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RSM8101: Research Method and Publication

Lecture 02 (MSDS1:1, MIT 1:1 &MSCS1:1)

Identifying Research Problem

Dr. Francis Otto (PhD)
Department of Computing & Technology
Faculty of Engineering, Design & Technology

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What to be covered

1) Research Problem formulation.
2) How and where to identify a research gap.
3) Crafting Problem statements, research objectives, and research questions.

Important to Note

Creating a research problem is an important step in the research process and can help outline the process of your study. There are several types of research problems to choose from, and understanding how they differ may help you decide which approach is best for you

Key takeaways:

1. A research problem introduces the reader to the study topic and the significance of the research.
2. It places the research topic into a specific context to help define what researchers plan to investigate.
3. It provides a framework for reporting research results that will highlight the information discovered.

What is a research problem?

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A research problem is a statement about;

- an area of concern,
- a condition to be improved,
- a difficulty to be eliminated, or
- a troubling question that exists in scholarly literature, in theory, or in practice that points to the need for meaningful understanding and deliberate investigation.

A research problem does not state how to do something, offer a vague or broad proposition, or present a value question. The purpose of a problem statement is to:

i. Introduce the reader to the importance of the topic being studied. The reader is oriented to the significance of the study and the research questions or hypotheses to follow.
ii. Place the problem into a particular context that defines the parameters of what is to be investigated.
iii. Provide the framework for reporting the results and indicate what is probably necessary to conduct the study and explain how the findings will present this information.

What is a research problem?

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- A research problem is a statement that addresses a gap in knowledge, challenge or contradiction in your field.
- Scientists use research problems to identify and define the aim of their study and analysis.
- You may decide to conduct research based on a problem if you're interested in contributing to social or scientific change or adding additional knowledge to an existing topic.
- A research problem may also help identify key concepts and terms, overarching questions and variables

Characteristics of a research problem

Research problems have various characteristics that are important during the research process. Understanding these aspects of a research problem can help as you identify and create your own. Some characteristics include:

i. Reflecting on issues or required knowledge in a particular field

ii. Relying on evidence and data

iii. Being practical and manageable for the researchers involved in data collection and analysis

Types of research problems

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a) Theoretical research problems
b) Applied research problems
c) Action research problems

Theoretical research problems

Allow you to contribute to the overall information and knowledge in an area of study.

These kinds of research problems are exploratory and provide basic meaning about the problem's nature or areas of informational gaps.

Can address contradictions between two or more perspectives or address an unresolved question.

You develop your hypotheses for these problems according to a particular theory, typically stemming from social philosophy.

Applied research problems

Also called non-systematic problems and involve the practical use of theoretical knowledge.

Meaning that you may use a particular theoretical framework to gain information.

It also includes an exploratory hypothesis and tests to verify the accuracy of the hypothesis.

You use applied research problems in studies where the objective is to provide practical and applicable solutions to help individuals and groups if they encounter challenges.

Action research problems

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Also aim to provide solutions for problems but are more time-sensitive and immediate.

Can also be part of a larger reflective ongoing process that combines research, analysis and action.

You develop and implement a research strategy to create innovative solutions and discoveries as soon as possible.

For example, an action research problem in IT may involve the study of how technology is applied in the real world and the practical consequences of technology-enabled action

How to formulate a research problem

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1- Identify a general area of interest

As you determine an area of study, consider areas that are under–explored or present challenges within the field. Assess how you might address the area of concern and whether you can develop a research problem related to this issue.

If your research is action–based or applied, consider reaching out to those who work in a relevant field to get feedback about problems to address, or follow up on research that others have already started.

Consider these various aspects when choosing an area of interest:
•Contradictions between two or more theoretical perspectives
•Situations or natural relationships that are not well investigated
•Processes in an institution or organization that you and your research team could improve
•Areas of concern by individuals who work or are experts in a particular industry

How to formulate a research problem

2- Learn more about the problem

Consider learning more about the area of interest, such as its background and specifics.

Ask yourself what you need to know about a particular topic before you begin your study.

Assess who or what it might affect and how your research could address those relationships.

Consider whether other research groups have already tried to solve the problem you're interested in and how your approach might differ.

How to formulate a research problem

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3- Review the context of the information

Reviewing the context of your research involves defining and testing the environmental variables in your project, which may help you create a clear and focused research problem.

It may also help you note which variables are present in the research and how to account for the impact that they may have on it.

By reviewing the context, you may easily estimate the amount of data your research is likely to deliver.

How to formulate a research problem

4- Determine relationships between variables

After identifying the variables involved in your research, you can learn how they're related to one another and how these relationships may contribute to your research problem.

Consider generating as many potential perspectives and variable interactions as possible.

Identifying the relationships between variables may be useful when deciding the degree to which you can control them in your study and how they might affect potential solutions to the problem you're addressing.

