

Assignment 1 - Innovation & Research



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Course: Software Engineering

Ideation and Mind Map

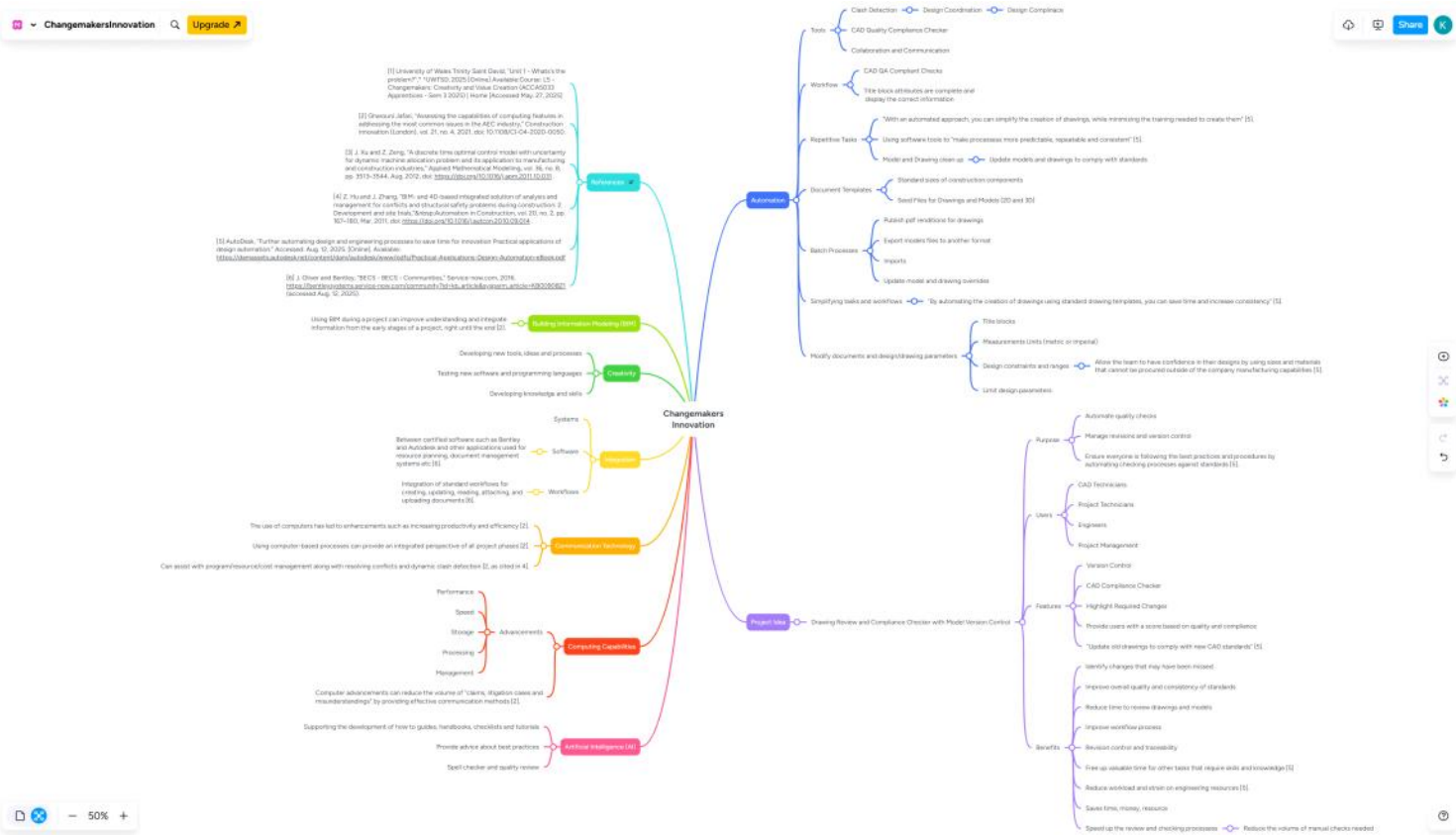


Figure 1. Changemakers Innovation Mind Map

I have chosen the project idea "Automated Drawing Review and Compliance Checker with Model Version Control", which aims to automatically analyse drawings and model files to ensure they meet our best practice specification, while also providing a version control tracker to compare and manage design revisions throughout our projects.

