## Kathmandu University

# **Department of Computer Science and Engineering**

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A Report

On

"Summary of the Two Literature Reviews"

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### Summary of two papers

One of the most important problems blockchain technology is now experiencing is scalability, especially when it comes to large-scale applications like the Internet of Things (IoT). Every node on the network is required to process and validate each transaction that is added to the blockchain, which causes the scalability issue. As the number of transactions increases, the processing power required to validate them all also increases, which can result in slow transaction speeds and high transaction fees. The two studies discussed here each approach this problem from a different perspective, providing complementary insights. The first article suggests a brand-new blockchain architecture that is specially made to deal with IoT-related scaling problems. The suggested framework uses a consensus method to rank the most crucial transactions and a hierarchical network architecture to segment the blockchain network into smaller sub-networks. The authors use simulations to show that their suggested architecture outperforms current blockchain alternatives in terms of scalability and efficiency.

The second study examines blockchain scalability issues more broadly and divides them into three categories: protocol-level, network-level, and application-level approaches. The writers highlight the benefits and drawbacks of each strategy as they assess the state of the art in each of these fields. They also point out several important issues for future study and ideas for enhancing blockchain scalability.

Together, these papers offer important insights into the significance of **scalability** in blockchain technology and present many approaches for overcoming this difficulty. While the first paper's proposed framework is particular to IoT applications, the second paper's survey includes a wider range of domains and applications, giving readers a more complete picture of the area. This diversity of viewpoints emphasizes the complexity and significance of scalability in blockchain technology and lays the groundwork for further study and advancement in this field.