

CONTENTS

	Page
ACKNOWLEDGEMENTS	c
ENGLISH ABSTRACT	d
THAI ABSTRACT	f
LIST OF TABLES	j
LIST OF FIGURES	k
CHAPTER 1 INTRODUCTION	1
1.1 Research Problem	4
1.2 Background of the Study	4
1.3 Purpose of the Study	12
1.4 Research Question	12
1.5 Significance of the Study	13
1.5 Limitations of the Study	13
CHAPTER 2 LITERATURE REVIEW	15
2.1 Agricultural Development and Extension	15
2.2 Information and Communication Technologies and Agricultural Extension	22
CHAPTER 3 CONCEPTUAL FRAMEWORK	31
CHAPTER 4 METHODOLOGY	37
4.1 Research Design	37
4.2 Research Area and Participants	39
4.3 Data Collection	40
4.3 Data Analysis	45
CHAPTER 5 RESULTS	61
5.1 Demographics	61
5.2 Farmer's Agricultural Problems and Needs	64
5.3 Mobile Phone Use of Farmers	67
5.4 Farmer Info Application	70

CONTENTS (Continued)

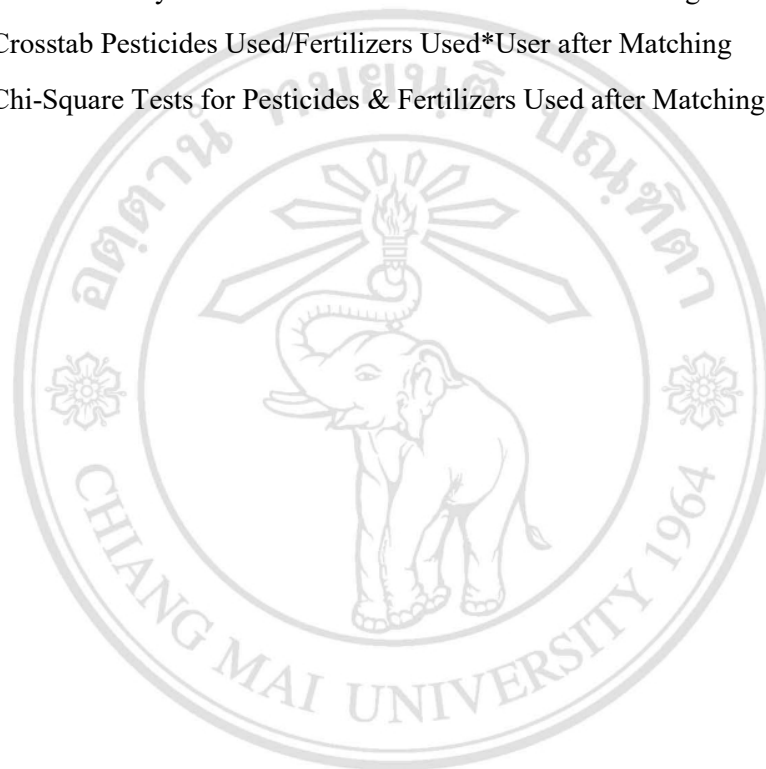
	Page
5.5 Farmer Info Satisfaction and Future Development	85
CHAPTER 6 DISCUSSION	88
6.1 Impact of Farmer Info Application	88
6.2 Farmer Info Application and Needs of the Farmers	94
CHAPTER 7 CONCLUSION	98
REFERENCES	101
APPENDIX	116
Appendix 1 Farmer Info Smartphone Application Screenshots	117
Appendix 2 Interview with Mr. Rawat Sangchuay	129
Appendix 3 Interview with Mrs. Suparatana Bencharongkul	164
Appendix 4 Interview with Khun Praphan	187
Appendix 5 Interview with Farmer One	207
Appendix 6 Interview with Farmer Two	223
Appendix 7 Interview with Farmer Three	237
Appendix 8 CSR Promotion Video of dtac	259
Appendix 9 Social Media Content & Success Stories	262
Appendix 10 Success Stories	267
Appendix 11 App-User Questionnaire	276
Appendix 12 App-User Questionnaire	283
Appendix 13 Qualitative Content Analysis	290
Appendix 14 Statistical Results after Matching	344
CURRICULUM VITAE	350

