



# ASSIGNMENT 1

TECHNOLOGY PARK MALAYSIA

CT095-6-M-RMCE  
RESEARCH METHODOLOGY IN COMPUTING & ENGINEERING  
&  
CT087-3-M-RMCP  
RESEARCH METHODOLOGY FOR CAPSTONE PROJECT

HAND OUT DATE: *See Online Assignment Submission*

HAND IN DATE: *See Online Assignment Submission*

WEIGHTAGE: 40%

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## INSTRUCTIONS TO CANDIDATES:

- 1 Submit your assignment Online via Moodle
- 2 Students are advised to underpin their answers with the use of references (cited using the APA System of Referencing)
- 3 Late submission will be awarded zero (0) unless Extenuating Circumstances (EC) are upheld
- 4 Cases of plagiarism will be penalized

# Assignment 1: Literature Review Paper

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## 1. Introduction

This assignment requires the student to conduct a **literature review of existing sources** to **explore a domain of interest**. The deliverable of this “exploration” is a literature review paper written by the student regarding the explored topic.

A literature review paper **reviews and synthesizes the current understanding of a particular topic**. It is a very useful way to become up to date on the state of knowledge and the research that has been done in a particular research area. Writing a review paper is good practice for synthesizing and organizing a lot of information into a concise product (i.e. a short written document). Reviewing and summarizing the literature is a critical skill for successful researchers. This skill is an important component of identifying research questions and writing research proposals. When writing such a paper, researchers rarely, if ever, just sit down, write a first draft, and turn it in. Rather, they write outlines and multiple drafts, editing each draft themselves, in addition to having others edit their papers. You will practice this process with your paper. Secondary / library research must be done to collect **journal and conference articles (and books)** to write the paper. Information from the Internet will not be accepted, unless it is from a journal, conference, or book that is published or available on the web. The paper should be **written for an audience that is relatively familiar with the topic** (such as a peer in this class, i.e., no need to define very elementary concepts). However, do not assume that the reader has read the papers that the student has read. In addition, students should **define any new terms or jargon** that is necessary to understand content of the paper.

## 2. Basics of Literature Reviews

A literature review is a written approach to examining published information on a particular topic or field. An author uses this review of literature to **create a foundation and justification for his or her research** or to **demonstrate knowledge on the current state of a field**. This review can take the form of a course assignment or a section of a longer project. Read on for more information about writing a strong literature review.

Students often misinterpret the term literature review to mean a collection of source summaries, similar to annotations or article abstracts. While summarizing is an element of a literature review, this assignment should be approached as a **comprehensive representation of the student’s understanding of a topic or field**, such as what has already been done or what has been found. Then, also using these sources, **demonstrate the need for future research**, specifically, the future research to be undertaken in the Project.

There is usually **no required format or template** for a literature review. However, there are some actions to keep in mind when constructing the review:

- Include an **Abstract, Key Words, Introduction, and Conclusion**. Even if the literature review will be part of a longer document, these paragraphs can act as bookends to the material. Provide **background information** for the reader, such as including **references to the pioneers** in the field in the beginning and offering closure in the end by discussing the **implications of future research** to the field.
- **Avoid direct quotations**. Just like in an annotated bibliography, **paraphrase** all the material presented in the literature review. This assignment is a chance to demonstrate the student’s knowledge on a topic and putting ideas into the student’s own words will ensure that the student is interpreting and critically reviewing the found material.

- **Organise by topic or theme** rather than by author. When compiling multiple sources, there is a tendency for writers to summarize each source, then compare, and contrast the sources at the end. Instead, organize the sources by the identified themes and patterns. This organization helps demonstrate the synthesis of the material and inhibits the student from creating a series of book reports.
- **Use headings.** It is encouraged to use headings (and sub-headings) within longer pieces of text to display a shift in topic and create a visual break for the reader. Headings in a literature review can also help the writer organize the material by theme and note any subtopics, within the field.
- **Use comparative terms.** A literature review can be lengthy and dense, so make the text appealing to the reader. Transitions and comparison terms will allow the student to demonstrate **where authors agree or disagree** on a topic and **highlight the interpretation** of the literature.

### 3. Three Stages of Assignment

There will be three main steps involved in writing this paper:

#### 3.1. Topic Choice

Each student will need to **select an appropriate topic** to work on. A list of suggested topics will be discussed in class, but students are encouraged to propose their own topic. Also, students are expected to identify their **potential supervisor** from a list made available in class. Students should have already discussed with the potential supervisor **before confirming** the topic and proposed supervisor in the excel sheet provided by the module lecturer. The **final choice** would be **determined by the university** based on the student's choice while avoiding excessive overlap among students.

#### 3.2. Paper Outline and Article Summaries

Prior to writing the outline, search the literature and identify the **articles** that are **to be reviewed**. Using these articles, **outline the paper**, and **identify the main points** from each article in relation to how the article will help address the topic. At this point, **identify all the citations** (and full references) that are going to be used in the paper (**at least 15 articles, not older than 5 years** but should contain **some from the current year**). Most of the **literature searching and journal article reading** must be **done BEFORE drafting the paper**. The following **important information** must be identified for each literature article:

| Article # | Full Reference (APA Referencing Style) | Main research questions / objectives | Main results / issues | Why is this paper relevant | Other remarks (e.g. theme / etc.) |
|-----------|--|--------------------------------------|-----------------------|----------------------------|-----------------------------------|
| 1         |  |                                      |                       |                            |                                   |
| :         |  |                                      |                       |                            |                                   |
| 15        |  |                                      |                       |                            |                                   |

Articles from popular press sources such as Discover magazine, Time magazine, National Geographic or newspaper articles do not count as 'journal articles'. **Articles from scientific journals such as** IEEE Transactions on Mobile Computing, Journal of Network and Computer Applications, IEEE Internet Computing, ACM Transactions on the Web, ACM Transactions on Software Engineering and Methodology, etc. If there is ANY doubt about what counts, please check with the lecturer BEFORE submitting the assignment. **Information from the Internet** also **may not be used** for this paper, **unless** it is from an **e-journal** (a peer-reviewed journal that is published on the web) or a **website belonging to the appropriate authority** for the information). Again, please check with the lecturer before turning in anything.

