

## TABLE OF CONTENT

<b>Acknowledgements.....</b>	<b>v</b>
<b>Abstract.....</b>	<b>vii</b>
<b>Intisari.....</b>	<b>viii</b>
<b>Table of Content.....</b>	<b>ix</b>
<b>List of Tables.....</b>	<b>xi</b>
<b>List of Figures.....</b>	<b>xiii</b>
<b>Chapter I. Introduction .....</b>	<b>1</b>
1.1. Research Background.....	1
1.2. Research Problem.....	7
1.3. Research Question.....	7
1.4. Research Objective.....	8
1.5. Research Benefit.....	8
1.6. Research originality.....	9
1.7. Structure of the Thesis.....	10
<b>Chapter II. Literature Review.....</b>	<b>12</b>
2.1. Travel Mode Choice, Travel Behavior, and Attitude.....	12
2.1.1 Transport Mode Choice.....	12
2.1.1.1 Factors Affecting the Mode Choice.....	13
2.1.2 Travel Behavior and Its Relationship with Mode Choice.....	15
2.1.3 Attitude and Its Relationship with Mode Choice.....	18
2.2. Previous Research Explaining the Relationship between Mode Choice, Travel Behavior, and Attitude.....	20
2.2.1 Previous Research Explaining Mode Choice.....	20
2.2.2 Previous Research Explaining Attitudinal Factors.....	24
2.3. Application to the Vehicle Usage Modelling.....	27
2.4. Theoretical Framework.....	36
<b>Chapter III. Research Methodology .....</b>	<b>39</b>
3.1 Research Design.....	39
3.1.1 Research Approach.....	39

3.1.2	Method of Analysis.....	40
3.1.3	Research Framework.....	41
3.1.4	Research Variables.....	42
3.2	Research Implementation.....	45
3.2.1	Sampling Method.....	45
3.2.2	Data Collection Technique .....	48
3.2.3	Research Source and Instrument.....	49
<b>Chapter IV.</b>	<b>Description of Study Area.....</b>	<b>50</b>
4.1	Yogyakarta Province Overview.....	50
4.2	Transportation Situation.....	52
4.3	University of Gadjah Mada (UGM).....	65
<b>Chapter V.</b>	<b>Result and Discussion .....</b>	<b>69</b>
5.1	Descriptive Statistic.....	69
5.1.1	Student Characteristic... ..	69
5.1.2	Student Travel Behavior.....	74
5.1.3	Attitudinal Factors.....	87
5.2	Transport Mode Choice Model.....	100
5.2.1	Corelation Coefficient... ..	101
5.2.2	Principal Component Analysis (PCA).....	109
5.2.3	Binary Logistic Process .....	115
5.3	Implication to planning.....	120
5.4	Policy recommendation.....	132
<b>Chapter VI.</b>	<b>Conclusion.....</b>	<b>139</b>
6.1	Main Findings.....	139
6.2	Recommendation.....	142
6.3	Shortcoming of Study and Recommendation for future work.....	145
	<b>Reference.....</b>	<b>147</b>
	<b>Appendix.....</b>	<b>150</b>

## LIST OF TABLE

Table 1.1	Research Originality.....	9
Table 3.1	Variables of Travel Behavior focused on this study..	42
Table 3.2	Description of data needed for research.....	44
Table 3.3	Number of Students by Faculty and level of education in 2013/2014.....	46
Table 3.4	Number of sample based on the number of Population.....	47
Table 3.5	Number of samples by faculty.....	48
Table 4.1	Annual growth of road length based on its type in Yogyakarta province from 2011 to 2014.....	53
Table 4.2	Comparison of some quality indicators between public bus and Transjogja bus based on summarized final reports 2014 from agency of Agency of Transportations, Communications, and Informatics of DIY province.....	60
Table 5.1	General findings of student characteristics.....	69
Table 5.2	General findings of student travel behaviors.....	75
Table 5.3	Transport mode choice of respondents.....	76
Table 5.4	Transport mode choice of respondents ( <i>Inbinomial version</i> ).....	77
Table 5.5	Degree of Important towards Transport mode choice	88
Table 5.6	The differences of perception between Motorized vehicle users and non-motorized vehicle users: <i>Degree of Important towards Transport mode choice</i> .....	89
Table 5.7	Attitudes/Perceptions toward Public Bus.....	90
Table 5.8	The differences of perception between motorized vehicle users and non-motorized vehicle users: <i>Perceptions toward Public Bus</i> .....	91
Table 5.9	Attitudes/Perceptions toward Transjogja Bus.....	92
Table 5.10	The differences of perception between Motorized vehicle users and non-motorized vehicle users: <i>Perceptions toward Transjogja Bus</i> .....	93
Table 5.11	Attitudes/Perceptions toward motorcycle ownership.....	94

