

**A STOCHASTIC EXPONENTIAL GROWTH
MODEL FOR PREDICTION OF TIME-
DEPENDENT INTERNET
USER NUMBERS**

WIRIYAPORN WONGGATTALEEKAM

MASTER OF ECONOMICS
ลิขสิทธิ์ © โดย Chiang Mai University
All rights reserved

**GRADUATE SCHOOL
CHIANG MAI UNIVERSITY
NOVEMBER 2017**

**A STOCHASTIC EXPONENTIAL GROWTH MODEL
FOR PREDICTION OF TIME-DEPENDENT
INTERNET USER NUMBERS**

WIRIYAPORN WONGGATTALEEKAM

**A THESIS SUBMITTED TO CHIANG MAI UNIVERSITY IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ECONOMICS**

Copyright © by Chiang Mai University
All rights reserved

**GRADUATE SCHOOL, CHIANG MAI UNIVERSITY
NOVEMBER 2017**

**A STOCHASTIC EXPONENTIAL GROWTH MODEL
FOR PREDICTION OF TIME-DEPENDENT
INTERNET USER NUMBERS**

WIRIYAPORN WONGGATTALEEKAM

THIS THESIS HAS BEEN APPROVED TO BE A PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ECONOMICS

Examination Committee:

.....Chairman
(Lect. Dr. Kittawit Autchariyapanitkul)

.....Member
(Asst. Prof. Dr. Napat Harnpornchai)

.....Member
(Assoc.Prof. Dr. Kanchana Chokethaworn)

Advisory Committee:

.....Advisor
(Asst. Prof. Dr. Napat Harnpornchai)

.....Co-advisor
(Assoc.Prof. Dr. Kanchana Chokethaworn)

14 November 2017

Copyright © by Chiang Mai University

ACKNOWLEDGEMENT

I am eternally grateful for my super advisor, Asst. Prof. Dr. Napat Harnpornchai, for his helpfully academic advice, motivation and determination which he has given to me during my challenging time. I truly appreciate. Plus, I am so thankful to Lect. Dr. Kittawit Autchariyapanitkul and Assoc. Prof. Dr. Kanchana Chokethaworn for their advice and valuable time which they have devoted to my work and me.

I would like to give my deepest thanks to Mr Phayom Wonggattaleekam and Mrs Junya Wonggattaleekam, my devoted and supportive parents, along with all my family members, for the endless love and supports which have encouraged and made me who I am. Equally important, I would like to express my appreciation to Asst. Prof. Dr. Rossarin Osathanunkul, together with the Osathanunkuls, for all the advice, help and supports. Plus, many thanks to Mr Somsak Chanaim for the technical and academic assistance. Additionally, thank you ever so much to my caring and beloved P'Yui, P'Dam, P'Bie and P'Ton for the encouragement and backup that have given to me. What's more, I do greatly appreciate all the faculty staff for the service and assistance. Lastly, I would love to thank to all supportive people who have given good and positive vibrations which mean a lot to me. Words cannot describe how grateful I am.

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่
Copyright© by Chiang Mai University
All rights reserved

Wiriyaorn Wonggattaleekam