References

[1] University of Wales Trinity Saint David, "Unit 1 - What's the problem?," * UWTSd, 2025 [Online] Available:Course: L5 - Changemakers: Creativity and Value Creation (ACCA5033 Apprentices - Sem 3 2025) | Home [Accessed May. 27, 2025]

[2] Gharouni Jafari, "Assessing the capabilities of computing features in addressing the most common issues in the AEC industry," Construction innovation (London), vol. 21, no. 4, 2021, doi: 10.1108/CI-04-2020-0050.

[3] J. Xu and Z. Zeng, "A discrete time optimal control model with uncertainty for dynamic machine allocation problem and its application to manufacturing and construction industries," Applied Mathematical Modelling, vol. 36, no. 8, pp. 3513–3544, Aug. 2012, doi: <https://doi.org/10.1016/j.apm.2011.10.031>.

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[5] Autodesk, "Further automating design and engineering processes to save time for innovation Practical applications of design automation." Accessed: Aug. 12, 2025. [Online]. Available: <https://damassets.autodesk.net/content/dam/autodesk/www/pdfs/Practical-Applications-Design-Automation-eBook.pdf>

Aim & Objectives and Research Area

Project Aim

To design and develop an software tool that can be used to automatically review drawings and model files for compliance against our industry and company quality standards, while also integrating a model version control tracker to effectively manage and compare different design revisions throughout a project lifecycle.

Objectives

- To make recommendations to improve the effectiveness of current practices and methods in place
- To critically assess drawing reviews and model version control processes in engineering companies
- Identify repetitive tasks that could be automated to reduce volume of manual checks/input needed from the team
- Define the requirements to establish rules for compliance checking and version control
- Investigate the tools, software and scripts currently used for automation
- Develop a requirement specification and a flow chart to support the design of the system

Research Philosophy

As explained in Unit 1 Topic 2, research philosophies are used to support the process of collecting, analysing and presenting data throughout a project [1]. These philosophies include positivism, critical realism, interpretivism, postmodernism and pragmatism. The philosophies differ based on the assumptions of what is real, the relationship between the one who knows and what is known and how the knower goes on to discover further knowledge [4]. Ensuring consistency between the aim of the research, the questions and the chosen philosophy method are crucial for supporting the foundation and reasoning behind any study [2].

The research philosophies I have decided to use are positivism and pragmatism to provide guidance on how to collect, analyse and apply data [5]. Positivism focuses on gaining knowledge through observations and experimentation, emphasizing the importance of collecting evidence from verifiable data [6]. Therefore, quantitative data and structural analysis are the preferred methods for data collection as they are seen as “more reliable and valid than qualitative methods” [6]. The data will consist of existing patterns and orders that are shaped by external factors, providing an explanation of the relationship between the variables [4].

Examples of the data collection methods for the positivist approach include, arranging interviews with colleagues, observing current working practices across the team and analysing written documents such as BIM execution plans and CAD standards [7].

Pragmatism assesses practical outcomes from beliefs and actions to obtain knowledge to achieve the intended results [6]. This technique encourages the use qualitative data methods to recognize the value in our experiences and interpretations and how they form an understanding of reality [6].

As pragmatism aims to resolve real world problems and address the needs of individuals, conducting a survey to gather feedback from the team about their experiences with the current workflows, systems and practices in place will identify repetitive tasks that could be automated as well as suggestions for further improvements.

Search Tools, Strategies and Databases

To ensure appropriate search tools are available for the research elements of the project, the following research databases have been identified to use when collect information. This includes Google Scholar and Google Books, JSTOR, Research Gate and Elsevier.

Applying the CRAAP checklist will assist in evaluating the credibility and relevance of the resources and information available from the research databases [8]. This is because it encourages students to think about factors such as the currency, relevance, authority, accuracy and purpose of the information before including it in their work. Filtering out articles from old and non-credible sources will improve the quality of the research used for the project development while avoiding the risk of inaccurate data collection.



