THE FACTORS AFFECTING CAMBODIAN CONSUMERS' DECISION TO USE PUBLIC TRANSPORTATION SERVICES

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หัวข้อการศึกษารายบุคคล THE FACTORS AFFECTING CAMBODIAN CONSUMERS' DECISION TO USE PUBLIC TRANSPORTATION SERVICES

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ABSTRACT

This research paper aims to determine the factors which will affect Cambodian consumer's decisions to use public transportation services. The chosen independent variables for the conceptual framework consist of, personal factors (gender, age, employment status, income level and educational level), and factors affecting consumers' decisions to use public transportation services (socio-economic status, accessibility, infrastructure, awareness/marketing, economical and environmental benefits). The objectives of this research are: (1) To investigate the Cambodian consumers' decisions to use public transportation services (2) To determine factors affecting Cambodian consumers' decisions to use public transportation services (3) To identify the necessary strategies that can be implemented by the government to increase the usage of public transportation in Cambodia. The population of this study consists of Cambodian citizens residing in Cambodia between October - November 2021. The exact population of Cambodian citizens was determined by using the "Taro Yamane" formula. The data was collected by using a quantitative survey questionnaire and values were analyzed by using descriptive statistics (i.e. number, percentage, mean and standard deviation). Moreover, for the hypothesis testing, the inferential statistic was analyzed by using an independent sample T-test, one way ANOVA (F-test) along with multiple regression.

The results of the study have shown that most of the respondents are female, in the age cohort of 21-30 years old. Most of the respondents are working and the majority of their monthly income is around $300-$399 and in the less than $100 range. The majority of the respondents' educational

level was found to be at bachelor's degree level. For factors affecting consumers' decisions to use public transportation services, overall analysis of results conclude that the opinion of socio-economic status, accessibility, infrastructure and awareness/marketing returned a neutral level of response, while economical and environmental benefits returned levels of disagreement. The majority of the respondents that answered that they own a motorbike and prefer to use own transportation rather than public transportation. The majority of respondents that use public transportation such as buses and tuk tuks state that they usually use them 1-3 times per week. Furthermore, the respondents mostly spend at least $0.5 - $2.00 on public transportation. The majority of the respondents are students, so most of them chose schools as a place of travel/commuting and they also mentioned that public transportation is convenient. Their experience of using public transportation is positive which stands at level 4. Public transportation is heavily promoted in Cambodia and the main reason that Cambodian citizens refuse to use public transportation is because it is unsanitary. In addition, as for the hypothesis testing results, it was found that gender, age, employment status, income level and educational level have no significant influence on the decision to use public transportation services in Cambodia.

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Sochhorlyda khim

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CHAPTER 1

INTRODUCTION

1.1 Background of study

As the world is developing, people started to know and get to know more about the new technology advance which will lead to better living for them in this generation. There are many countries in the world that have been developed and have many kinds of transportation services either public and private sectors. Those kinds of transportation services included: railway systems (sky train, mass rapid transit or also known as MRT), buses (city bus, shuttle bus, bus rapid transit, public light bus and so on.), three-wheels motorcycle (tuk-tuk), taxi, etc.

Figure 1.1 Images of Public Transportation Services

Reference: freepik website

For Cambodia, it is a developing country that has private transportation services more than public transportation services. In these recent years, the country has started the public bus service or you can call it as “Phnom Penh City Bus” under the operation of Phnom Penh Municipal which supported by Japan’s government. According to Tourist of Cambodia’s website, in September 2014, the system has been opened to public with 3 lines that served in the Phnom Penh area and has been added over 11 lines, as of 2018. As the website has mentioned that, the system covers Prek Pnov area (North), Ta Khmao area (South), Chbar Ampov area (East), and Special Economic Zone area (West). For the fare of the public buses is costed KHR 1,500 about 0.37 United State Dollars per voyage irrespective of distance. The public buses are accepted only local currency which is Khmer Riel. There is no exception for everyone unless there are any notifications from the government.

