

Monitor and Control

INF60016

Project Management for Research

Swinburne Research

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Learning Outcomes

- Defining project monitor and control process;
- Analysing scope validation and change;
- Monitoring schedule and research documentation;
- Determining Stakeholders engagement control and communication;
- Defining risk control measures;
- Explaining and designing of project implementation plan in nutshell.



* Acknowledgment- the lecture content is partially inspired by materials on strategic project management and project management for business development by Swinburne business school.

Project Control

is the process of comparing actual performance against project management plan. This process helps to identify deviations, evaluate courses of action, and take timely corrective decisions.

To achieve this successfully, project manager needs to:

- Establish a baseline plan;
- Measure progress and performance;
- Evaluate improvement opportunities;
- Assess and make needed changes.



Projects' CSFs And KPIs

**“ IF YOU CAN'T MEASURE IT,
YOU CAN'T
MANAGE IT ”**

-PETER DRUCKER

Every project has two elements that are the foundation of monitor and control.

Critical Success Factors (CSFs) are the elements or factors which show whether a project achieved its deliverables. They are what the project gets judged on such as research quality.

Key Performance Indicators (KPIs) indicate if the project is on right track to achieve objectives.

CSFs Vs KPIs

KPIs are the measurables, therefore they should be defined applying SMART approach. They should be aligned with CSFs, which are the standards in place. KPIs should help to achieve CSFs.

	CSFs Critical Success Factors	KPIs Key Performance Indicators
Answer a question	What should be done in order to get successful?	Are we successful?
The main role	Specify requirements for the success	Indicate what we are doing
Type of measurement	Qualitative	Quantitative



1. Research Quality

1. **Quality Planning-** to identify standards relevant to the research project;
2. **Quality Assurance-** to evaluate the overall project performance in regular basis (improvement opportunities, changes needed);
3. **Quality Control-** to monitor the results based on standards and eliminate causes of unsatisfactory performance, such as inconsistency and inaccurate information.

◀ plagiarism spectrum ▶

POOR PRACTICE

Using a source too closely when paraphrasing



Reusing work you have done for an earlier assignment



Copying work from a source without a citation



Referencing incorrectly



Working with other student/s to complete an individual task



Buying, stealing or borrowing other's work



Paying someone to do your work



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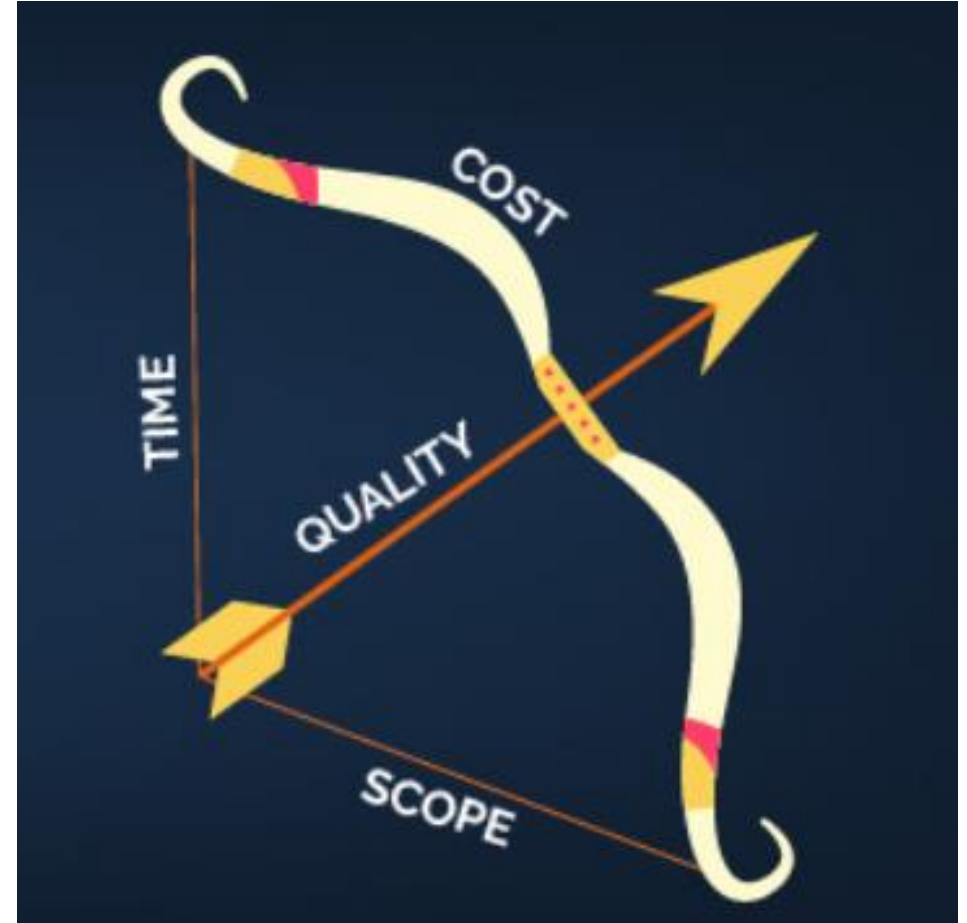
2. Research Originality



