

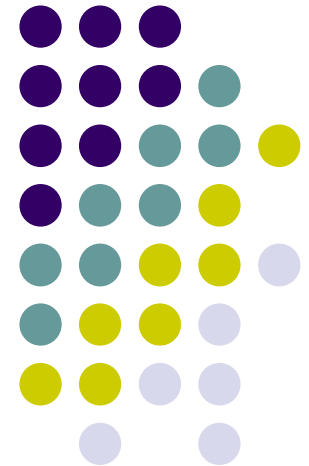
# Final Year Project Report



Dr. Nick Chung

Room EF608 Tel: 3400 3790

Email: [nick.sh.chung@polyu.edu.hk](mailto:nick.sh.chung@polyu.edu.hk)



THE HONG KONG  
POLYTECHNIC UNIVERSITY  
香港理工大學

Department of

Industrial &  
Systems  
Engineering

工業及  
系統工程  
學系

# Template of a Project Report

(For reference only, please discuss **with your supervisor**)



1. Cover page
2. Abstract / Executive summary
3. Acknowledgement; Dedication
4. Table of contents; List of figures / tables
5. Definitions; List of acronyms (where necessary)
6. Introduction
7. Literature Review
8. Methodology
9. Execution of the research (data collection, if necessary)
10. Presentation & analysis of results
11. Discussion of the findings
12. Conclusion
13. References (and Bibliography)
14. Appendices



# Abstract



- Not more than 2 pages
- Provides an overview of the project
- **Summarize** major results / findings / achievements of the study



# Introduction

## (Draw people interest!!)



- Background of your study (including **Motivation**)
- **Significance** of your work
- Project objectives
- **Deliverables**
  - Tangible deliverables
  - Specific & measurable targets
- Scope & constraints of the project
- Outline of the report





# Literature Review

A critical review of (compare & contrast):

- Alternative methodologies / programs / solutions / tools
- Alternative theories / models / hypotheses
- Current practices / emerging trends

published in the literature

- Do not copy contents directly unless they are critical
- Summarize / critique
- Highlight arguments / disagreements / pitfalls
- Identify gaps in current literature (i.e. **Research Gap**)





# Literature Review

Materials reviewed must be:

- Relevant to the project theme
- Reliable
- **Academic** rather than commercial





# Literature Review

Sources of information:

- Books
- **Papers published in journals, conference proceedings**
- Thesis
- Magazine / newsletter articles
- Web sites



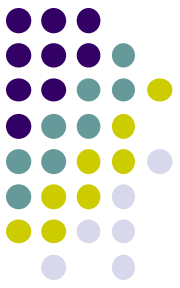


# The Methodology

This part of the report presents an evaluation of **alternative** research methods and **selection** of those applied to the proposed study







# The Methodology

The hallmarks of *scientific research*

- Specific focus
- Rigorous
- ***Testable***
- ***Replicable***
- ***Precise & has a high degree of confidence***
- **Objective**
- Generalizable

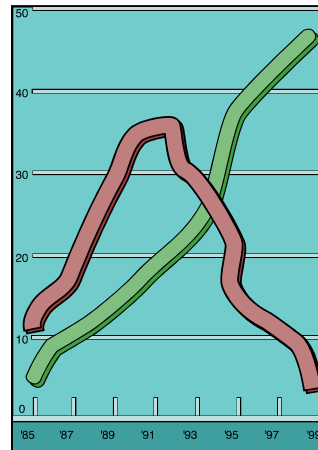
Reference: Sekaran, Uma (1992) *Research methods for business: a skill building approach*, 2nd edition, John Wiley: 10-14





# Alternative Research Approaches

- **Quantitative / Qualitative**
- **Fieldwork / deskwork**



# Types of Research Methodology



1. Action research
2. Case study
3. Experiment
4. Survey

A project may apply more than one type of methodology to achieve its objective



# Types of Research Methodology



## 1. Action research

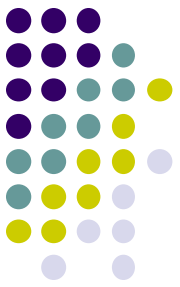
- Study of an attempt by you to **actively solve a problem** and/or change a situation
- To gain a greater understanding and improvement of practice over a period of time

## 2. Case study

- In-depth exploration of **one situation**
- Investigation of a particular situation, problem, **company** or group of companies
- Interviews, surveys, observations, studying documentation / archival records / artifacts



# Types of Research Methodology



## 3. Experiment

- Investigation of **casual relationships** using controlled tests
  - Formulate hypotheses
  - Select samples from known populations
  - Allocate samples to different experimental conditions
  - Introduce planned changes to one or more variables
  - Measure a small number of variables
  - Control all other variables

## 4. Survey

- Use of questionnaires or interviews
- Collection of a **large amount of data** from a sizable population



