

## ABSTRACT

Telecommunications is a sector regulated by the state because it uses limited natural resources, namely frequency and to ensure that the right of everyone to be able to communicate and obtain information in accordance with the constitution. On the other hand, the telecommunication industry which is predicted will decline in the future and needs to take precautions, there are two things that become solution; saving and entering new businesses. The solution discussed in this study is savings. More than 60% of Mobile Network Operators (MNO) in the world use Radio Access Network Sharing (RAN Sharing) to make savings. The type of RAN Sharing used in this study is the Multi Operator Core Network (MOCN) sharing up to the frequency spectrum, and it can also be a solution to the scarcity of the spectrum, saving expense by operators, accelerating network deployment to the regions and impacting on GDP in Indonesia.

In this study, there are three aspects that will be discussed; technical, economic and legal aspects. On the technical aspect, for urban areas use calculations with capacity dimensioning and for rural areas use coverage dimensioning to determine the needs of telecommunication infrastructures. In the economic aspect, the calculation uses the Net Present Value (NPV) which is analyzed using the Game Theory approach. For the legal aspect, several regulations that apply in Indonesia related to this are explained to see the possibility of how this sharing can be implemented in Indonesia.

Based on this research, sharing using MOCN is effective in providing savings in rural areas compared to urban areas. And this can affect competition between operators if only done by two competitors. In addition, in terms of regulations, this implementation is possible while obtaining ministerial permits.

**Keyword:** *Network sharing, Multi Operator Core Network, Spectrum Frequency, Telecom Industry, Regulation of Telecommunication.*