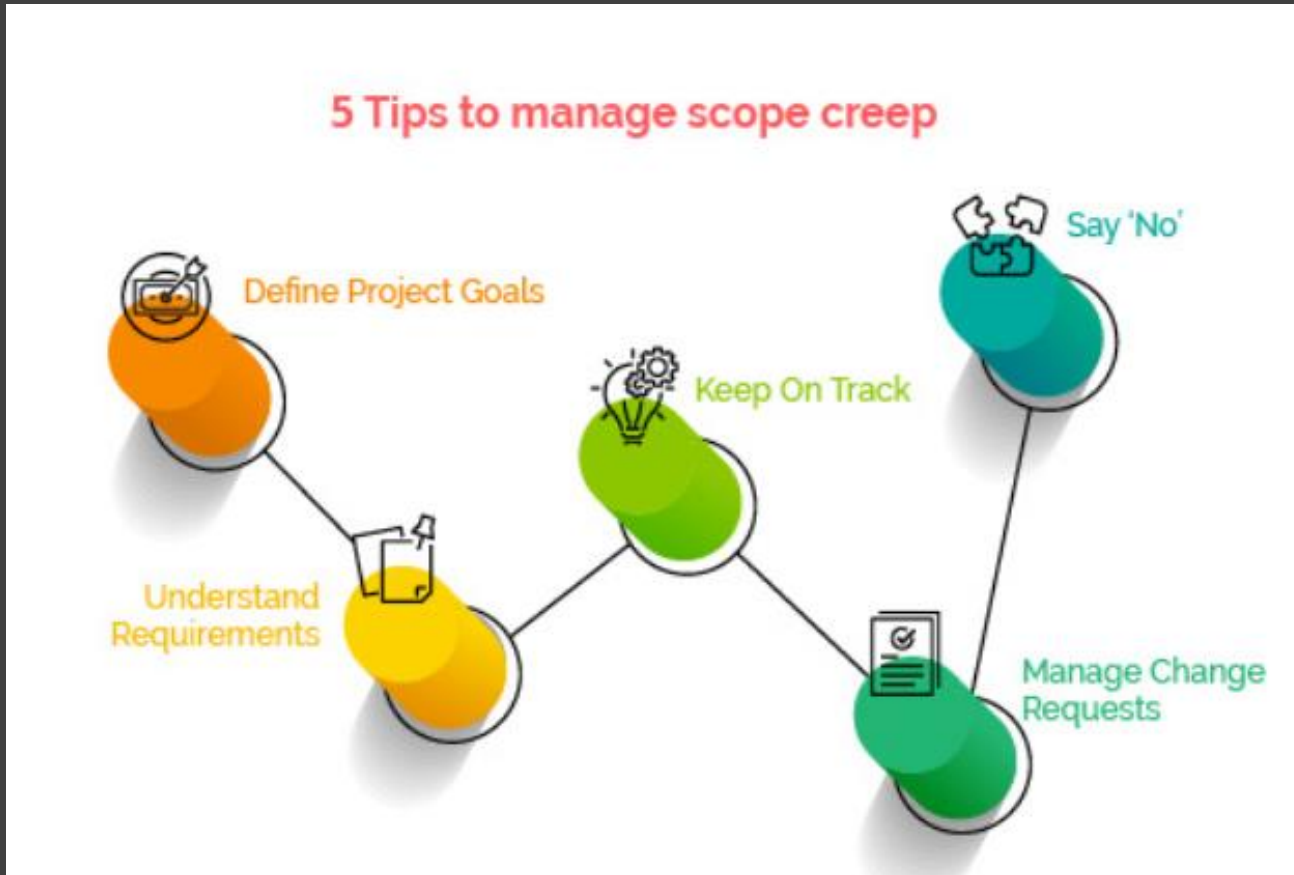
3. Scope Review And Validation Process

Project manager must develop clear documentation of project scope to communicate and get verification from stakeholders (research leaders, sponsors, etc.);

Due to high uncertainty in research objectives, a solid change management is required to avoid scope creep (going overtime or budget).