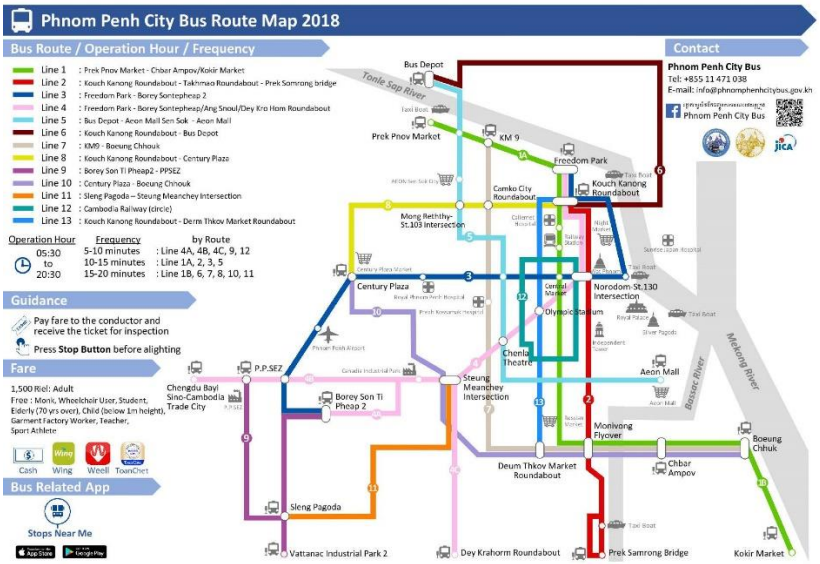

Figure 1.2 Phnom Penh City Route Map Year 2018

Reference: Tourist Information Center

In addition to passenger bus, other types of public transportation that are widely known are taxi, motorcycle taxi (also known as “Moto Dub”) and Tuk-Tuk. To begin with, Moto Dub used to

be the most common mode of transport as it offers immediate travel with great mobility and low cost. Consequently, most tend to avoid such stressful driving and prefer Moto Dub to get to desired places instead. In spite of that, motorcycle taxi might not be easily spotted in some areas within the city especially at the outskirt. Moreover, even though Moto Dub provides a fitting traveling option, the level of safety is still considerably low, and the passengers were required to bring their own helmet. Subsequently, the new culture of public traveling has arrived and it is known as “Tuk-Tuk”. With the cutting-edge technology, Cambodian people can find Tuk Tuk to travel from their specific spot via online booking using their smart phones, which benefits them by offering better capacity and guarantee the safety to some extends while riding on the road. The third most popular mean of transportation is an upgraded version of Tuk Tuk that is the four-wheels taxi. Having said that, it is inarguable that the expense of riding a taxi is the highest amongst all the aforementioned types of public transport.

This kind of public transportation has been operated in order to make a better solution for traffic congestion in Cambodia since local citizens are likely to own the transportation both motorcycle and car which lead to air pollution, traffic jam, climate change and other factors that may occurs, and harm the environment. In this case, the government would like to encourage the Cambodian citizens to use public transportation in order to alleviate the environmental concerns that may happen in the future.

1.2 Research problems or gaps

There has not been many published research regarding the factors affecting consumers’ decision to use transportation services. The research problem is to determine the factors which are affecting Cambodian consumers’ decision to use transportation services.

1.3 Research questions

Purpose of study

The purpose of study, was to learn about Cambodian consumers' decision to use public transportation services. Therefore, the study was designed to answer of following questions:

"What are The Factors Affecting Cambodian Consumers' Decision to Use Public Transportation Services?"

1. Do different genders affect the decision to use public transportation in Cambodia or not?
2. Do different personal factors affect the decision to use public transportation in Cambodia or not?
3. Do personal factors and factors affecting consumers' decision to use public transportation influence affect the decision to use public transportation in Cambodia or not?

1.4 Research Objectives

The purposes of this study are as follows:

1. To investigate the Cambodian consumers' decision to use public transportation services.
2. To determine factors affecting Cambodian consumers' decision to use public transportation services.
3. To identify the necessary strategies that can be implemented by the government to increase the usage of public transportation in Cambodia.

