

Problem definition, aims and objectives of the project

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THE PROJECT TOPIC/TITLE AND NARROWING DOWN

What makes a good topic

Generating ideas

Refining the idea

Research Question or Problem statement

Aim and Objectives

What Makes a Good Topic of a Project

- You have a clear aim and objectives
- You have identified research questions and/ or gaps in the existing approaches and practice
- Your results will have value and will impact the practice
- The project is relevant to your study, work and future career
- It is interesting, excites your imagination and provides motivation
- You have the time to complete it
- You have the background knowledge on the subject area
- The industry / practical issues within the research can be linked to theory

Generating Ideas

Rational Thinking

- Examine your own strengths and interests
- Discussion with colleagues your initial ideas
- Searching the literature as journals, news and academic sources
- Observing the practice in the selected areas

Creative Thinking

- Keep a note of ideas
- Relevance trees
- Brainstorming

Main Tasks

- Choose and remain focused on a workable topic
 - Develop a research question and/or a problem to be resolved
 - Identify gaps in the literature
 - Identify problem in practice
 - Define a clear aim
 - Define objectives
- Collect and examine background information about your topic reviewing the literature
- Analyse the relevance to industry
- Define a good methodology
- Select methods for project development as software development, applications etc.
- Select methods for collecting and analysing data
- Use the given report template for writing the project proposal

Setting up your Project

Reading the literature helps you:

- Identify current issues in your field
- To find a new possibility that has so far been overlooked
 - Identify theories, ideas and practice to test using data or simulation or prototyping in case of software development
- To avoid repeating work that has already been done
- Refine further your research questions and objectives
- To choose your the approach and methods for the project development

Refining the Idea

- The initial idea is nearly always too broad
- You have to narrow it down into something that can be done within a timeframe
- Use discussion and brainstorming your ideas

Mindmapping

Uses



- 2 only after practice!
- 2c in lectures
- 2d reading
- 2b revision
- 2a essay planning

Principles



- 3 colour code 3a
- 3b work in threads
 - 3b1 thread must be one topic
 - 3b2 as idea grows extend thread
 - 3b3 new subtopic new thread

Wording

- 4 succinct 4a
- 4b develop own shorthand
- 4c trigger words
- 4b + positives - negatives



Tips

- 6 on plain paper
- 6a looks neater!
- 6b use in lectures when confident
- 6 practice in private study