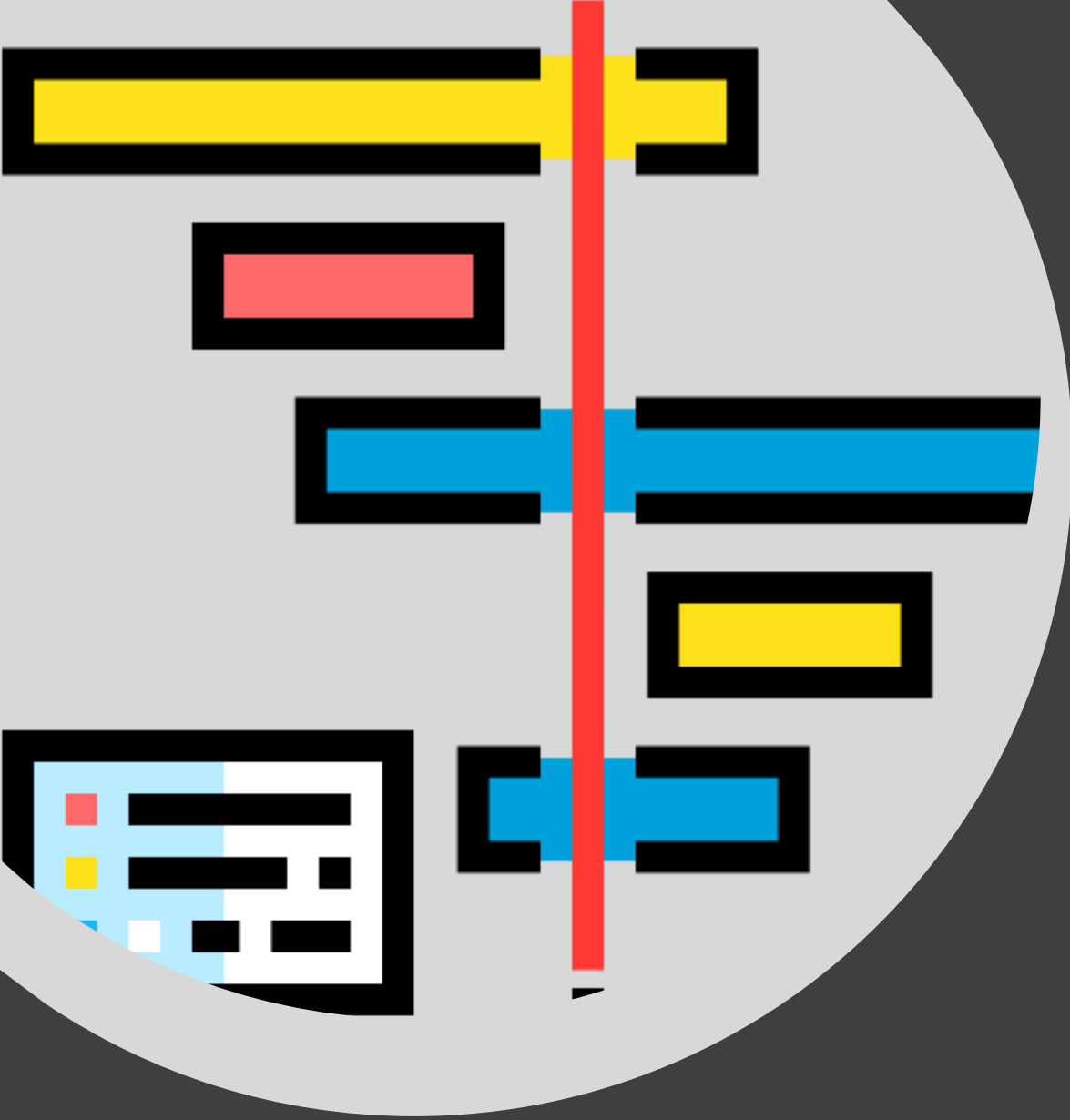


Scope Change Management