

## ABSTRACT

5G network technology is one of the technologies considered to provide connectivity for specific content using small cells. Small cell indoor infrastructure development requires particular infrastructure, so Mobile Network Operators (MNO) have difficulty developing and building it because it requires greater costs and investments. A small-scale operator or micro operator is made to overcome this problem. Micro operators focus on developing local small cell networks that provide network services according to user needs.

In this study, the business model analysis is used to implement of micro operators in Indonesia. The business model selection is carried out by analyzing business management, economics, and regulation. Business management analysis is carried out using the V<sup>4</sup> business model approach, then techno-economic analysis to calculate investment feasibility and conduct regulatory analysis using normative juridical methods.

The results of the technical analysis show that the need for gNodeB increases every year because it is influenced by user growth. Based on the V<sup>4</sup> framework, the micro operator business model can be implemented in Indonesia because it has the advantage of providing services that can be tailored to user needs. For value finance analysis, the results for scenario 1 with direct frequency allocation from the government are not feasible because they have Net Present Value (NPV) and Interest Rate of Return (IRR) values. Scenario 2 with spectrum sharing is feasible because the NPV and IRR values are positive. Based on the regulatory analysis, micro operators can be grouped as telecommunications network operators under Government Regulation No. 52 of 2000 and Law No. 11 of 2021 Article 33, which support spectrum sharing schemes.

**Keywords:** micro operator, frequency, benchmark, business model V<sup>4</sup>