LIST OF TABLES

		Page
Table 1	Shapiro-Wilk Test of Normality for Livelihood Variables of Longan and Rice Farmers	53
Table 2	Shapiro-Wilk Test of Normality for Input Variables	53
Table 3	Test for Equality of Variances for Livelihood Variables for Longan and Rice Farmers	54
Table 4	Test for Equality of Variances for Input Variables	55
Table 5	Fly Spray Test Conducted by Frank Wilcoxon	56
Table 6	Assumptions of the Chi-Square	58
Table 7	Usefulness of Mobile Devices	69
Table 8	Ease to Use for Mobile Devices	69
Table 9	Mobile Usage of App-Users and Non-Users	70
Table 10	Key Variables for Livelihood Impact Analysis (Longan Farmers)	73
Table 11	Key Variables for Livelihood Impact Analysis (Rice Farmers)	73
Table 12	Mann-Whitney Test Ranks for Livelihood Variables (Longan Farmers)	74
Table 13	Mann-Whitney Test Statistics for Livelihood Variables (Longan Farmers)	74
Table 14	Mann-Whitney Test Ranks for Livelihood Variables (Rice Farmers)	76
Table 15	Mann-Whitney Test Statistics for Livelihood Variables (Rice Farmers)	77
Table 16	Variables for Practice Impact Analysis	79
Table 17	Mann-Whitney Test Ranks for Pesticide Use	80
Table 18	Mann-Whitney Test Statistics for Input Use	80
Table 19	Crosstab Pesticides Used/Fertilizers Used*User of Farmer Info Application	83
Table 20	Chi-Square Tests for Pesticides & Fertilizers Used	83
Table 21	Symmetric Measures for Pesticides & Fertilizers Used	84
Table 22	Mean for Livelihood Variables after Matching (Longan Farmers)	345
Table 23	Mann-Whitney U Test for Livelihood Variables after Matching (Longan Farmers)	346

LIST OF TABLES (Continued)

	Page
Table 24 Mean for Livelihood Variables after Matching (Rice Farmers)	346
Table 25 Mann-Whitney U Test for Livelihood Variables after Matching (Rice Farmers)	347
Table 26 Mean for Practice Variables after Matching	347
Table 27 Mann-Whitney U Test for Practice Variables after Matching	348
Table 28 Crosstab Pesticides Used/Fertilizers Used*User after Matching	348
Table 29 Chi-Square Tests for Pesticides & Fertilizers Used after Matching	349



ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่
 Copyright© by Chiang Mai University
 All rights reserved

LIST OF FIGURES

	Page
Figure 1	6
Figure 2	10
Figure 3	11
Figure 4	19
Figure 5	20
Figure 6	24
Figure 7	25
Figure 8	26
Figure 9	27
Figure 10	35
Figure 11	40
Figure 12	47
Figure 13	48
Figure 14	49
Figure 15	61
Figure 16	62
Figure 17	63
Figure 18	63
Figure 19	64
Figure 20	65
Figure 21	66
Figure 22	67
Figure 23	68
Figure 24	68
Figure 25	71
Figure 26	72
Figure 27	75

LIST OF FIGURES (Continued)

	Page
Figure 28	76
Figure 29	77
Figure 30	78
Figure 31	81
Figure 32	82
Figure 33	85
Figure 34	85
Figure 35	86
Figure 36	344
Figure 37	344
Figure 38	344
Figure 39	344
Figure 40	345
Figure 41	345

Copyright© by Chiang Mai University
All rights reserved