Process...



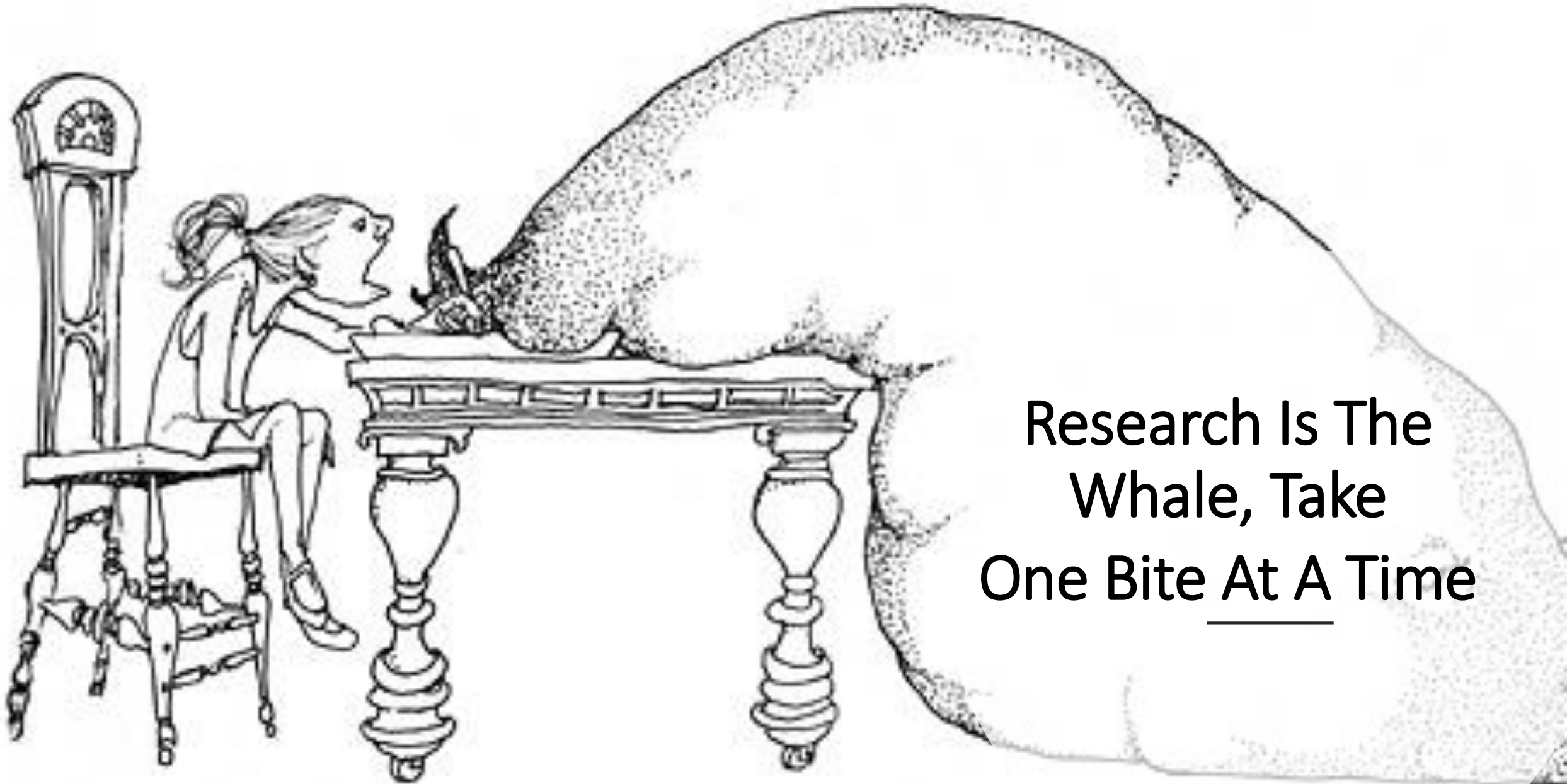
Are listed as:

