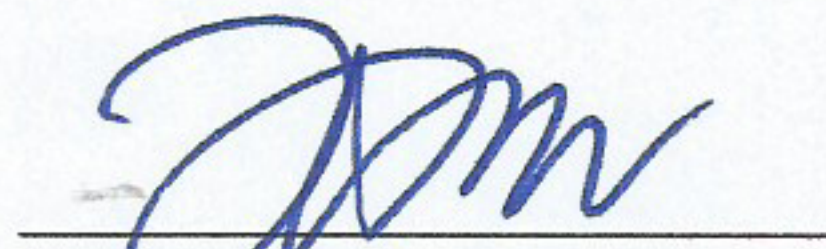


## APPROVAL

Approval of the Graduate School of Telkom University

I certify that this thesis satisfies all the requirements as a thesis for the degree of Master Informatics.

Date : 9 February 2018

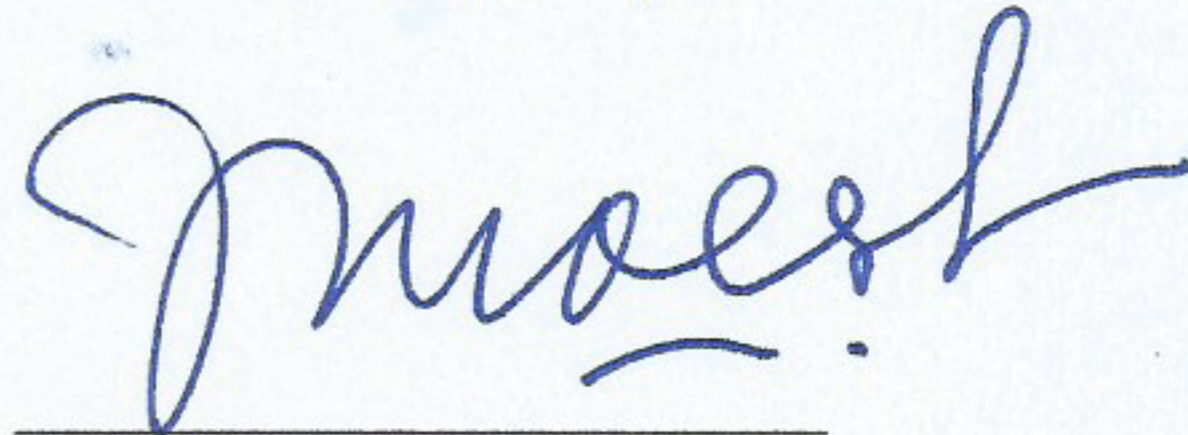


(Dana Sulisty Kusumo, Ph.D.)

Head of Master Informatics

This is to certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Informatics.

Date : 09 / 02 / 2018

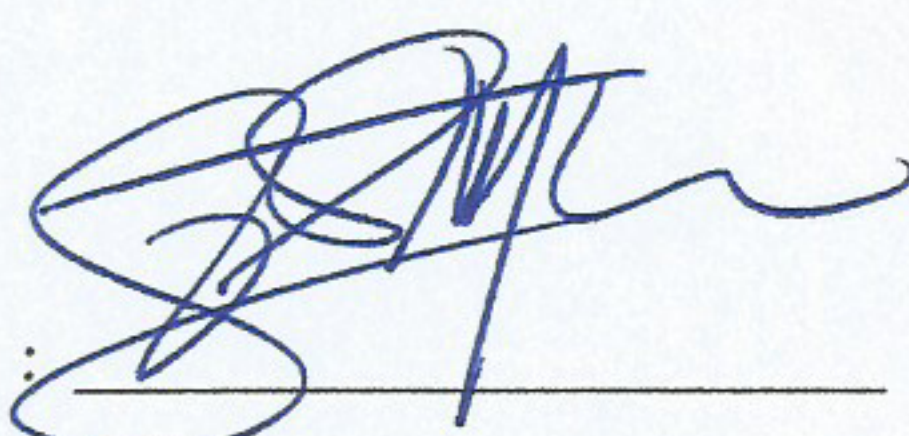


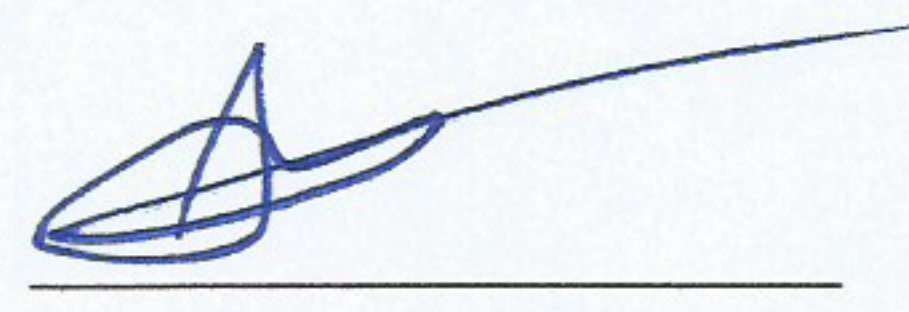
(Ari Moesriami Barmawi, Ph.D.)

Supervisor I

**Examining Committee Members.**

Date : 02 / 02 / 2018

(Jimmy Tirtawangsa, Ph.D.) (Chairperson of the jury) : 

(Thomas Anung Basuki, Ph.D.) (jurys member) : 

(Ari Ardiyanti, Ph. D.) (jurys member) : 