1.5 Research hypothesis

From the objectives of the above research, the researcher has formulated research hypotheses to be used as a framework for conducting research as follows:

1. Different genders will affect decision to use public transportation service in Cambodia.
2. Different personal factors will affect decision to use public transportation service in Cambodia.
3. Personal factors and factor affecting consumers' decision to use public transportation will influence decision to use public transportation service in Cambodia.

1.6 Conceptual Framework

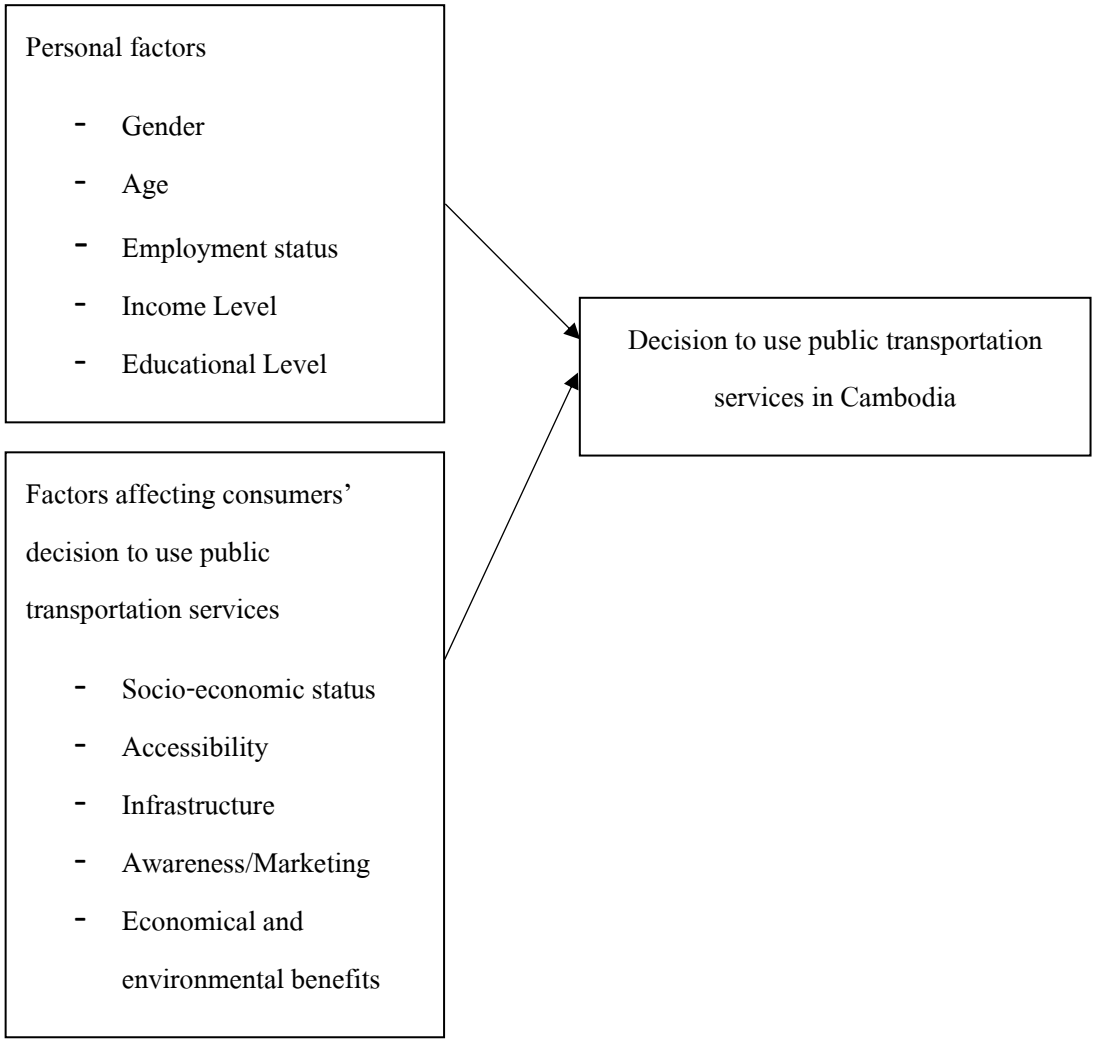

Figure 1.3 Conceptual Framework

1.7 Research methods

Scope of the study informs researchers and readers specific data for the research. For example, the research study explores Decision to use public transportation services in Cambodia, which cover only citizen in Phnom Penh area. Other areas outside Phnom Penh area are not included.