Figure 2. CRAAP Checklist

Taking a moment to think about research questions and the desired outcomes will support students in reducing the question into keywords that can be entered into databases [8]. Examples of searches for the project idea “Automated Drawing Review and Compliance Checker with Model Version Control” are listed below:

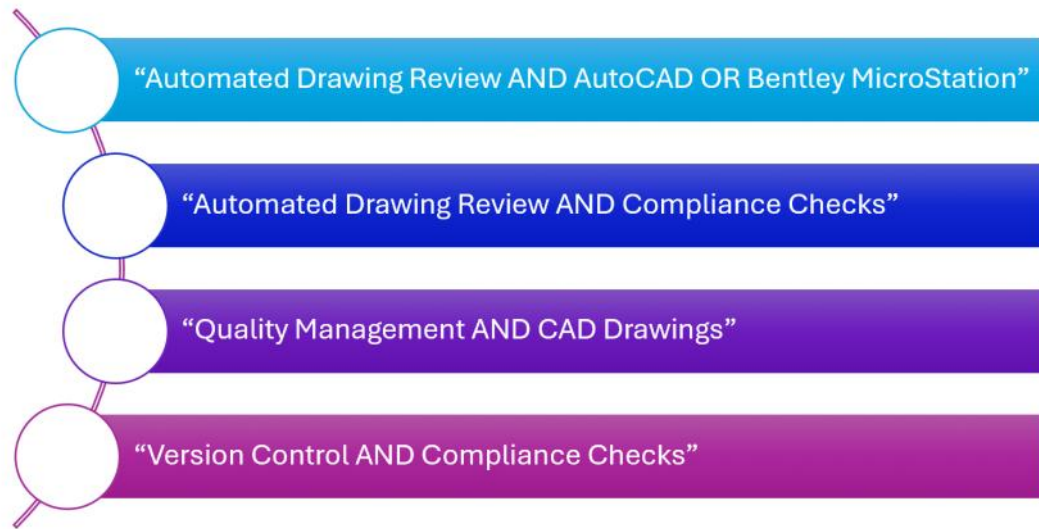


Figure 3. Boolean Operation Examples

Using Boolean operations such as “AND”, “OR” and “NOT” for research will ensure that the results are tailored to the set parameters. Having these operations available increases the effectiveness of retrieving materials from large databases since Boolean searches will find more relevant articles [9]. Plus, it ensures that users can be satisfied with the information that they receive *due to the “precise choice of words” entered to form their search* [9].

References

- [1] University of Wales Trinity Saint David, "Unit 1 Topic 2 - How do YOU solve a problem?," *UWTSD, 2025 [Online] Available: Course: L5 - Changemakers: Creativity and Value Creation (ACCA5033 Apprentices - Sem 3 2025) | Home [Accessed July. 10, 2025]
- [2] Crossan, "Research philosophy: towards an understanding," Nurse researcher., vol. 11, no. 1, 2003.
- [3] University of Wales Trinity Saint David, "Unit 2 Topic 1 - Choosing the right approach," *UWTSD, 2025 [Online] Available: Course: L5 - Changemakers: Creativity and Value Creation (ACCA5033 Apprentices - Sem 3 2025) | Home [Accessed July. 10, 2025]
- [4] A. Aliyu and H. Adamu, "ONTOLOGY, EPISTEMOLOGY AND AXIOLOGY IN QUANTITATIVE AND QUALITATIVE RESEARCH: ELUCIDATION OF THE RESEARCH PHILOSOPHICAL MISCONCEPTION," 2015.
- [5] J. Dudovskiy, "Research Philosophy - Research Methodology," Business Research Methodology, 2024. <https://research-methodology.net/research-philosophy/> (accessed Aug. 16, 2025).
- [6] This vs. That, "Positivism vs. Pragmatism - What's the Difference? | This vs. That," This vs. That, 2023. <https://thisvsthat.io/positivism-vs-pragmatism> (accessed Aug. 17, 2025).
- [7] H. A. Rashid, "Research Philosophy: Positivism, Interpretivism, and Pragmatism," Library & Information Management, Jun. 28, 2023. <https://limbd.org/research-philosophy-positivism-interpretivism-and-pragmatism/> (accessed Aug. 17, 2025).
- [8] University of Wales Trinity Saint David, "Unit 1 Topic 3 – Known Knowns," *UWTSD, 2025 [Online] Available: Course: L5 - Changemakers: Creativity and Value Creation (ACCA5033 Apprentices - Sem 3 2025) | Home [Accessed July. 10, 2025]
- [9] M. Bello, "Efficiency of Boolean Search strings for Information Retrieval," American Journal of Engineering Research, vol. 6, no. 6, pp. 216–222, 2017.

