

ABSTRACT

The development of information technology and telecommunication services leading to mobile broadband (MBB). Besides, the 3G operator business competition in Indonesia is very strict with the presence of several operators coupled with an increasing number of subscriber data is significant since the launch of 3G technology, so that each operator must be able to improve service quality both in terms of speed, capacity and coverage to face these challenges . Efforts to improve service by implementing technology is more reliable in terms of access speed and capacity and coverage expansion. Technology Long Term Evolution (LTE) can be the answer to that need. LTE Release 8 is the standard technology-based mobile broadband all-IP issued by the 3GPP.

This thesis analyzed the technology and economics of the implementation of LTE Release 8 on existing network operators using the scenario of co-existence. Analysis model used, based on techno-economic principles by using the capacity and coverage estimation methods to determine the design of LTE technology and DCF methods to analyze and measure the economic feasibility of costs incurred for the implementation of these LTE

From the simulation scenarios performed, the conclusion is the largest NPV obtained under the first scenario with achieving NPV Rp. 45.897.032.000, IRR of 18.095%, and turnover time in year 7 and month 10. From the sensitivity analysis conducted found that the rate factor and the number of customers are greatly affect the achievement and from the risk analysis in the worst condition to the number of subscribers, found that NPV value will remain positive amounted to 83.27%, so it can be concluded that the implementation of LTE Release 8 in the JABODETABEK area is feasible to implement.

Keywords: LTE, tekno-ekonomi, capacity and coverage estimation, DCF