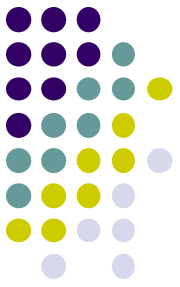


# Data Collection Methods

1. Analysis of documents/records
2. Case Studies
3. Focus Groups
4. Interviews
5. Questionnaire surveys
6. Observation
7. Experiments



# Analysis of documents/records



## Content analysis

- Summarize findings under a number of categories or themes (they may be secondary data)
- This approach can also be applied to analyze data obtained from
  - Observations
  - Interviews
  - Responses to open-ended questions in a questionnaire





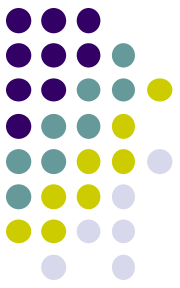
# Case Studies

1. Drawn from people's experiences & practices
  2. Allow for generalization from a specific instance to a more general setting
  3. Phenomena can be analyzed in context
  4. The emphasis is on process
- Analysis is difficult
  - Use multiple dimensions to compare & contrast the findings across multiple cases





# Focus Groups, Interviews, Surveys



1. What is the purpose of the inquiry?  
Exploratory, descriptive, hypothesis testing
2. What to ask?
3. In the case of surveys, how to validate the questionnaire?
4. Who should be polled?
5. What should be the sample size?
6. How are they sampled?
7. Where or how to conduct it?
8. How to get sufficient informants?
9. Pitfalls of these methods



# Execution of the research

## Presentation & analysis of results

### Discussion of the findings



1. Describe implementation of the research
2. Discuss problems encountered & report how were they overcome
3. Present & analyze data
  - Test of hypothesis
  - Success of an implementation plan
  - Validation of a model
  - Characterization of a phenomenon
4. Comment on the outcomes or findings





# Conclusion

1. Summarize major outcomes or findings
2. Compare these with the original objectives & expected deliverables
3. Significance of the the project achievements
  - Contribution to the existing body of knowledge
  - Unexpected conclusions
  - Practical applications of the findings where applicable
4. Limitations of the study
5. How can we improve the study
6. Recommendations for future work





# References & Bibliography

## References

Details of publications and other works referred to in the report

## Bibliography

Details of publications and other works of relevance you have consulted during your research, not all of which may be directly referred to in the report

## Citation

Examples can be found in the [References](#) slide



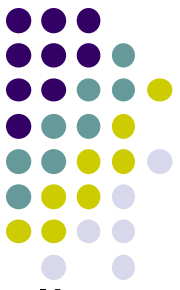
# Appendices



1. Should be kept to a minimum
2. No need to include all the original materials you have collected or generated
3. Include a list of appendices
4. Each appendix should be numbered & bear a title



# References



## Journals

- Kaynak, H. (2003), "The relationship between total quality management practices and their effects on firm performance", *Journal of Operations Management*, Vol. 21, No. 4, pp. 405-436.
- Singh, P.J. and Smith, A.J.R. (2004), "Relationship between TQM and innovation: an empirical study", *Journal of Manufacturing Technology Management*, Vol. 15, No. 5, pp. 394-401.
- Lee, H.L., So, K.C. and Tang, C.S. (2000), "The value of information sharing in a two-level supply chain", *Management science*, Vol. 46 No. 5, pp. 626-643.



# Conferences



- Yuan, H., Zhang, Y., Zhang, D. and Yang, G. (2006), “A modified particle swarm optimization algorithm for support vector machine training,” *In Proceedings of 6<sup>th</sup> World Congress on [Intelligent Control and Automation](#)*, Dalian, China, 21-23 June 2006.





## Websites

- Loong, A.C.Y. (2010), “Case study on the implementation of RosettaNet standards” available at:  
[http://cits.intimal.edu.my/resource\\_files/case\\_study.pdf](http://cits.intimal.edu.my/resource_files/case_study.pdf) [August 8th 2010] .

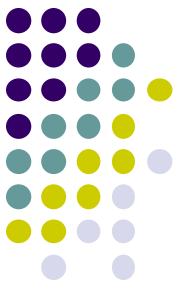
## Books

- Sekaran, U. (1992), Research methods for business: a skill building approach, 2<sup>nd</sup> edition, John Wiley





# How to quote references inside the thesis ?



- Based on studies by **Kaynak (2003)**, the measurement model was measured using .....
- There have been many literatures that have examined the relationships between quality practices and innovation performance (Prajogo and Sohal, 2001; **Singh and Smith, 2004**).
- Wal-Mart is an example of the successful information sharing practices whereby it shares online summary of point-of-sales data to its close suppliers (**Lee et al., 2000**).