Pictures



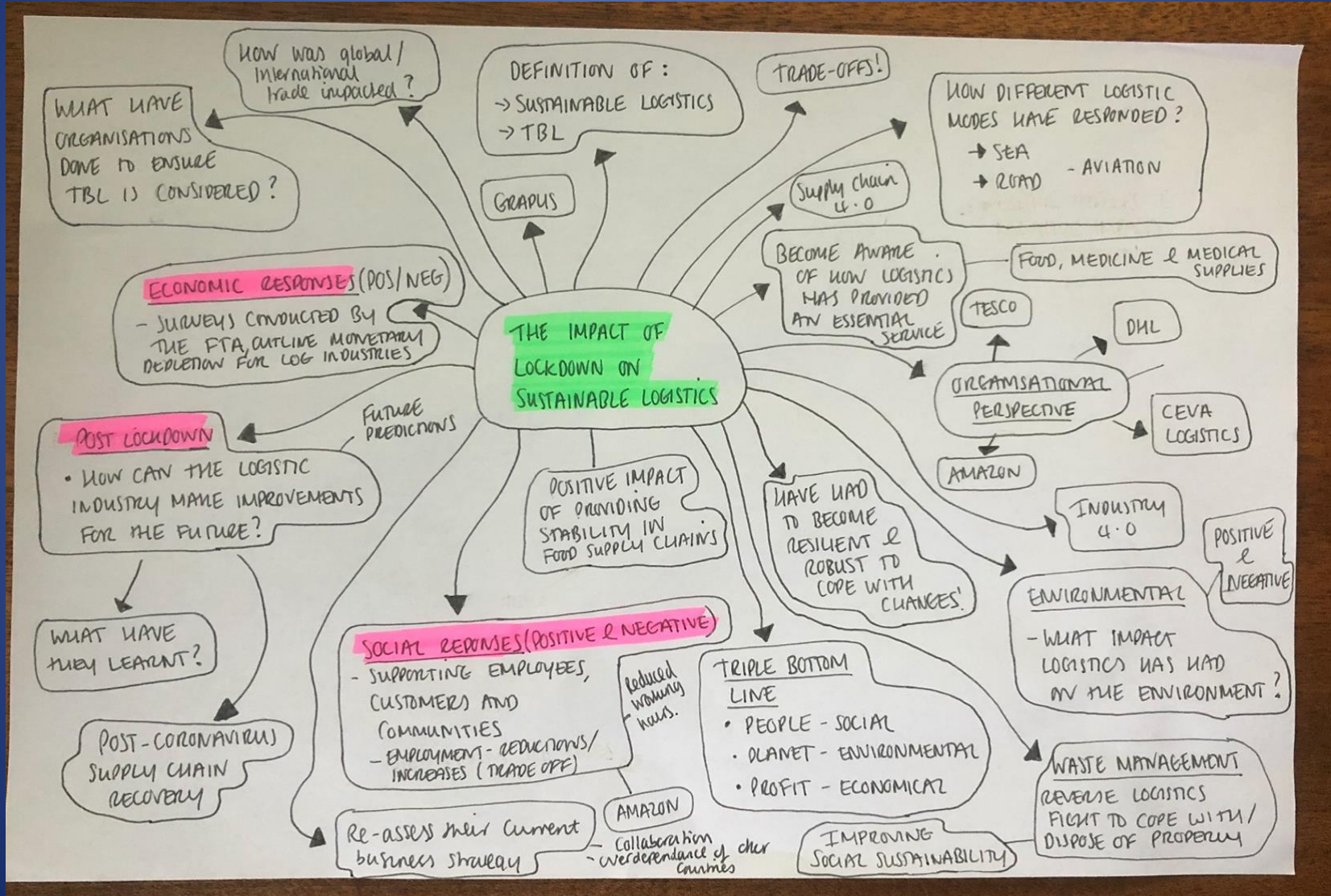
- 5 as triggers 5d
- 5c connected to text
- 5a or graphs & diagrams
- 5b simple

Flexible style

- 1a within pictures – if you're artistic!
- 1b grouped in boxes
- 1c along lines

Example of a Mindmap

Example of MindMap



Writing a Research Question

- Your narrow research idea and then it has to be turned into a research question
- This is an **important aspect** of the project
- You must have a question to answer and/or a problem that needs a solution
 - It must be based on critical thinking, not description
 - It must be of use in the real world – to industry and businesses or other communities of practice

Objectives

- Your research question now has to be broken down into a number of research objectives
- A good objective is SMART (specific, measurable, achievable, relevant, and time-bound)
- Each objective gives you a task which you have to complete to answer your research question

Writing Research Objectives

- Good research objectives will make planning and carrying out effectively your research.
- Try to put a time on each objective
- Check that you have the resources to carry out each objective
- If you cannot write SMART objectives, go back and revise your research question.

Example

- Project title and topic:

*Evaluation and development of
enterprise software systems*

Writing the research question and the aim

Research Question

- What are the opportunities and challenges of the application of technology in a company?

Aim

- The aim of this project is to evaluate the effectiveness of enterprise software system, to prototype and test an industrial application of technology

Definition of the objectives

Group exercise

1. Identify the best known applications of technology in industry
2. Briefly present these applications

Further Reading

1. Tang, H. (2021) [Engineering Research](#) : Design, Methods, and Publication. John Wiley & Sons, Ltd.
2. Bell, & Waters, S. (2018). [Doing your research project](#) : a guide for first-time researchers (Seventh edition.). McGraw-Hill Education.
3. Saunders, M., Lewis, P. and Thornhill, A. (2000) *Writing your research proposal*, Pearson Education.
4. Easterby-Smith, M., Thorpe, R. and Lowe, A. (2002) *Management Research: An Introduction*. Sage Publications.