### 3.3. Final Paper

As the practice with any author / writer, **revise, proofread and edit** the paper **several times**! This SHOULD NOT BE A FIRST DRAFT. Where applicable, the student is also encouraged to **ask a friend / classmate** to read over the paper and give feedback before turning it in.

### 4. Submission Format & Guidelines

Typed answers only. Please use the following format when writing the paper:

- **Format:** MS Word file, Times New Roman with font size 12, single line spacing.
- **Length:** On average 6-12 pages of text (but not limited). As a guide, the final paper should be **around 4,000 words**, excluding references.
- **Sections:** The following sections **must be included**:

- **Cover page** (Title, Student name, TP number, Intake code, date, Module name & Code, Module lecturer name, Supervisor name)
- **Abstract & Keywords**
- **Introduction**  
Brief introduction to the topic for a general scientific audience – **why is the topic important?**  
What is the **main purpose/objective** of this paper?
- **Multiple sections (by theme)** summarizing the main points  
It is a good idea to split the paper into **different sections (with subtitles)** that break the paper up for the reader. For an 8 pages paper, there are usually 3 to 5 sections in addition to the introduction and conclusion. The **number of sections depends entirely on the subject matter, and the content chosen to be included** in the paper. **Note: There MUST NOT be any section titled "Literature Review", as the entire paper is a literature review!**
- **Conclusions AND future research**  
Summarize the overall findings and make **conclusions in the student's own words!** Then, **must explain what 'we don't know' about the topic and what needs to be done in the future** to better understand the issue. For example, suggest future studies that can be conducted to improve understanding of the topic.
- **References**  
Only use the correct **APA referencing system** (see the APU library webpage).
- **Literature Review Matrix to be included.**

Example:

|    |  |  |             |                         |             |   |
|----|--|--|-------------|-------------------------|-------------|---|
| ** | Author/<br>Article title,<br>journal title,<br>and<br>publication<br>details | Research<br>Question(s)/<br>Hypotheses | Methodology | Analysis and<br>Results | Conclusions | Implications for<br>Future<br>research/practice |
|    |  |  |             |                         |             |   |

**Ensure that the Turnitin score is less than 10%**

## 5. Plagiarism

Basically, 'plagiarism' means **representing someone else's work as if it is your own**. This is a very serious academic offence for all students within the University regulations and is particularly reprehensible for a researcher. Please do not even consider it. Remember that accidental plagiarism (or the appearance of it) may be avoided by referencing the work properly. This **gains** the student credit, not loses it! The simple rule is that one should not represent the ideas of other people (whether they are published works or the work of other students) as their own. The golden rule on plagiarism is **DO NOT DO IT!**

## 6. Assessment Criteria and Marking Scheme

| Criteria   | Weight | Distinction  | Merit  | Pass  | Fail  |
|--|--------|--|--|---|---|
|  |        | 75 - 100   | 65 - 74  | 50 - 64   | 0 - 49  |
| 6%<br>Paper structure, English Writing, Grammar, and Spelling              | 15     | A very good report will have been produced showing no deficiencies in organisation. The work will be of a professional standard. Excellent and professional writing, few grammatical or spelling mistakes. | A report will have been produced of a good structure containing suitable sections and pleasing referencing. Clear and consistent writing, with few grammatical or spelling errors. | A reasonable report will have been produced with all required sections. In areas, there will be minor deficiencies such as layout or poor referencing. Generally good writing, some errors, inconsistent spellings. | The report will be very poor in presentation with its construction lacking elements of the report (e.g. unsuitable structuring). Poor, grammar sometimes makes meaning difficult to interpret, Inconsistent spelling, or grammar. |
| 8%<br>Scope and Depth of Research  | 20     | Research is thorough and extensive, with strong evidence of very wide and very deep literature review.   | The scope and depth of research is good with enough details, but still there are some areas in literature review which are not covered.  | A reasonable scope and depth of literature review is addressed in the study<br>The extent and depth of study will be lacking slightly.  | The scope and depth of research of study and report are not satisfactory.   |
| 10%<br>Literature Review (Technical Content)                               | 25     | Outstanding evidence of systematic review using multiple searches, multiple databases.   | Very careful reviewing, systematic combinations of search terms.   | Evidence of reviewing, possibly complete, and using appropriate approaches.   | Fails to identify enough of the literature to yield an informative review.  |
| 10%<br>Literature Appraisal (Critical Analysis, Discussion and Evaluation) | 25     | Outstanding evidence of appraisal and evaluation of most or all papers cited, clear critical thinking.   | Evidence of critical appraisal of most or all papers cited.  | Some evidence of critical appraisal or partial critical appraisal.  | Little or no evidence of evaluation of papers.  |
| 6%<br>Citations and References   | 15     | There is full, accurate, and professional citations of very recent sources and reliable references with correct format.  | Source are generally cited correctly, the majority of references are recent and reliable, and format is mostly correct.  | Citations are mostly done, and references are up to date, but there are some outdated and non-reliable sources, suitable format.  | Inadequate citations of sources, outdated and unreliable references, poor format with many mistakes.  |