1. Scope change is suggested;
2. Understand project goals and objectives;
3. Understand solution requirements;
4. Perform an initial review;
5. Investigate the impact of change;
6. Stay on track of time;
7. Devise solid change management process;
8. Approve or learn to say 'No' if necessary.

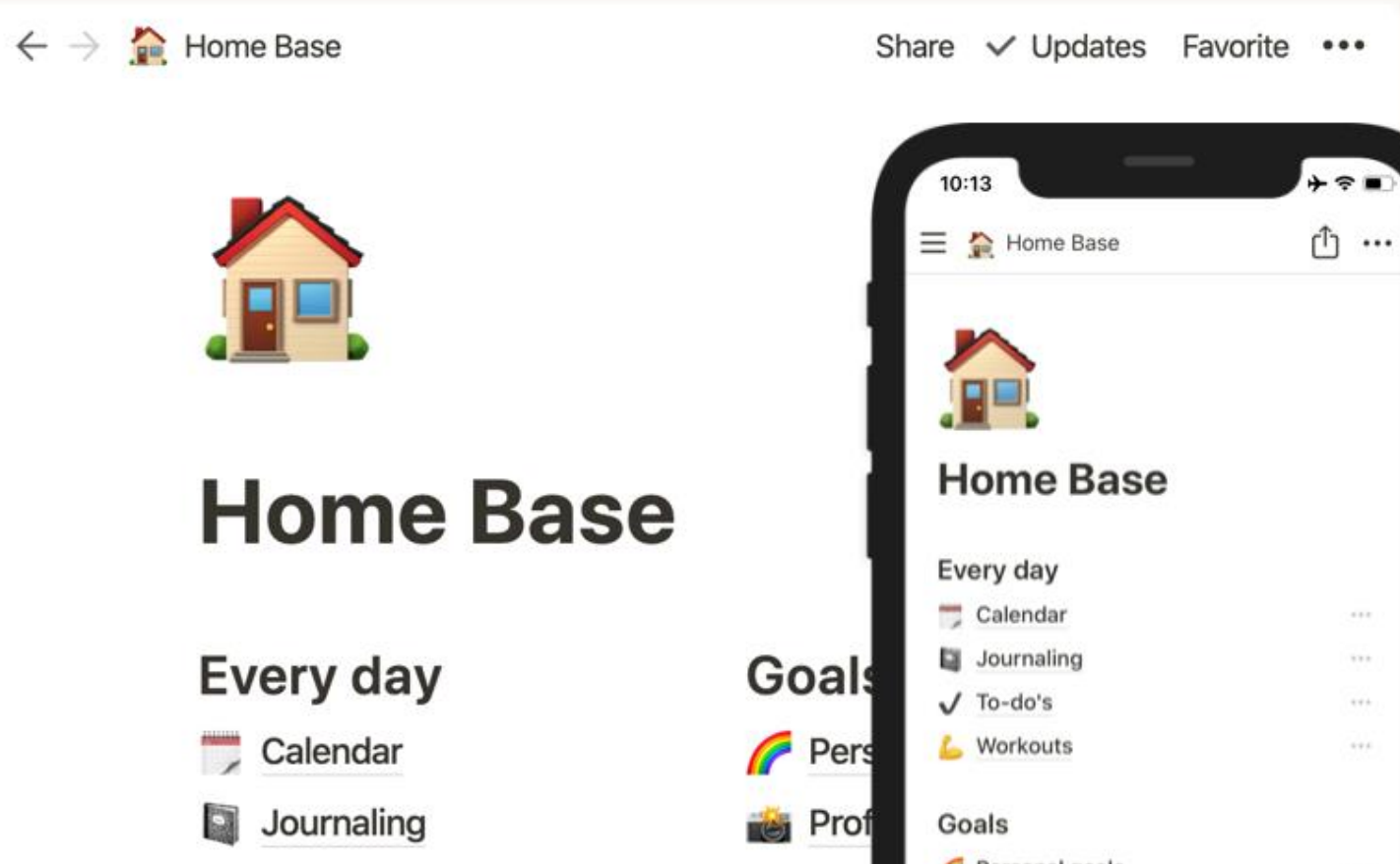
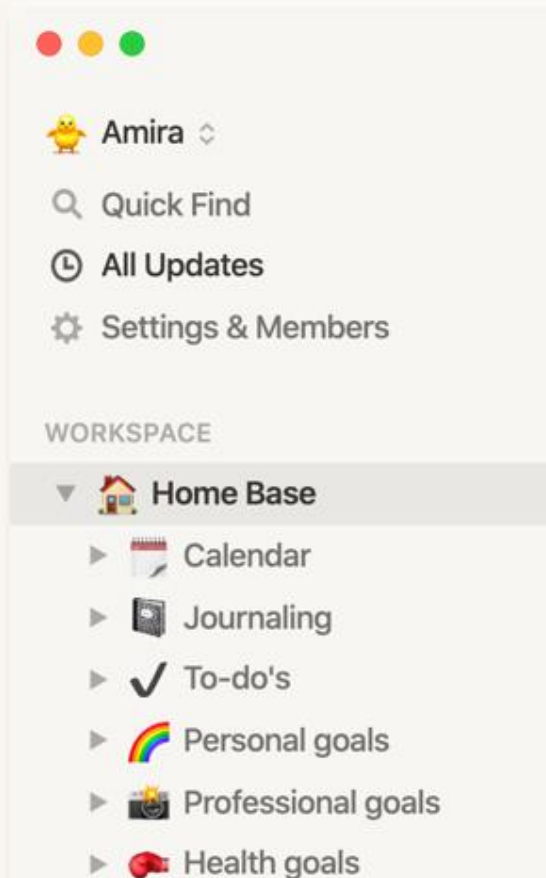


