Topic Concept Document (TCD)

Title of the study		
Student name, surname		
Student number		
TCD approval	**Study leader: (Title, Name, Surname)**	
	Signature:	**Date:**

<The purpose of the TCD (**no more than 2 pages**) is to provide a brief overview of the proposed study, the knowledge areas that will be used in developing a solution, and the significance of the proposed Masters/PhD study. You may use this template to guide you in compiling a TCD, removing the guiding text within the triangular brackets>.

1.   Introduction

<Provide an introduction and background to the Masters/PhD study. How was this study initiated? What is the context? What are the key measures that should be improved, e.g. failure rate, consistency, cost, time spent etc. What theoretical areas will be investigated in search of a solution?>

1.1   Problem context

<Define the problem/class-of-problems/phenomenon that exists in theory, that you will be focusing on, extracted via a scoping review. Consult literature on how to perform a *scoping review*, e.g. Pham et al. (2014).>

<Note that the chosen study leader may require a *scoping review* to reduce your risk of conducting a study that has already been completed by another research scholar. To obtain access to library resources, if you are not registered as a student, you may have to register for the programme **Engineering Postgraduate (Non-degree purposes) (Plan code: 12290001):**

- Master's students will be registered for the following module: ZZZ 777
- Doctorate students will be registered for the following module: ZZZ 888

1.2   Primary research question

<The *primary research question* provides a single question that consolidates of *the main inquiry for the entire Masters or PhD study*.>

<Example of a primary research question, highlighting a ***key measure***:

PRQ: *What solution-artefact should be amended/designed to integrate new innovation cycles with process exploitation to enhance **customer experiences** at a financial services entity to address top management's goals?*>

<When you follow a *design-based research methodology*, Wieringa's (2014) template for phrasing a *primary research question* may be useful, filling in the sections between rectangular brackets ([ ]):>

- What [(re)design and/or adaptation of **artefact(s)** and/or **course(s) of action**]
- that satisfy/address [some **class-of-problems** (and **solution requirement(s)**)]
- will improve/address [**key area(s) of concern/performance area(s)/measure(s)**]
- in order to [help certain **stakeholders**>?]

1.3   Significance

<This section needs to provide a rationale for investing time on this problem. Is there a real need for a solution, not only for a single company, but also confirmed by multiple academic scholars? Obtain guidance from your study leader to ensure that the scope of your study will be sufficient for your post-graduate study.>

2.   Research methodology

<Identify a suitable research methodology, which may be refined later. Normally we distinguish between two modes of research, i.e. (1) searching/discovering the *truth* or (2) developing a *solution/artefact* that will have utility. A study may require both modes of research, but often requires different research strategies, especially regarding data-gathering and analyses. >

2.1   Main sources of data gathering

<When gathering data about a problem instance, requirements for a solution, and solution evaluation, what are the main data sources? Will you have the mandate to gather data from these sources? Note that once the TCD has been approved by your study leader, you will have to obtain ethical clearance to continue with your study, discussing the ethical clearance requirements with your study leader. Also see: https://www.up.ac.za/faculty-of-engineering-built-environment-it/article/15815/faculty-committee-for-research-ethics-integrity >

2.2   Mandate from the project sponsor

<Do you have a project sponsor, e.g. a manager at the company where you are employed, that will support your study and allow some experimentation/implementation of your solution artefact?>

3. References

Pham, M. T., Rajić, A., Greig, J. D., Sargeant, J. M., Papadopoulos, A., & McEwen, S. A. (2014). A scoping review of scoping reviews: advancing the approach and enhancing the consistency. *Research Synthesis Methods, 5*, 371-385. doi: DOI: 10.1002/jrsm.1123

Wieringa, R. J. (2014). *Design science methodology for information systems and software engineering*. Berlin: Springer-Verlag