Table 5.12	The differences of perception between Motorized vehicle users and non-motorized vehicle users: <i>Perceptions toward motorcycle ownership</i> .....	95
Table 5.13	Perceptions toward UGM Campus environmental condition.....	96
Table 5.14	The differences of perception between Motorized vehicle users and non-motorized vehicle users: <i>Perceptions toward UGM Campus environmental condition</i> .....	98
Table 5.15	Correlation between Mode Choice and Socio-demographic characteristics.....	101
Table 5.16	Correlation between Mode Choice and Travel Behavior.....	103
Table 5.17	Correlation between Mode Choice and attitudinal variables: <i>Degree of importance towards factors influencing Mode choice</i> .....	104
Table 5.18	Correlation between Mode Choice and attitudinal variables: <i>Public Transportation Modes</i> .....	105
Table 5.19	Correlation between Mode Choice and attitudinal variables: <i>Motorcycle Ownership</i> .....	106
Table 5.20	Correlation between Mode Choice and attitudinal variables: <i>environmental situation of UGM campus</i>	107
Table 5.21	Rotated factor loadings on attitude on degree of importance toward <i>Transport mode choice</i> – factor...	110
Table 5.22	Rotated factor loadings on attitude on public transportation mode; <i>Public bus</i> .....	111
Table 5.23	Rotated factor loadings on attitude on public transportation mode; <i>Transjogja bus</i> .....	112
Table 5.24	Rotated factor loadings on attitude on motorcycle ownership.....	113
Table 5.25	Rotated factor loadings on attitude on UGM campus's environmental situation.....	114
Table 5.26	Result of <i>Binary logistic regression</i> analysis.....	116
Table 5.27	General information extracted from O-D trip maps...	126

## LIST OF FIGURE

Figure 1.1	The trend of the number of vehicle ownership in Indonesia.....	1
Figure 2.1	Conceptual model of travel behavior.....	17
Figure 2.2	Theory of planned behavior (TPB).....	19
Figure 2.3	Theoretical framework.....	38
Figure 3.1	Research framework.....	41
Figure 4.1	Annual growth of road length based on its type in Yogyakarta province from 2011 to 2014.....	54
Figure 4.2	Annual enhancement of road quality based on its condition in Yogyakarta province from 2011 to 2014.....	55
Figure 4.3	Registered modal share based on its type in Yogyakarta province in 2014.....	56
Figure 4.4	Annual growth of the number of registered motorized vehicle in Yogyakarta province from 2011 to 2014.....	56
Figure 4.5	Regular public bus.....	58
Figure 4.6	Taxi cab.....	58
Figure 4.7	Transjogja bus side by side with public bus .....	62
Figure 4.8	Map of public transport routes in Yogyakarta urban area..	63
Figure 4.9	Route map of Transjogja bus and public bus.....	64
Figure 4.10	Research location map.....	65
Figure 4.11	Parking situation in UGM campus.....	68
Figure 5.1	Monthly Income of Respondents.....	71
Figure 5.2	Current living location of Respondents: <i>Comparison amongst all regencies in DIY province</i> .....	71
Figure 5.3	Driving license ownership of Respondents.....	74
Figure 5.4	Private vehicle dependency of students.....	78
Figure 5.5	Travel Distance of Respondents.....	78
Figure 5.6	Travel time of Respondents.....	79
Figure 5.7	Travel cost of Respondents.....	80
Figure 5.8	Trip chain of respondents.....	81
Figure 5.9	Another trip purpose.....	82
Figure 5.10	Travel frequency.....	82
Figure 5.11	Time of doing such other trips.....	82

Figure 5.12	Another trip during studying in campus.....	83
Figure 5.13	Trip purpose.....	84
Figure 5.14	Trip destination.....	84
Figure 5.15	Trip frequency.....	84
Figure 5.16	Lunch location preference.....	85
Figure 5.17	Tendency of making a trip in spare time between two class schedules.....	86
Figure 5.18	The purpose of such trip.....	86
Figure 5.19	Vehicle utility of such trip.....	86
Figure 5.20	The Most Occupied Village Map.....	123
Figure 5.21	Cross-tabulation result between types of resident versus mode choice.....	124
Figure 5.22	O-D Trip Map (in village scale).....	127
Figure 5.23	O-D Trip Map (based on its origin sub-district).....	128
Figure 5.24	Grha Sabha Pramana (GSP) Area.....	129