4. Schedule- Reality Check And Management

- Performing reality checks on schedule, such as: is it achievable?;
- Allowing for contingencies;
- Making sure it is not based on 100% capacity;
- Monitoring the status regularly;
- Identifying factors that create schedule changes;
- Communicating schedule problems with stakeholders well in advance;
- Using tools and techniques for management such as: progress reports, PM software, etc.



Research Is The
Whale, Take
One Bite At A Time



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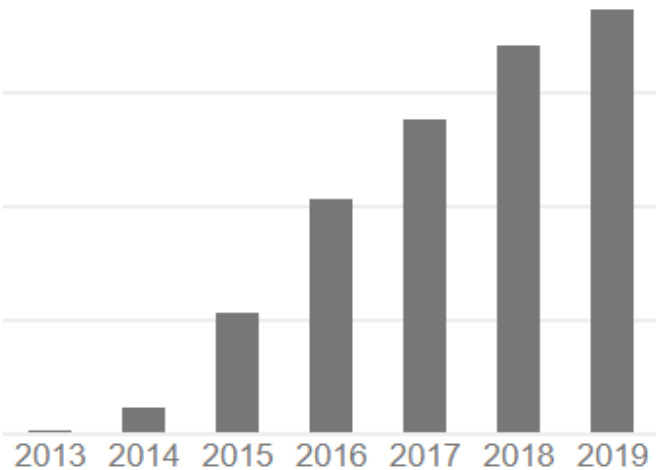
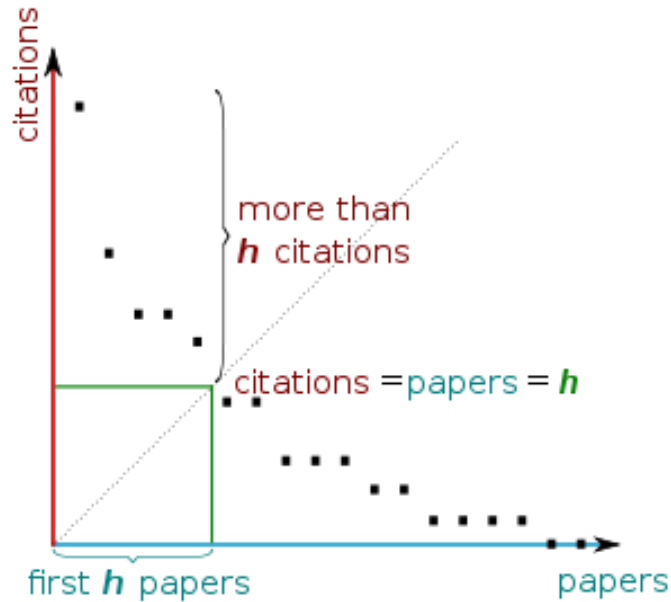
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Do Day To Day Agile Management

