

ACKNOWLEDGMENTS

The author would like to express the deepest gratitude and thanks to Allah Subhanahu wa Ta'ala, whose blessings and permission have enabled the author to complete this master's thesis with the best effort, and also to :

1. My beloved family. My wife, Laila Sakinah, and my children, Muhammad Arfan Fasya, Muhammad Raihan Alkamil, and Muhammad Adam Alfatih, have been my most excellent sources of strength and motivation while completing this study. Thank you for the love, prayers, and support you have always given. You are the biggest reason I have kept moving forward and completed my education.
2. I want to express my deepest gratitude to my beloved parents, siblings, and family members for their endless love, prayers, and support. To my mother, Suwarni; my mother, Marhamah; my brothers, Jodhie, Doni, and Qiqi; and my sisters, Irin, Amel, and Camelia—thank you for your best prayers.
3. Dr. Ir. Basuki Rahmat, M.T., as the 1st supervisor; Dr. Ir. Sudarmono Sasmono, S.Si., M.T., as the 2nd supervisor. Your guidance, the knowledge you have shared, and the countless hours and effort you have devoted have been invaluable. Your dedication and thoughtfulness have greatly influenced the author's academic journey; it has been a great honour to be under your supervision. Thank you for your unwavering support and encouragement. The lessons you have imparted will remain for a lifetime. The author is deeply grateful to have had such caring and extraordinary mentors throughout this journey."All lecturers and employees in Telkom University Postgraduate. Thank you for the support in administrative stuff so that the author can complete this thesis.
4. Mr. Dimas Kharudin, a mentor at PLN Nusantara Power, and the technology development colleagues have been an inspiration in completing this education.
5. All my friends and superiors at P.L.N. Nusantara Power for always supporting me and making my work enjoyable despite the challenges, as I was also pursuing a master's degree at the time.
6. To all my friends at Telkom University, especially Mr. Yos, Fikri, Rifki, Faris, Fadhil, Ms. Ida, Rara, Khanaya, and Andisyathriah: Thank you for the collective effort we have made in completing this education. I hope we can successfully finish this journey together. May Allah bless you with an extraordinary friendship that has always supported the completion of this educational journey.