How to formulate a research problem

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5- Select and include important variables

A clear and manageable research problem typically includes the variables that are the most relevant to the study.

You need to summarize how you plan to take these variables into consideration and how they might influence the results of the study.

Selecting the most important variables can help the reader understand the trajectory of your research and the potential impact of the solution.

How to formulate a research problem

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6- Receive feedback and revise

Consider reaching out to experts for feedback on your research problem.
They may present you with new information to consider or suggest you edit a particular aspect of your research design.

Revising your research problem can be a valuable step in creating impactful and precise research. However, before asking for feedback, consider these aspects of your study:

- *Does your research problem allow for several solutions and outcomes?*
- *Did you create a study that has a testable hypothesis or theory?*
- *Did you define all the terms correctly?*
- *Is your research objective comprehensive?*
- *Are all parts of your project understandable?*

Coming up with a title

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Effective titles in academic research have several characteristics.

1. Indicate accurately the subject and scope of the study.
2. Avoid using abbreviations.
3. Use words that create a positive impression and stimulate reader interest.
4. Use current nomenclature from the field of study.

The following parameters can be used to help you formulate a suitable research paper title:

1. The purpose of the research
2. The narrative tone of the paper [typically defined by the type of the research
3. The methods used

The initial aim of a title is to capture the reader's attention and to draw his or her attention to the research problem being investigated.

Research aim

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What is it?

Research aim is a statement that reflects the **broad overarching goal** of the research project. Research aims are fairly high-level (low resolution) as it outlines the **general direction** of the research and what it's **trying to achieve**.

Example

"This research aims to explore employee experiences of digital transformation in retail HR.

As you can see, this research aim provides a **high-level description** of what the study is about and what it seeks to achieve. They're not hyper-specific or action-oriented, but they're clear about **what the study's focus is** and what is being investigated

Research Objectives

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What are they?

The research objectives take the research aims and make them more **Practical** and **actionable**. In other words, the research objectives showcase specific **steps** that the researcher will take to achieve the research aims. The research objectives need to be far more specific (higher resolution) and actionable than the research aims. In fact, it's always a good idea to craft your research objectives using the "SMART" criteria. In other words, they should be specific, measurable, achievable, relevant and time-bound".

Examples

1.To observe the retail HR employees throughout the digital transformation.
2.To assess employee perceptions of digital transformation in retail HR.
3.To identify the barriers and facilitators of digital transformation in retail HR.

As you can see, these research objectives **clearly align** with the previously mentioned research aim and effectively **translate** the low-resolution aims into (comparatively) higher-resolution objectives and **action points**. They give the research project a clear focus and present something that resembles a research-based "to-do" list.

Research Questions

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What are they?

A research question is the **key question that your study will seek to answer**. It provides an area to focus on regarding the research problem. As such, they become the core **purpose** of your research project. You'll present them at the beginning of your document (either in the introduction chapter or literature review chapter) and you'll **answer them at the end** of your document (in the discussion and conclusion).

Examples

1.How do employees perceive digital transformation in retail HR?
2.What are the barriers and facilitators of digital transformation in retail HR?

The research questions will be the **driving force** throughout the research process. For example, in the **literature review** chapter, you'll assess the relevance of any given resource based on whether it helps you move towards answering your research questions. Similarly, your **methodology** and research design will be heavily influenced by the nature of your research questions.
don't rush your research questions and sloppily reword your objectives as questions. Carefully think about what exactly you're trying to achieve (i.e. your research aim) and the objectives you've set out, then craft a set of **well-aligned research questions**.

Research Problem

A *research problem* can relate to a specific topic or opportunity

Research Question

A *research question* provides an area to focus on regarding a research problem.

For Example

Climate Change

How do ozone levels impact global temperature levels?

Development of a Research Idea

Research Topic

The broad subject matter area to be investigated

Research Problem

The educational issue or problem within a broad topic area

Research purpose

A statement of the intent or objective of the study

Research Question

An interrogative sentence that asks a question about…

Creswell, J. (2003).

Coursework 2

In your groups of three,formulate three research topics in; theoretical, applied and action research areas. Make a three-slide presentation for each of the topic to explain the background, problem statement, research purpose, objectives and research questions. Providing a justification for that research will earn you bonus marks.

Every group will be given 5 minutes to make presentation during the next lecture session (Sat 27th Sep, 2025)

Uganda Christian University
P.O. Box 4 Mukono, Uganda
Tel: 256-312-350800
https://ucu.ac.ug/ Email: info@ucu.ac.ug.
@ugandachristianuniversity @UCUniversity
@UgandaChristianUniversity

Department of Computing & Technology
FACULTY OF ENGINEERING, DESIGN AND TECHNOLOGY
Tel: +256 (0) 312 350 863 | WhatsApp: +256 (0) 708 114 300
@ucucomputeng @ucu_ComputEng
https://cse.ucu.ac.ug/ Email: dct-info@ucu.ac.ug