# Resources on the Web

- Website on “Writing Final Year Project”, PolyU  
<http://elc.polyu.edu.hk/fyp>
- Centre for Independent Language Learning, PolyU  
<http://elc.polyu.edu.hk/cill>

Consult the project coordinator and your **project supervisor** for other resource materials on writing of FYP reports





# Format of Chapter sub-section

e.g. **Chapter 2. LITERATURE REVIEW**

2.1 **I**ntroduction

.

.

2.2 **R**eview of **M**anufacturing **S**ystems

2.2.1 **F**low shops

.

.

2.2.2 **J**ob shops

.

.

2.2.3 **F**lexible manufacturing systems

.

.





## 2.3 Review of Optimisation Techniques

- .
- .
- .

## 2.4 Summary

- .
- .

# Chapter 3. METHODOLOGY

## 3.1 Introduction

(Note: Except the 1st & final chapters, insert chapter Introduction & Summary)



# Figure and Table numbers



e.g. Figure 1-1  
Figure 1-2

.

.

Table 1-1

Table 1-2

.

.

Figure 2-1

.

.

Table 3-1

.

.



# How to make references to Tables and Figures



e.g. Due to the computational problem, the scheme has been presented in Table 4-2.

.....

.....

Table 4-2 Collection of the sample data

|  |   |  |
|--|---|--|
|  | Insert table/figure as near as possible <u>after</u> it has been mentioned. |  |
|  |   |  |



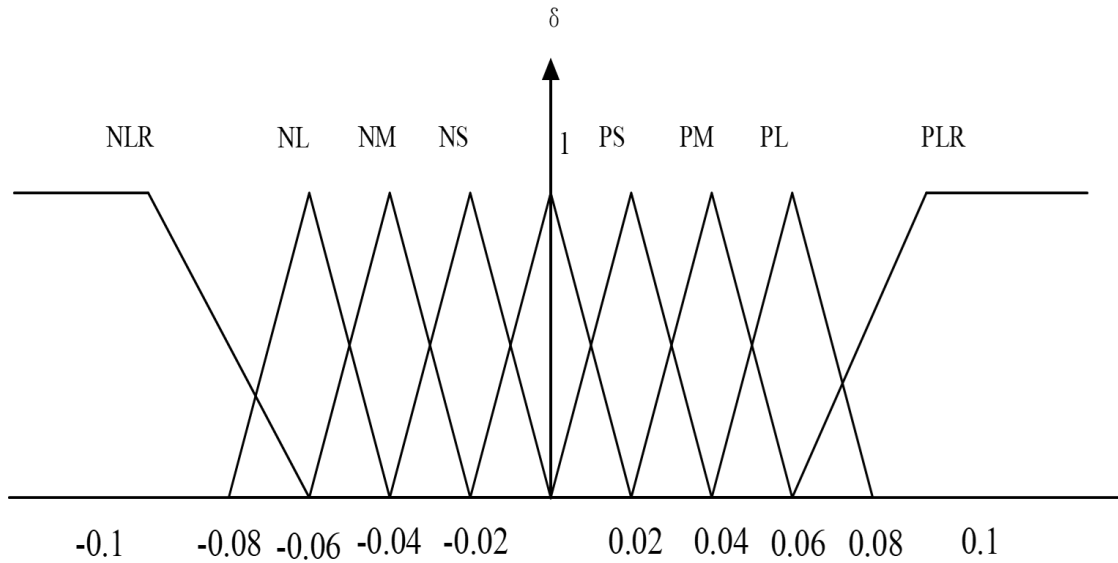


Figure 4-3 Membership function of  $\Delta m(k)$



# Plagiarism



- Presenting someone else's ideas or work as if they were yours in your writing is plagiarism
- Visit [edc.polyu.edu.hk/PSP/student.htm](http://edc.polyu.edu.hk/PSP/student.htm) for resources available to avoid plagiarism
- Submission of a soft copy of the draft report to Turnitin helps you to check originality of your work





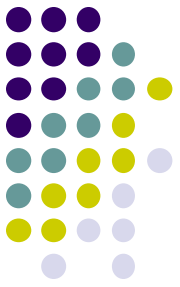
# Acts of Plagiarism



- Copying from a classmate
- Copying material, without acknowledgement, from any source
- Copying exactly and citing a text, but not indenting or using quotation marks
- Copying a sentence but changing a few words to make it look different
- Rearranging another writer's words and sentences, or taking sentences from different sources and joining them together
- Using someone else's ideas, facts, graphs, tables, codes
- Allowing your own work to be copied by another student
- Submitting the work of a group as the work of an individual, or the work of an individual as the work of a group
- Paying someone to do your assignments or buying them from internet sites
- Not acknowledging help that you have been given with your work
- Handing in the same assignment for more than one class



# ***Do not Plagiarise***



- Plagiarism is not tolerated
- When you refer to someone else's ideas or writing, you have to credit them by providing complete citation of the source
- 3 ways to present someone else's ideas or writings:
  - Summary
  - Paraphrase
  - Quotation

