

Research Methodology

Guideline for Research Presentation

Purpose

- Defense **your proposed solution** and convince the **committee board** to **approve** and **qualify** your finding
 - 1) Introduce the **background** of the research work and interest
 - Its important, challenges and research field
 - 2) Introduce the **current available solutions**, compare and do critical analyze
 - Discuss limitations, make conclusion, and give direction to our proposed solution
 - 3) Discuss **your proposed solution in detail**, justify that
 - It is the best solution for solving your research problem
 - 4) Explain the **implementation** and **testing** of your proposed solution
 - Evaluate it and compare with the existing solution
 - 5) Give the **conclusion** to sum up what you have done and accomplished
 - Also provide guidance for future work
 - 6) Give **thanks** if your project is supported



Contents

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1) Research Background

Research Background

- **Objective:** To introduce the **overall view of the topic**
- **Background**
 - The **pre-requisite** related knowledge to the audience (topic to follow up)
- **Challenges**
 - Indicate the **gaps in knowledge & challenges** to give direction
- **Important & Interest**
 - Can point out the **important** and **beneficiaries** of the research work
- **Research field**
 - Explain **where** the research will be/is **used**

2) Research Objective

Research Objective

- **Objective:** To introduce the research **expected outcome** of the research study (in **1 sentence**)
- **To do:** explain
 - What do you **expect** to produce at **the end** of the **research study**?
 - **New method?**
 - **New framework?**
 - **New architecture?**
 - **New tool?**
 - **Comparative analysis of methods?**

3) Research Problem

Research Problem

- **Objective:** To **illustrate the problem** that researcher wants to solve in his/her research study for providing **new** or **better result**
 - Introduce the **important problem** to be solved
 - Usually identify only **1** or **2 research problems**
 - 1) For **short term** research
 - 2) For **long term** research
 - Use **sub-research problems** to support the idea
 - Make **easy** for the understanding of audience
 - **Writing format:** **declarative** or **interrogative** form

Research Problem – How to do?

- **Option 1**

- Only write the **main** research problem
- Explain the **detail** through your speech

- **Option 2**

- List the main research problem with
 - Some **few research questions**
 - To make audience **easy** to catch up

4) State of the Art

State of the Art

- **Objective:** To introduce the **current existing research finding / results** of the research study
- **To do:** explain
 - What are the **existing** solutions?
 - What are their **limitations**?
 - In which **context** it is applied?
 - What **kind of data** are used for testing?
 - How does it **work**?
 - Critical **analysis** and **evaluation** of the existing solutions
 - Up to the **current moment** is the better

State of the Art

- **Expected outcomes**

- A **comparison table** of existing solutions
- A **discussion** about the existing solutions
- Direction/guidance for **future research work**, make **connect** to your proposed solution

5) Proposed Solution

Proposed Solution

- **Objective:** To introduce **your contributions** of the research study
- **To do:** explain
 - Explain your **contributions**? – in detail
 - Process, data, how it work?
 - Justify your **choice**
 - Why the **selected solution** is chosen?
 - How is it **better than** the existing solutions?
 - Explain the **concept** only

6) Implementation & Evaluation

Implementation & Evaluation

- **Objective:** To explain the **implementation** of the proposed solution and **how** it is **evaluated**
- **To do:** explain
 - Explain the **implementation** and **testing** of the proposed solution
 - Explain the **case study** and **experimentation data**
 - Discuss the **evaluation** of the proposed solution
 - How do you evaluate your proposed solution?
 - Compare **your solution** with the **existing solutions**, if possible

7) Conclusion & Future work

Conclusion & Future work

- **Conclusion**

- **Objective:** To **give** the conclusion of the research study
 - What have you **achieved**?

- **Future work**

- **Objective:** To **introduce** your future work
 - Give **guidance** to future research work
 - If you have **time** to continue your work, what will you do **next**?

References

- List **all** the important related **references** that you have studied
 - Follow the requested formatting **style**
 - They can be:
 - **Books**
 - **Articles**
 - **Web sites**
 - **Reports/thesis**