

Assessing the impact of DevSecOps Processes on Software Security compared to Traditional Software Development.

A COMPARATIVE STUDY
RESEARCH PLAN

INTRODUCTION

This research's main goal is to explore the subject of DevSecOps, define the differences between DevSecOps and traditional development processes and assess the impact that the introduction of DevSecOps has had on the Software Development industry. It will also delve deeper into the factors that contribute to a successful implementation of the DevSecOps processes.

This research will involve a comparative analysis of the security outcomes achieved by traditional software development processes versus those achieved through the implementation of DevSecOps processes.

The findings of this research could provide insights into the benefits of adopting DevSecOps processes inside an organization and help guide the development of best practices for integrating security into the software development lifecycle.

RESEARCH QUESTIONS

Main research question:

How does the implementation of DevSecOps processes impact the security outcomes of software development projects?

Research sub-questions:

- What are the key factors that contribute to successful implementation of DevSecOps processes in software development organizations?
- What are the challenges for implementing DevSecOps processes, and how can they be overcome?
- What are the best practices for integrating security into the software development lifecycle using DevSecOps processes?
- What metrics could be used to measure the effectiveness of DevSecOps processes in achieving software security goals?
- What are the implications of implementing DevSecOps processes for software development teams and their roles and responsibilities?

RESEARCH METHODS

Method category:	Method
FIELD	Document analysis - Analyzing publicly available documents can provide insights into the current state of DevSecOps practices, the challenges that organizations face, and the benefits of adopting DevSecOps.
LIBRARY	Available product analysis - Conducting analysis of organizations that have publicly shared their DevSecOps journey can provide valuable insights into the factors that contributed to their success, the challenges they faced, and the outcomes they achieved. Literature study, Best Good and Bad Practices – Literature review of academic and industry literature can provide an overview of the current state of the DevSecOps process and the best practices for integrating security into software development.
WORKSHOP	Prototyping – Applying the processes of DevSecOps in my own project will help to better understand it's significance and impact. Root cause analysis – In order to assess the solution of a problem I have to first define the problem