Preparation of Research Proposal

INFO7016 Postgraduate Project A

School of Computer, Data and Mathematical Sciences

The first task of the unit is the preparation of a research proposal. The research topics will be discussed with the project supervisor(s) for approval. To facilitate this, each student is required to write a Project Proposal.

PROJECT PROPOSAL

Your Proposal should be brief (around 1500-2500 words, or 3–5 pages) and include the following headings:

- TITLE
- AUTHOR
- BACKGROUND
- OBJECTIVES
- HYPOTHESIS/QUESTION
- METHODOLOGY
- EXPECTED OUTCOMES
- PROGRAM OF WORK
- LIST OF PRIMARY REFERENCES

SIMPLE GUIDE

IDENTIFYING A RESEARCH TOPIC

The following issues should be considered when identifying a suitable topic.

- The topic should interest you and professional and general communities;
- You have done preliminary literature study relevant to the topic;
- The topic is original;
- The outcome of the research will contribute to the related fields, e.g., Information and Communication Technology, Data Science, and AI, etc;
- Your personal strengths and weaknesses should be taken into account;
- Topics arising from your workplace activities are often suitable;
- You should recognise the limitations imposed by time and research facilities (bear in mind that you only have one semester to complete this unit);
- Do not knowingly choose a topic addressed previously unless you have something new to add.

A list of potential topics (or supervisors) may be provided beforehand. You may consult with your potential supervisors and/or unit coordinator in your program about choosing a topic.

PREPARE A WRITTEN PROPOSAL

Title
The title of your topic should be succinct. “Less than 15 words” is the rule of thumb.

Background
Give the background of your research topic. Why did you select this topic? What is the problem you intend to investigate? What has been done by other researchers in the relevant area? Where is the knowledge gap? What need to be done to fill in the gap or to make a progress?

You should conduct a preliminary literature survey and use literature evidence to support your argument.

Objectives
Clearly state the objectives of your research. (What do you want to achieve in the proposed study?)

Hypothesis/question
Establish a hypothesis you will be trying to prove or reject, or questions to which you will be searching for answers in the proposed research.

Methodology
Describe the methods (e.g., literature review, experiments, computer modelling, field study and/or survey) with which you will conduct the research. What data are needed? Define the parameters clearly. Explain how data are to be collected and processed. Identify the relevant

regulatory document, standards, guides (e.g., Australian/ASTM test standard, computer models and user guide, etc.). What analysis will be conducted to the data? (E.g., statistical analysis, regression, confidence test, comparison with existing data from the literature, comparison with established standards and/or criteria, etc.)

Expected outcomes

Describe the outcomes (e.g., better understanding of the topic, a new method of testing, a new method of evaluation, a paper to be published in a journal, a report to be submitted to the relevant authority or organisation etc.).

Program of work

Describe your research plan and timetable.

List of primary references

Attach a list of primary references using Harvard style.

Supplementary References and Additional Learning Materials:

Most tertiary libraries hold a number of books with information on seminar presentation, and the writing of theses and scientific papers. Some useful references are given in the Learning Guide of this unit.