

## **DevOps Adoption in Software Development Organizations: A Systematic Literature Review**

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### **Abstract**

In today's IT industry, where many software development organizations work for increased software quality, and improved customer satisfaction, the traditional approaches to software development and operations are becoming ineffective. To address this, an approach known as DevOps has emerged as a solution. DevOps is a development methodology that closes the gap between development and operations teams emphasizing collaboration, automation, and continuous practices. It provides many important benefits including enhanced software delivery performance and increased team engagement. Even though the concept of DevOps has been discussed for a long time it is still challenging to adopt DevOps in software development organizations and many of them are trying to implement DevOps practices but stuck in middle due to various reasons such as cultural barriers, lack of expertise and organizational silos. Also, DevOps adoption is influenced by factors including culture, automation, and people. Best practices such as continuous integration and continuous deployment can be incorporated in companies for a successful DevOps adoption. Therefore, it is important for companies to have a clear understanding about DevOps and know their readiness for adopting DevOps for successful DevOps implementation. For that, this systematic literature review provides the critical components of DevOps adoption with challenges, best practices, and factors affecting DevOps. Through the findings of this study, organizations can identify the possible challenges they may encounter, understand DevOps best practices, and the key factors affecting DevOps success. This review also contributes to the literature in the area of software development by providing extensive knowledge to researchers to develop frameworks for successful DevOps adoption.

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