

ACKNOWLEDGEMENTS

I am so grateful to Allah SWT for the opportunity to complete this study. I would not have been possible to finish this master thesis without the help and support of my surrounding people. I would like to express my deepest gratitude and honor to my best supervisors, Mr. Emil Robert Kaburuan, Ph.D. and Mrs. Dr. Arie Ardiyanti Suryani for their helps, patience, and guidance in supporting and supervising me throughout the research and thesis writing. I'm also deeply grateful to Veronica Ong for her help, to sharing data for my research. I would like to thanks to all directors, lecturers, the academic and technical staffs of Telkom University, especially for Graduate School of Computing who have provided all the necessary support at the master program. Above all, I would like to express my deepest appreciation to my husband, parent, all of families and friends who always encourage me and prayed me with the great patience especially during this study. Thanks a lot. Hope the best always with you all.

Best Regard,
Yuli Sopianti