Research Strategies

Strategies to Enhance Validity, Reliability, Generalisability and Ethical Considerations.

Validity

Validity can be described as the appropriateness of the tools, processes and data used to meet the desired outcomes [1]. It determines if the research will accurately measure the things it's required to measure or how close the results of the research are [4].

Therefore, testing the effectiveness of data collection methods will allow the team to determine if the methods are suitable or require some changes. For example, reviewing the type of questions used for surveys and observations will make sure that the question is related to the research objectives.

Combining surveys with interviews and observations of working methods will allow the team to check that the information is consistent and showing the right measurement.

Reliability

To ensure the reliability of data, researchers must verify the accuracy of information in terms of form and context [1]. For data to be reliable, it should be consistent and repeatable and without reliable information it's difficult to further test the theories and findings [4]. Applying consistent formats for the questions used for the surveys, interviews and observations will improve the reliability of the data collected.

Generalisability

Researchers embrace the approach of analytical generalization by judging findings of data based on the similarities of studies in terms of time, place, people and other social contexts [1]. For example, applying the findings to larger samples to explain similar situations and provide a sample of data that reflects the topic of interest [4].

Ethical Considerations

Ethical consideration in research can be described as a set of principles and guidelines that researchers must follow to while collecting data from people [3]. No matter the topic of research and how you decide to collect information, the following ethical considerations must be met: protect the rights of participants, enhance research validity and maintain scientific or academic integrity [3].

To apply these principles to our work, the information collected from surveys will be anonymous and the surveys will be tested to ensure it covers the correct areas to gain the knowledge we need.

Data Collection Methods

Before preparing for any data collection, it's important that the following factors have been considered to avoid the risk of invalid research findings: the research goal, the scope of the study, sample size, the type of data, time and user-friendliness [2]. This means researchers should carefully consider the types of data collection method applied to their work to support them in achieving their project goals [2].

The data collection methods that will be used for this project include interviewing colleagues, conducting a survey, observing current working practices and analysing written documents such as BIM execution plans and CAD standards.

Questionnaire

A set list of questions will be shared amongst the team to collect the information that's required to achieve the research objective of understanding current working methods for the drawing reviews, compliance checking and version model control.

Observations

Information will be collected by observing how the tasks are currently performed across the team without participating in the completion of the task. This will identify any factors that are negatively impacting the efficiency of working methods and the delivery of our work.

Document Analysis

Reviewing documents such as CAD standards and BIM execution plans will allow the team to gather information from written materials, allowing them to form a list of compliance checks, drawing and model rules and version control features to include in the automation programme.

To ensure the success of these data collection methods, a questionnaire and list of observations have been created to make sure relevant information can be collected. This will provide the team with the data they need to develop the tools for the Automated Drawing Review and Compliance Checker with Model Version Control project.

A detailed copy of the questionnaire is provided in Appendix B at the end of the portfolio, along with a list of observations in Appendix C. These methods will be tested at a smaller scale before sharing with the wider team to ensure that the questions provide the details we need.

Quantitative Analysis Techniques

Descriptive statistics is a technique used to summarize data and provide an overview of the main characteristics that were identified by using averages and percentages to read the data [5].

Inferential statistics is applied to data to determine what findings are of significance to draw to conclusions based on the information gathered from the data sample [5].

Qualitative Analysis Techniques

Thematic analysis is a technique that examines qualitative data to identify repeating themes of ideas, concepts, and patterns to assist with the process of summarizing and interpreting the views of others [5].

Content analysis method encourages researchers to organise the data into categories based on text and speech allowing them to interpret specific words, ideas, and concepts that have been identified [5].

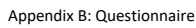
Discourse analysis is where spoken or written information is used to understand its true meaning or social interactions and how they can be used to represent connections, roles and hierarchies [5].

Grounded theory encourages researchers to use data to create new theories and explanations based on patterns and observations [5]. The new ideas are usually generated through the process of collecting, analysing and refining the data [5].

