

Research Methods in IT

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1

An IT research project is a structured investigation that aims to solve a technology-related problem. For example, a cybersecurity research project can study how hackers attack online systems and how organizations can protect their data.

In this project, the researcher may focus on common cyber threats such as phishing, malware, ransomware, and data breaches. The project can involve analyzing real cyber incidents, testing system vulnerabilities, and evaluating security tools like firewalls and encryption.

The goal of the research is to identify weaknesses in systems and propose better security solutions. The findings can help companies improve their cybersecurity strategies, protect user information, and reduce the risk of cyberattacks. This type of research is important because technology is growing fast, and cyber threats are becoming more advanced every day.

2

Qualitative research is a method that focuses on understanding ideas, experiences, and opinions rather than numbers. It is often used in IT research to explore how people use technology and how they feel about systems or tools.

This method uses interviews, observations, focus groups, and open-ended questions to collect data. For example, an IT researcher may interview users to understand problems with a software system.

The role of qualitative research is to provide deep and detailed insights. It helps researchers understand complex issues, user behavior, and real-world experiences, which cannot always be explained by statistics alone.

3

Google Scholar is an online tool used to find academic articles, journals, and research papers. I used Google Scholar to search for IT-related topics such as cybersecurity and database systems. I found three articles by typing keywords and filtering results by relevance and year.

Each article provided useful information, including research methods, findings, and conclusions. I also checked the authors and publication sources to ensure credibility.

Using Google Scholar was helpful because it made it easy to access reliable academic sources. It also improved my understanding of how researchers present their work. This tool is very useful for students and researchers who need trustworthy information for IT projects.

4

A research process diagram shows the steps followed in a research project from start to finish. The process usually begins with identifying a problem or research topic. After that, the researcher reviews existing literature to understand what has already been studied.

Next, the researcher chooses a research method and collects data using tools such as surveys, interviews, or experiments. Then, the data is analyzed to find patterns and answers to the research questions. After analysis, the researcher interprets the results and draws conclusions. Finally, the findings are written in a report and presented.

This diagram is important because it helps researchers follow a clear structure. It also ensures that the research is organized, systematic, and easy to understand.

Identify the Problem



Define Objectives & Questions



Literature Review



Choose Research Method
(qualitative / Quantitative / Mixed)



Collect Data



Analyze Data



Interpret Results



Report Findings