5. Productivity In Academic Research

Productivity in academic research is normally addressed by number of an author's published papers and citations, so called h-index. For example a h-index is 5 when 5 of published papers are cited 5 times each.

One of the productivity elements in academic research is a gradual and consistent increase of the h-index, which ideally means the researcher is producing higher quality research and adding unique value to the field.



Productivity In Research

Research outcomes are normally turned into papers, patents and/or thesis chapters. Therefore it is important to define productivity very carefully. Higher productivity will lead to better professional opportunities.

In this unit, the productivity is defined by:

$$\textit{Number Of Outcomes / Time Invested}$$

As time in research is one of the main constraints, making the right decision is critical.



Research Productivity- which option do you think is the most productive?

- A. You are well trained on an equipment, you will do a quick measurement for your peer;
- B. You are well trained on an equipment, you will collaborate on your peer's idea.
- C. You want to just focus on your PhD with no collaboration.

Please send an email to pmaasoumi@swin.edu.au with your option in the email title.



6. Research Documentation

- **Official progress reports:**
pre-COC, COC, mid-candidature, Thesis review;
- **Unofficial reports:**
Weekly or monthly reports and emails, presentations, meetings minutes;
- **Research notes:**
Literature review summary, lab books, survey and interview notes, discussion notes, email correspondence;
- **Thesis chapters:**
A summary on each of the deliverables- definition, execution, performance.
- Etc.



7. Stakeholders Monitor And Control

- **controlling stakeholders engagement-**

The process of monitoring stakeholder relationships and adjusting strategies and plans to keep the engagement effective.

- **communication management-**

The process of creation and timely distribution of project reports and documents in suitable method.

Meeting with high level stakeholders such as research leaders is very critical and sometimes even limited due to their busy schedule. Here is a simple method to make the most out of it:

Agenda email*- is sent before the meeting, including:

- Clear objective for the meeting.
- Highlights of last meeting;
- Questions and discussions items for coming meeting;
- Attaching Paper or data, if required for advance thinking;

Minutes email*- is sent after the meeting, including :

- Decisions and agreements;
- Actions to proceed;
- Deliverables to achieve before meeting;

An Effective Meeting



**The time of these emails need to adjusted according to stakeholder. Proper and consistent email subject is essential for time management.*

Anecdote*- Not The Mental Health Professional

Meeting with the supervisors (high level stakeholders) is for tracking the progress. They will evaluate researchers' capabilities and the path they are in. It is their job to provide scientific feedback and guide through the way as a mentor.

The researchers could experience an unforeseen or stressful circumstances in their project or personal life. It is essential to professionally and appropriately communicate any hardship and barriers on the way.

They are not qualified as a mental health professionals to help overcome uncomfortable feelings such as anxiety, burn out, homesickness, etc. However, as supervisor and stakeholder of the project, it is essential that they be made aware of such conditions.

