable?
Where will we buy construction equipment?
Has anyone done this before?

# Something closer to home

- You are required to plan and organise a conference
- Drill down the different tasks which must be achieved for a successful event

# Projects and Risks

- Identify sources of risk
- Assess likelihood of risk
- Assess magnitude of risk
- Develop response/ mitigation

# Risk associated with Bank Heist were…

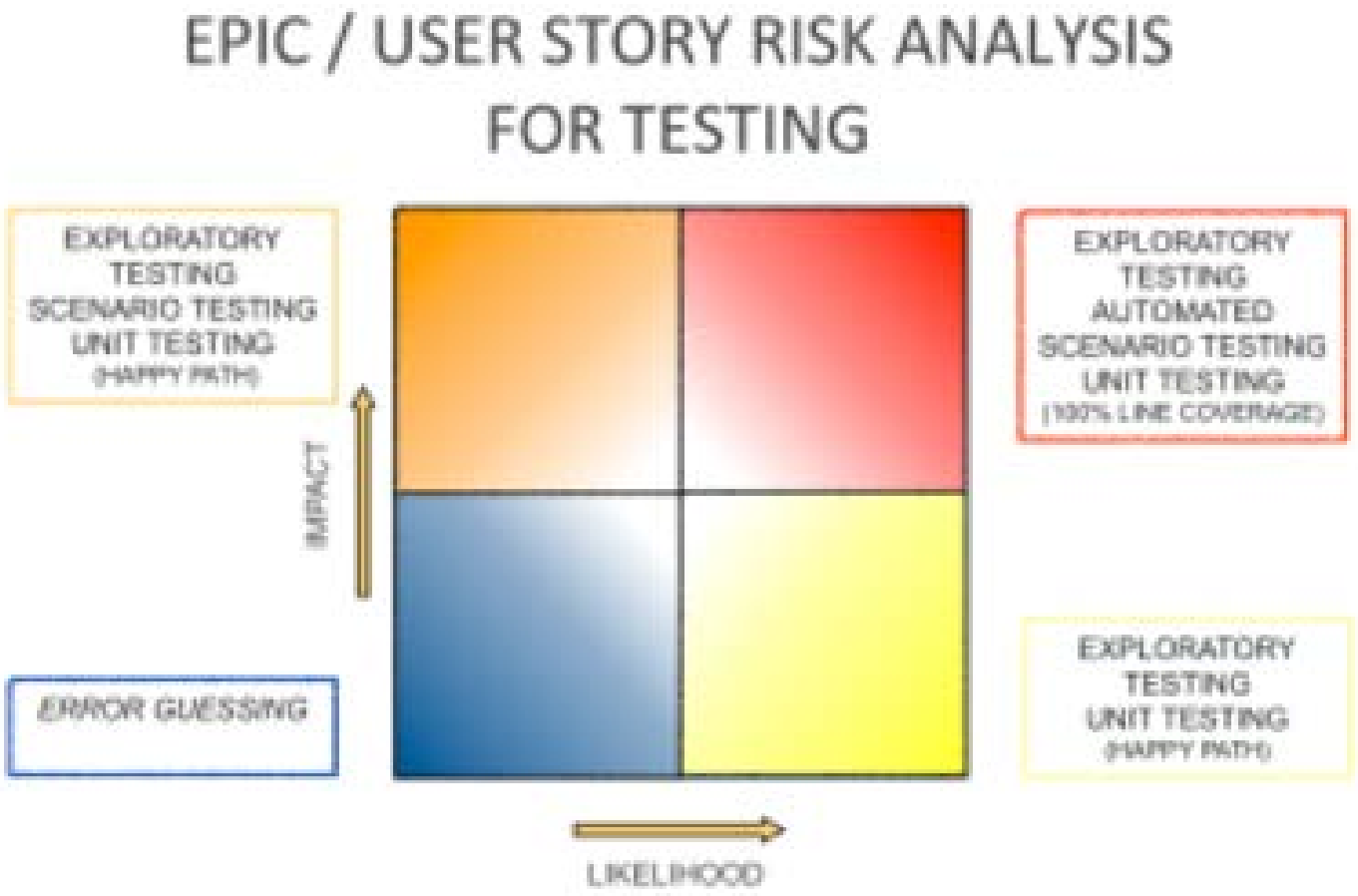
- Get caught digging tunnel
- Tunnel collapses
- Route blocked by pipes / rock
- Getting grassed on, dobbed in
- Vault empty / disappointing
- Forensic evidence left

All potentially and rightfully resulting in arrest and jail

# Sources of Risk in a PhD

- Discover that someone has already done it !
- Data management issue: Laptop with records is stolen, pen drive through the wash…
- Unable to get hold of a key source
- Supervisor leaves
- Supervisory issues
- External pressures
- Internal pressures
- Loss of motivation…