References

- [1] L. Leung, "Validity, reliability, and generalizability in qualitative research," *Journal of Family Medicine and Primary Care*, vol. 4, no. 3, p. 324, 2015, doi: <https://doi.org/10.4103/2249-4863.161306>.
- [2] K. Mwita, "Factors to consider when choosing data collection methods," *International Journal of Research in Business and Social Science* (2147- 4478), vol. 11, no. 5, pp. 532–538, Jun. 2022, doi: <https://doi.org/10.20525/ijrbs.v11i5.1842>.
- [3] P. Bhandari, "Ethical considerations in research | types & examples," Scribbr, Oct. 18, 2021. <https://www.scribbr.com/methodology/research-ethics/> (accessed Aug. 17, 2025).
- [4] H. Parveen and N. Showkat, "(PDF) Validity, Reliability, Generalizability," ResearchGate, Jul. 2017. https://www.researchgate.net/publication/319128421_VValidity_Reliability_Generalizability (accessed Aug. 17, 2025).
- [5] S. McLeod, "Qualitative vs quantitative research methods & data analysis," *Simply Psychology*, May 16, 2025. <https://www.simplypsychology.org/qualitative-quantitative.html> (accessed Aug. 17, 2025).

Appendix A: Mind Map



* This form will record your name, please fill your name.

1. What is your project role?

2. Overall, how would you rate the current drawing reviews and model version control?

☆☆☆☆☆

3. How do you think the workflow and checking systems could be improved?

4. How do you rate the existing workflow systems in place?

	Poor	Fair	Good	Very good	Excellent
Reliability	☐	☐	☐	☐	☐
Ease of use	☐	☐	☐	☐	☐
Visual appeal	☐	☐	☐	☐	☐
Performance	☐	☐	☐	☐	☐
Integration with other software(s)	☐	☐	☐	☐	☐
Ease of upgrade	☐	☐	☐	☐	☐
Stability	☐	☐	☐	☐	☐

5. If you wanted to provide feedback or contact a representative for troubleshooting, would you know who to contact?

☐ Yes☐ No

6. During use, how many times did this software freeze, crash, or stall long enough to be disruptive to your work at any one given time?

- ☐ 1-2 times
- ☐ 3-5 times
- ☐ 6-9 times
- ☐ 10 or more times

7. How much time would you say you spend checking drawing and models?

8. What problems have you experienced during drawing review for compliance checks?

9. Which tasks do you think would be beneficial to automate?

10. If an improved workflow and checking system becomes available, how likely are you to test it?

- ☐ Very likely
- ☐ Somewhat likely
- ☐ Neither likely nor unlikely
- ☐ Somewhat unlikely
- ☐ Very unlikely

11. Please fill in any additional comments or suggestions you may have.

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Appendix C: List of Observations

Observations for Current Working Methods

* This form will record your name, please fill your name.

...

1. What drafting software is used amongst the team?

2. How long does it take to prepare the drawings and models for a final review?

3. How does the team check our work for compliance against CAD and design standards?

4. How much time is roughly spent reviewing drawing and modelling work?

5. How would you rate the team's awareness of CAD and design standards?



6. Are the dwg model and drawing renditions showing the latest shared versions or design changes?

7. Using the scale below, how would you rate the standard and quality of our work across the team?

0	1	2	3	4	5	6	7	8	9	10
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Not at all likely

Extremely likely

8. What tasks could be automated to reduce the reviewing process for drawings and models?

9. How are model versions currently tracked?

10. Using the scale, how many people could find a list of rules/compliance checks for our design work?

0	1	2	3	4	5	6	7	8	9	10
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Not many at all

Quite a few

11. Other comments

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Appendix D: Moodle Evidence

Changemakers Moodle Evidence

Unit 1: What's the problem?

Unit 1 Topic 1: How Innovation Shapes the World

Section 1: Innovation is Everywhere



You have completed Section 1!

You should now recognise the evolutionary positive impact, importance and benefits of creativity and innovation in society.

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Section 2: The onward march of technology



You have completed Section 2!

You should now be able to identify concepts used to describe the progress of technology and innovation.

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Section 3: Creativity and You



You have completed Section 3!

After completing this section, you should

- Think of yourself as someone capable of being creative (if you don't already)
- Identify personal passions as sources for idea generation.

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Unit 1 Topic 1 completed!

You should now:

- Recognise the evolutionary positive impact, importance and benefits of creativity and innovation in society.
- Identify concepts used to describe the progress of technology and innovation.
- Think of yourself as someone capable of being creative (if you don't already).