**Based on many true stories and input from research leaders.*



8. Risks Monitor and Control

- Preparing a comprehensive risk register;
- Monitoring the indicators and symptoms;
- Executing the responses;
- Evaluating the effectiveness;
- Regularly reviewing any change in likelihood and impact;
- Identifying new risks;
- Identifying new available responses;

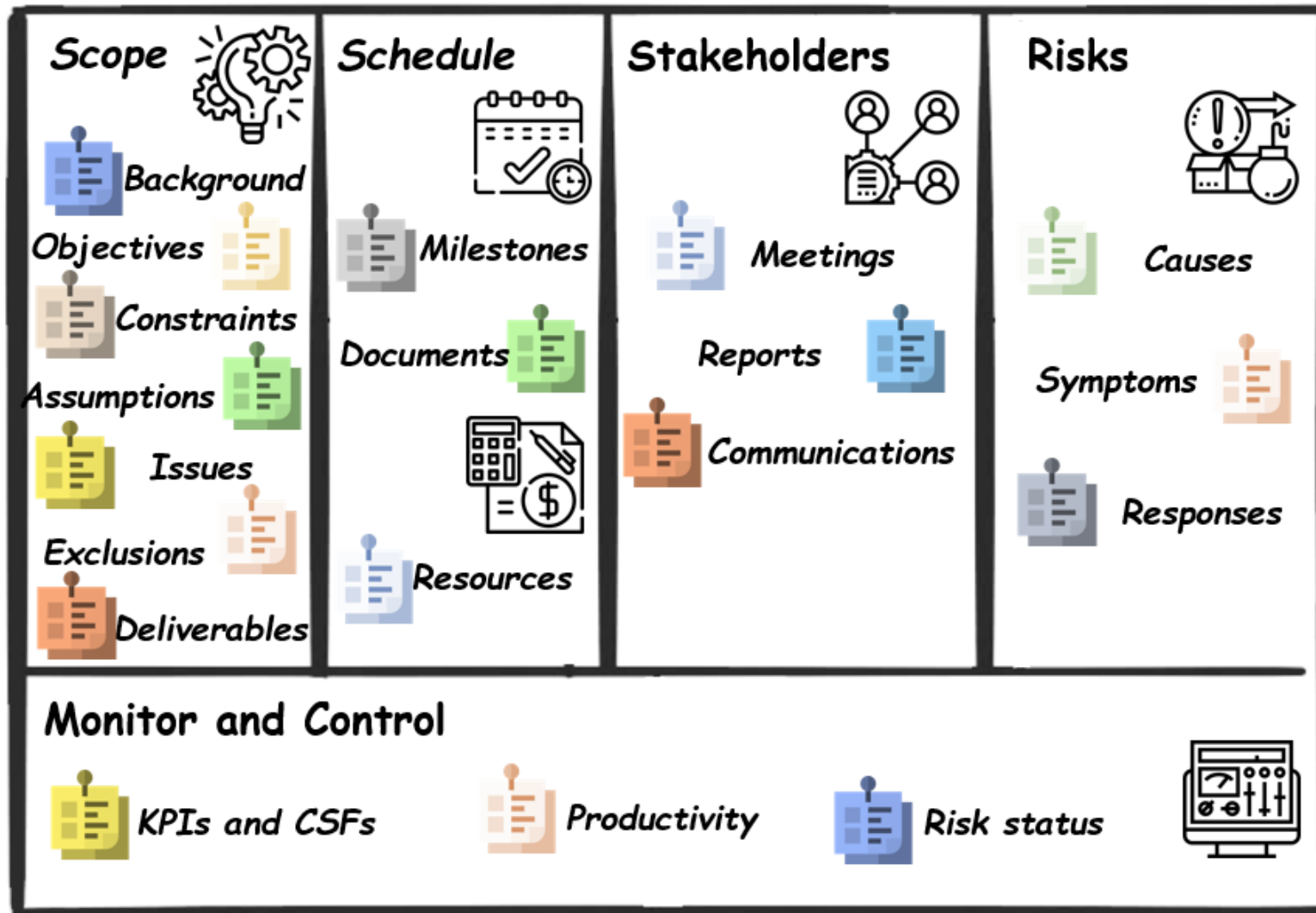
Project Implementation Plan

is a document used to overview and coordinate all elements of project planning. This is the process of taking the results of various knowledge areas of project management and put them all into a consistent and coherent frame.

This document assist project manager to oversee and coordinate changes across entire project.



Design Example Of Project Implementation Plan



Ideally,
you should be able to:

- Determine the measurables for each aspect of your project such as research quality, schedule, risk, communication, documentation, etc.

