# Research Methods in IT

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## 1.

Identifying a research problem in IT means finding a real issue that needs a solution using technology. For example, a web application may be difficult for users to navigate, causing frustration and low usage. To identify this problem, researchers observe how users interact with the system, collect feedback, and analyze errors or complaints. They also compare the system with similar applications to see what is missing. A clear research problem must be specific, relevant, and solvable. It should explain what is wrong, who is affected, and why it matters. Identifying the right problem is important because it guides the whole research process and helps researchers focus on finding practical and useful solutions.

## 2.

The SMART criteria is a technique used to clearly define a research problem or goal. SMART stands for Specific, Measurable, Achievable, Relevant, and Time-bound. This method helps researchers avoid vague problems by making them clear and structured. For example, instead of saying "improve a website," SMART helps define exactly what needs improvement and how it will be measured. It also ensures that the problem is realistic and important. In IT research, SMART criteria plays a key role in turning general ideas into clear research problems that can be studied effectively.

## 3.

Google Scholar is a useful tool for finding academic articles related to IT problems. By searching keywords such as "web usability" or "user experience," researchers can find reliable studies and compare different ideas. I found three articles that explained common usability issues and solutions in web applications. Using Zotero can also help organize references and store articles in one place. This process showed me that research tools make it easier to find credible information and understand existing knowledge before starting a new IT research project.

## 4.

A research process diagram shows the steps followed in a study, from identifying a problem to reporting results. It usually starts with problem identification, followed by literature review, research design, data collection, data analysis, and reporting. Each step supports the next one and ensures that the research is organized and systematic. This diagram helps researchers understand what to do at each stage and avoid missing important steps. In IT

research, such a diagram makes the process clearer and helps produce accurate and reliable results.