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# DEVELOPING SCALABLE AND EFFICIENT CLOUD-BASED SOLUTIONS FOR ECOMMERCE PLATFORMS

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## ABSTRACT

*This research paper aims at analysing the trends of the adoption of scalable and efficient cloud service models for the e-commerce platforms. The nature of online retail business has thus called for the development of strong, adaptable, and high-capacity infrastructure to cater for the escalating demands of the e-tail business. This paper looks into different forms of cloud architectures, scaling methods, performance enhancement approaches, and security concerns with special reference to ecommerce applications. To overcome the above-mentioned problems, based on the literature review, critical analysis of the existing approaches to design and implementation of cloud-based ecommerce solutions, and evaluation of the case studies, this paper aims to give recommendations regarding best practices for the design and implementation of cloud-based ecommerce solutions. Concerning cost, key issues, performance indicators and the future of CC for ecommerce are also discussed in the study. The results of the present research may be useful for managers and developers who are willing to build truly usable, performance-oriented, and secure ecommerce applications based on cloud technologies.*

***KEYWORDS:*** *Cloud Computing, Ecommerce, Scalability, Efficiency, Microservice Architectures, Containerization, Serverless Computing, Auto-Scaling, Caching, Security, Performance Optimisation*