## Acknowledgements

I would like to express my gratitude and appreciation to my supervisors, Emeritus Prof. Dr. Don McNeil and Dr. Siripen Wikaisuksakul for their invaluable assistance and helpful guidance on this thesis.

Thanks also to Asst. Prof. Dr. Chamnein Choonpradub and Dr. Sunaree Suwanro for their encouragement, suggestions, and help.

I would like to acknowledge Graduate School, Prince of Songkla University for funding this study.

Finally, I would like to thanks my parents, family, friends, and colleagues for their Attachai II-

Attachai Ueranantasun