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Section 1: Why we all need to spend time being creative



You have completed Section 1!

You should now be able to:

- Recognise the link between creativity and feelings of wellbeing
- Identify ways in which you can reclaim your creative confidence or inspire creativity in others.

[Back](#) [Continue >](#)

Section 2: How your philosophy impacts your research



You have completed Section 2!

Upon completion of this sub-section, you should be able to:

- Hold a conversation that can confidently include the definitions of Ontology, Epistemology and Axiology
- Define your research philosophy using this terminology
- Understand how your philosophy can impact your investigation.

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Section 3: Identify your research philosophy



You have completed Section 3!

Upon completion of this sub-section, you should be able to define your research philosophy as one of five constructs.

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Unit 1 Topic 2 completed!

You should now:

- recognise the link between creativity and feelings of wellbeing and understand how to strengthen that link in your own life;
- define your research philosophy using the new terms: Ontology, Epistemology and Axiology and understand how these philosophies can impact your investigation;
- define your research philosophy as one of five constructs.

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Section 1: Selecting an appropriate database



You have completed Section 1!

You should have rediscovered appropriate databases of what is known in your area of research.

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Section 3: Develop a systematic approach to identifying themes for literature search



You have completed Section 3!

Upon completion of this sub-section, you should be able to create your own concept map and come up with concepts that you can use for your literature search.

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You have completed Section 1!

A systematic way to walk through the literature on your chosen subject that, with iteration, will lead to the epiphany moment of the direction of your research.

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Section 2: Developing a hypothesis



You have completed Section 2!

How to create a series of testable questions that, once answered, will further the understanding of your research question.

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Section 3: Using feedback to improve the focus of your problem statement/research question



You have completed Section 3!

Now you have completed this section, you should be able to use feedback to improve the focus of your problem statement/research question or, in fact, any learning scenario.

It is important that you take some time to reflect on what you have learnt in relation to identifying the question that you are researching.

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Unit 1 Topic 4 completed!

You should now:

- Have a systematic way to walk through the literature on your chosen subject, which leads to the direction of your research.
- Understand how to create a series of testable questions.
- Use feedback to improve the focus of your problem statement/research question.

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References



You have completed Section 1!

You should now be able to demonstrate an understanding of the difference between the forms of logical argument and judgement.

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Section 2: Identifying the purpose and approach of your research



You have completed Section 2!

You should now be able to demonstrate an understanding of the purpose of research and recognise the importance of reading around the subject.

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Section 3: Comparing and contrasting quantitative and qualitative research methods



You have completed Section 3!

Now you have completed this resource, it is important that you take some time to reflect on what you have learnt in relation to the research methodology.

You should understand the different academic methods that you will use to conduct your research.

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Unit 2 Topic 1 completed!

You should now:

- Be able to demonstrate an understanding of the difference between the forms of logical argument and judgement.
- Be able to focus your research onto a work that is relevant for the audience reading and ultimately brings value to the domain that you are studying.
- Understand the different academic methods that you will use to conduct your research.

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Unit 2 Topic 2: Finding a needle in a haystack

Section 1: Awareness of different research choices and data collection methods



You have completed Section 1!

You should now be familiar with different methods for collecting and analysing qualitative data that you can use in pursuit of your research and understand how the sample of data that you are collecting reflects on your research.

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Section 2: Develop appropriate sampling strategies to enhance validity, reliability and generalisability



You have completed Section 2!

You should now be able to consider how the acquisition of your data will impact your research.

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Section 3: Design a data collection method appropriate to investigate a given problem



You have completed Section 3!

Now you have completed this resource, it is important that you take some time to reflect on what you have learnt in relation to data collection and sampling.

You should now be able to work out what your approach is to collecting data for your research.

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Unit 2 Topic 2 completed!

You should now:

- Be familiar with different methods for collecting and analysing qualitative data including data sampling.
- Be able to consider how the acquisition of your data will impact your research.
- Understand your approach to collecting data for your research.

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Section 1: Effective techniques for generating ideas



You have completed Section 1!

You should now be familiar with divergent and convergent thinking and understand a technique that will guide you to think divergently.

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Section 2: Effective techniques for identifying appropriate solutions



You have completed Section 2!

