

LIST OF FIGURES

Figure 1.1 Growth of Penetration Level of Indonesia[1]	1
Figure 2.1 5G Requirements[20].....	7
Figure 2.2 Global 5G Availability[23].....	8
Figure 2.3 5G Key Usage Scenario[21]	9
Figure 2.4 The Importance of Key Capabilities 5G[21]	10
Figure 2.5 5G NSA with 4G/5G Dual Connectivity Option.....	10
Figure 2.6 Low to High 5G Bands Explained[28]	12
Figure 2.7 Definition of d2D and d3D for outdoor[40]	22
Figure 3.1 Research Diagram.....	35
Figure 3.2 Map of Bandung City Government[70].....	37
Figure 3.3 Radio Planning Procedure	38
Figure 3.4 Definition of d2D and d3D for Outdoor[40]	41
Figure 3.5 Data Management for 5G NR Deployment.....	47
Figure 3.6 4G LTE Network Data Information	48
Figure 3.7 Data Preprocessing: Average Daily Parameter.....	49
Figure 3.8 Min-Max Normalization for Payload and Active User	49
Figure 3.9 Min-Max Normalization for DL and UL Throughput.....	50
Figure 3.10 Analytic Hierarchy Process (AHP) Method	50
Figure 3.11 The Telco Company in the 5G Technology Deployment.....	51
Figure 3.12 Organizational Structure Of Telkom Regional 3 Jabar	53
Figure 3.13 5G Deployment Consideration	54
Figure 4.1 Prediction Number of 5G User 2025 to 2030	56
Figure 4.2 a) Before Site Existing b) After Design Implementation	58
Figure 4.3 a) Before SS-RSRP b) After SS-RSRP Result in Bandung City.....	59
Figure 4.4 a) Before SS-SINR b) After SS-SINR Result in Bandung City	60
Figure 4.5 a) Before Downlink b) After Downlink Throughput in Bandung City	61
Figure 4.6 a) Before Uplink b) After Uplink Throughput in Bandung City	62
Figure 4.7 Gap Coverage 5G Networks di Kota Bandung.....	63
Figure 4.8 Average Payload Sub-district Bandung City	65
Figure 4.9 Average Active User Sub-district Bandung City.....	66
Figure 4.10 Average Downlink Sub-district Bandung City.....	67
Figure 4.11 Average Uplink Sub-district Bandung City.....	67
Figure 4.12 Revenue Streams for 5G Deployment	74
Figure 4.13 IRR for feasibility of 5G Deployment	76
Figure 4.14 Cumulative NCF of 5G Represent BEP	77
Figure 4.15 Profitability Index per Years for 5G Deployment	78
Figure 4.16 Business Impact in 5G Sensitivity Analysis.....	80