# Risk analysis



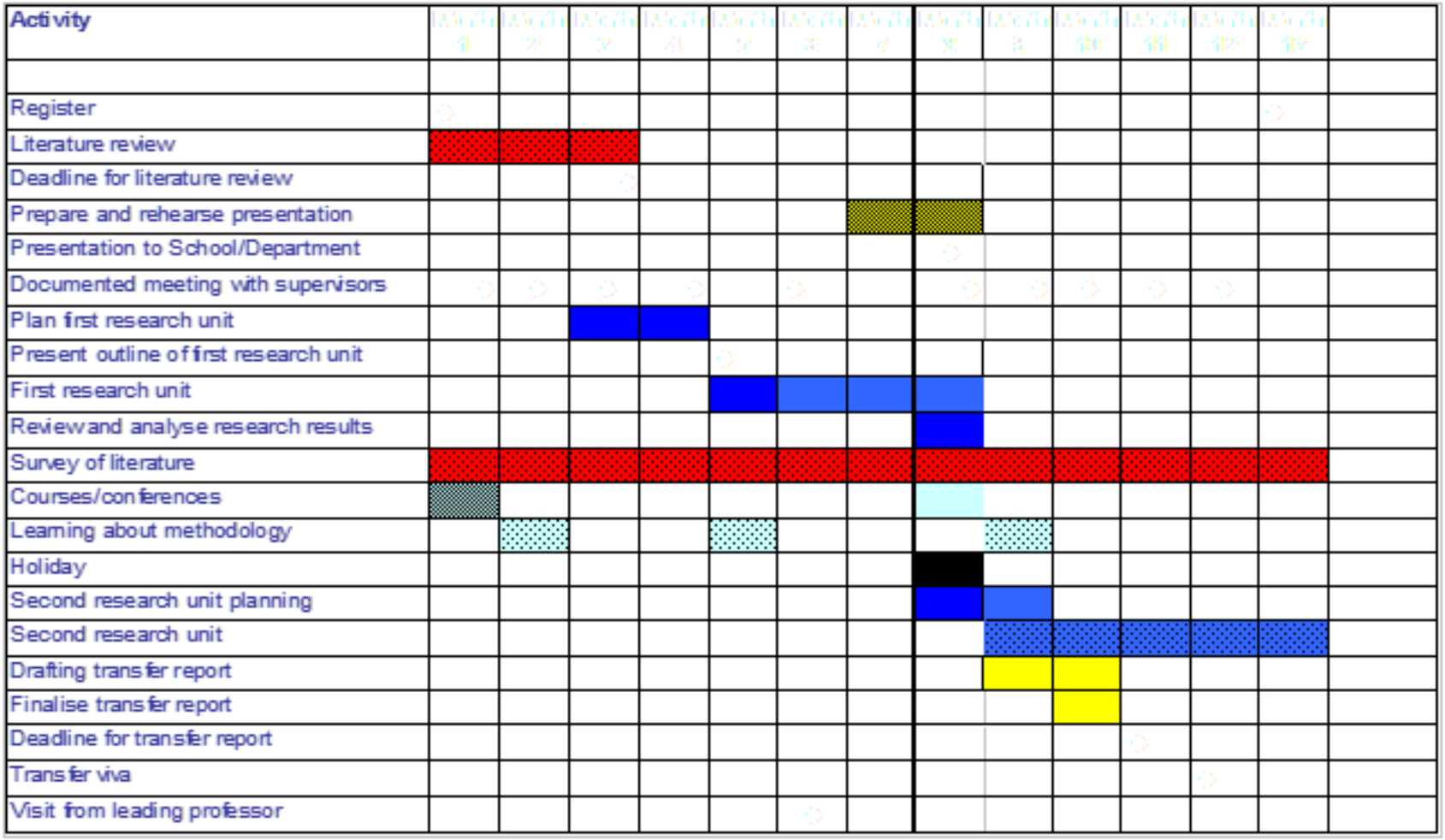
# Risk analysis of PhD

- To identify potential risks
  - Review regularly and recognise slippage
  - Talk to supervisor/s, other PhD candidates
- Next map these against potential impact and likelihood
- Finally, eliminate, minimise or develop contingency plans