You could use this open and closed mind approach given by Cleese to frame your current research project or assignment. Make some time and space for your ideation. Allocate a time to spend on open and closed thinking then deliberately action the two types of thinking as described above.

You should now understand that simply producing ideas is not enough. Divergent creativity needs to be bridled with convergent thinking to make something that is actionable.

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Section 3: Creating a problem definition



You have completed Section 3!

Now you have completed this resource, it is important that you take some time to reflect on what you have learnt in relation to techniques for generating creative solutions.

You should now be able to work out what your approach is to collecting data for your research.

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Unit 2 Topic 3 completed!

You should now:

- Understand the difference between divergent and convergent thinking.
- Be able to identify how divergent creativity needs to be bridled with convergent thinking to make something that is actionable.
- Think about the problem an idea is meant to solve before jumping to a conclusion.

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[References](#)

Section 1: How value is created



You have completed Section 1!

Upon completion of this sub-section, you should be able to **define value in one of five dimensions by Lackéus**.

We also looked at the concept of how the sustainability agenda developed by the United Nations.

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Section 2: Attributes associated with change making and value creation



You have completed Section 2!

You should now be able to talk confidently about why attempts to improve value can fail, and discuss the 15 core competencies and **Entrecomp**.

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Section 3: How your solution or research will create value



You have completed Section 3!

You should now have an appreciation on why you should consider the principles of adding value with your project.

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Unit 2 Topic 4 completed!

You should now:

- Be able to define value in one of five dimensions.
- Take confidence about why many attempts to improve value fail.
- Have an appreciation on why you should consider the principles of adding value with your project.

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Unit 3: Making it happen

Unit 3 Topic 1: The power of networks

Section 1: Let's come together



You have completed Section 1!

You should now be able to demonstrate what a personal contact network is and define what makes a good network.

In your own time, analyse your own network. Try to identify areas of your network that are active and latent. How would you improve your network?

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Section 2: Who's at stake?



You have completed Section 2!

You should now understand and be able to assess the importance of stakeholders in developing your idea.

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Section 3: Map it out



You have completed Section 3!

Now you have completed this resource, it is important that you take some time to reflect on what you have learnt in relation to the power of networks.

You should now be able to create a stakeholder map for a specific project.

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Unit 3 Topic 1 completed!

You should now:

- Be able to demonstrate what a personal contact network is and define what makes a good network.
- Understand the importance of stakeholders in developing your idea.
- Be able to create a stakeholder map for a specific project.

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Section 1: Sources of funding



You have completed Section 1!

You should now be able to demonstrate an understanding of the types of funding available for enterprise and research projects, and select appropriate sources of funding in relation to requirements.

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Section 2: Adding Value



You have completed Section 2!

You should now understand and be able to show knowledge and understanding of the concepts of benchmarking and 'value added'.

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Section 3: Crowdfunding



You have completed Section 3!

Now you have completed this resource, it is important that you take some time to reflect on what you have learnt in relation to acquiring funding.

You should now be able to create a contemporary funding campaign for a new venture.

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Unit 3 Topic 2 completed!

You should now:

- Be able to demonstrate an understanding of the types of funding available for enterprise and research projects, and select appropriate sources of funding in relation to requirements.
- Be able to show knowledge and understanding of the concepts of benchmarking and 'value added'.
- Be able to create a contemporary funding campaign for a new venture.

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Section 1: Using storytelling for engagement and persuasion



You have completed Section 1!

Upon completion of this sub-section, you should be able to demonstrate the use of storytelling to frame an idea and as a persuasive communication tool.

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Section 2: Developing self-confidence and authenticity



You have completed Section 2!

You should now demonstrate an understanding of the importance of self-confidence and authenticity when presenting your idea, concept or product.

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Section 3: Delivering a kick-ass presentation



You have completed Section 3!

Upon completion of this section, you should be able to utilise competent presentation skills to communicate or pitch your concepts, ideas or products.

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Unit 3 Topic 3 completed!

You should now:

- Understand how the use of storytelling can frame an idea and as a persuasive communication tool.
- Implement tools to improve self-confidence and authenticity, especially when presenting your idea, concept or product.
- Be able to communicate or pitch your concepts, ideas or products (with some practice).

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[References](#)

Unit 3 Topic 4: Bringing your idea to life

Section 1: Prototype and test ideas



You have completed Section 1!

You should now be able to demonstrate an understanding of the key stages of prototyping and the process of testing.

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Section 2: Thinking agile



You have completed Section 2!

Now you have completed this resource, it is important that you take some time to reflect on what you have learnt in relation to testing your ideas and getting feedback.

You should have a deeper understanding of developing ideas and be able to apply this to your own work.

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Unit 3 Topic 4 completed!

You should now:

- Be able to demonstrate an understanding of the key stages of prototyping and the process of testing.
- Be able to demonstrate an understanding of agile methodologies and identify prototyping techniques and their value.
- Have a deeper understanding of developing ideas and apply this to your own work.

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[References](#)

Unit 4: What's the verdict?

Unit 4 Topic 1: It's all in the numbers

Section 1: The different sorts of quantitative analysis



You have completed Section 1!

You should now be able to imply a numerical precision to arguments in a casual way that brings a lack of precision to our work.

[Back](#)[Continue](#)

Section 2: Undertake a basic analysis

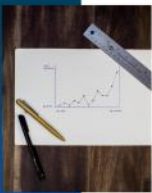


You have completed Section 2!

You should be able to analyse data using different examples of graphs and charts and present data using a variety of methods.

[Back](#) [Continue](#)

Section 3: Using excel to create a chart



You have completed Section 3!

Now you have completed this resource, it is important that you take some time to reflect on what you have learnt in relation to statistical analysis. You should now have a deeper understanding of creating charts that communicate in the best way possible.

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Unit 4 Topic 1 completed!

You should now:

- Be able to imply a numerical precision to arguments in a causal way that brings a lack of precision to our work.
- Be able to analyse data using different examples of graphs and charts and present data using a variety of methods.
- Have a deeper understanding of creating charts that communicate in the best way possible.

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[References](#)

Unit 4 Topic 2: There's a theme here

Section 1: Organising qualitative data



You have completed Section 1!

You should now have gained the knowledge of how to organise qualitative data ready for analysis.

[Back](#) [Continue](#)

Section 2: applying techniques to identify patterns and themes



You have completed Section 2!

You should now be able to figure out the techniques to identify patterns and themes in your data.

[Back](#) [Continue](#)

Section 3: Using qualitative analysis software



You have completed Section 3!

You should now have demonstrated an understanding of the use of Excel as a qualitative analysis software.

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Unit 4 Topic 2 completed!

You should now:

- Have demonstrated knowledge and understanding of how to organise qualitative data ready for analysis.
- Have figured out some techniques to identify patterns and themes in your data.
- Have improved the understanding of the use of Excel as a qualitative analysis software.

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References

Unit 4 Topic 3: Succeed or fail

Section 1: Failure – is this the end?



You have completed Section 1!

Upon completion of this section, you should recognise failure is a mechanism for learning.

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Continue

Section 2: Success and wellbeing



You have completed Section 2!

Upon completion of this section, you should be able to identify the link between success and wellbeing, often distilled into the popular saying of 'winning at life'.

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Section 3: Success from failure



You have completed Section 3!

Now you have completed this resource, it is important that you take some time to reflect on what you have learnt in relation to organising and analysing qualitative data.
You should now be able to understand the concept of success from different perspectives.

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Unit 4 Topic 3 completed!

You should now:

- Recognise that failure is a mechanism for learning.
- Identify the link between success and wellbeing.
- Recognise the concept of success from different perspectives.

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Here are listed the references that are used in this topic.

References

Unit 4 Topic 4: Sharing success

Section 1: Applying learning from your project



You have completed Section 1!

You should now have recognised some techniques that you can use to improve your learning.

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Section 2: Developing an approach to showcase the outputs of your project



✔ You have completed Section 2!

You should now have identified the things in your project that you care about which are important enough to showcase to others.

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Section 3: Implementing an approach to showcase your project



✔ You have completed Section 3!

You should now have acquired some skills that you can apply to create a poster illustrating your research.

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✔ Unit 4 Topic 4 completed!

You should now:

- Have recognised some techniques that you can use to improve your learning.
- Have identified the things in your project that you care about which are important enough to showcase to others.
- Have acquired some skills that you can apply to create a poster illustrating your research.

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Have you read the references that are used in this topic?

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