# Gantt chart development

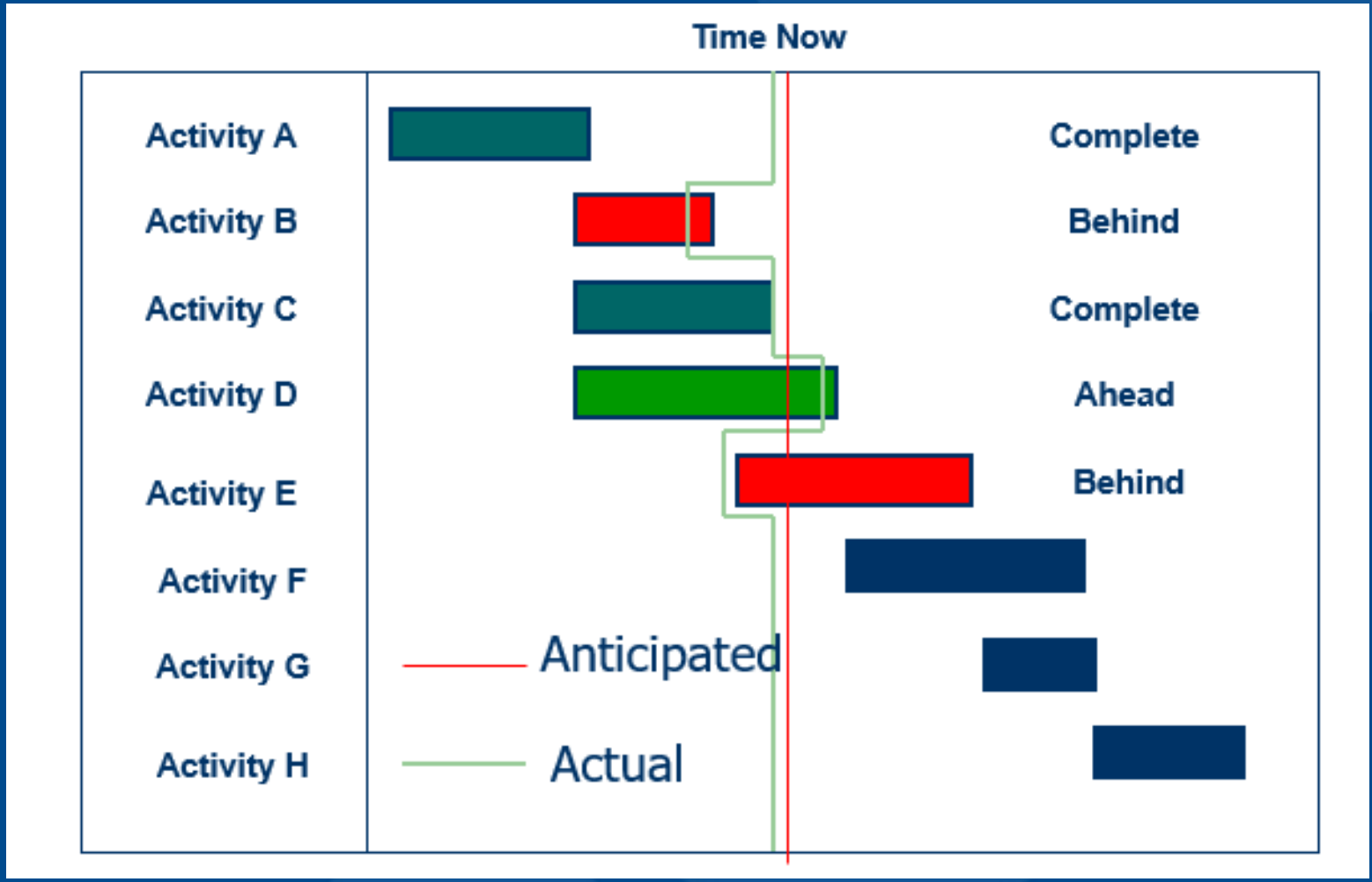
- Use list of tasks to start Gantt Chart
- Identify relationships between tasks
- Estimate **time** for each task
  - include: project management, detailed planning, liaison with experts, meetings, information gathering
- Ask for feedback on your plan

https://www.smartsheet.com/blog/gantt-chart-excel01


Activity
Register
Literature review
Deadline for literature review
Prepare and rehearse presentation
Presentation to School/Department
Documented meeting with supervisors
Plan first research unit
Present outline of first research unit
First research unit
Review and analyse research results
Survey of literature
Courses/conferences
Learning about methodology
Holiday
Second research unit planning
Second research unit
Drafting transfer report
Finalise transfer report
Deadline for transfer report
Transfer viva
Visit from leading professor

# Gantt Chart

- lay out the tasks that need to be completed
- show when these tasks should be carried out
- assist the allocation of resources
- help you to work out the critical path for a project where you must complete it by a particular date


Time Now
Activity A
Activity B
Activity C
Activity D
Activity E
Activity F
Activity G
Activity H
Complete
Behind
Complete
Ahead
Behind
Anticipated
Actual

# Identify issues early – solve early

- Report the implications of delays
- Discuss changes in plans
- Direct resources
- Respond early
- Be flexible
- Involve your supervisor(s) and others

# Final thoughts

- Project management is a set of tools not a straightjacket!
- It should be dynamic, but have regular, fixed reviews of progress
- It can help with communication and to check on common understanding
  - Between you and your supervisor / funders / colleagues
- It can be difficult to apply these ideas at the very start of your PhD, but you should be able to identify scope, constraints, risks, time structure fairly soon…

Vitae – Project Management Tools for Researchers