1.7.1 Population: citizens living in Cambodia.

1.7.2 Sample: The population selected for this research is in Cambodia from which the sample is selected as per random sampling method. The sample size is taken as 400 based on the factors considered.

1.8 Significant of the study

1. Theoretical implication:

The results of this study will provide insights on the factors which will influence the consumers' decision to use public transportation in Cambodia.

2. Managerial implication:

The outcomes of this study will provide government and private sectors with the information that will be beneficial to their transportation service design.

3. For researchers, students, and/or people who are interested in this research. The information obtained from this research can be used as a guideline for further study of related matters.

CHAPTER 2

LITERATURE REVIEW

While public transportation is widely accepted as one of the most sustainable solutions to some of the most pressing problems the world is facing currently such as climate change, traffic jam and air pollution, there are many factors that might encourage or discourage citizens to utilize the public transport available to them. According to Woldeamanuel and Cyganski (2011), ease of access is one of the most influential factors in people's confidence, loyalty and willingness to use public transport. In their research, it is noted that the level of satisfaction with the ease of access has a significant impact on the public's decision to use the public service. Similarly, Curtis and Scheurer (2015) suggest that in order to established public transportation as an alternative choice to personal car use, massive importance need to be placed on the planning of transport networks. Public transportation infrastructures need to be planned carefully and strategically in order to give the users ease of access and convenience. Cleanliness is also an important attribute that could help attract the usage of public transport. Based on the 2017 Glasgow Subway Passenger Survey, passengers tend to frequent the transits that are clean and safe.

In addition, the environmental preservation also plays a key role in people's inclination to use public transport. As more and more people are aware of the impacts of climate change and its existence, they will seek ways to improve the environmental quality in their regions. According to Himanen et al (1992), environmental quality and sustainability can be improved by government policies that discourage personal vehicle usage and encourage the use public transport. This hypothesis is also supported by the findings of Steg and Vlek (1997) where it is found that in the Netherlands, as car users become more aware of environmental problems, they tend to use their car less. Another important factors that favor the usage of public transportation is the cost saving. Weisbrod and Reno (2009) estimated that the American citizens can save up to $1.81

over the average cost per public transportation trip when they switch from automobile drivers to public transportation passengers. This calculation is based on the comparison between the US average public transportation fare per trip and the cost per mile of automobile operation.

In order for the implementation of public transportation to become successful, there are many factors to be considered and procedures to be implemented. For example, according to Heath and Gifford (2002), bus ridership significantly increased after the U-pass was implemented and associated changes in attitudes and beliefs about transportation modes were found. In their study about planned behavior (TPB), they found that that once participants begin to use the bus more often as a result of a U-pass program, they develop less biased, more realistic perceptions of public transportation, and that beliefs about the outcome of using public transportation become more positive. These findings have strong implications for intervention programs. It might be suggested that facilitating the performance of a target behavior (e.g., by removing barriers) should precede attempts to change underlying psychological factors because once the behavior is performed, it is likely to influence the psychological factors. Another factor is the public awareness and accessibility of public transportation. Tyrinopoulos and Antonion [7] developed a methodology to assess the public transport user satisfaction, covering subway and various bus types. It was tested in five management systems operating in two cities in Greece (Athens and Thessaloniki). They interviewed 1474 people who assigned scores to a list of items reflecting their importance according to satisfaction and performance. A factorial analysis shows that four of the five systems considered the most important items are those related to quality of service, quality of travelling and service production, existing differences by gender. The other system also considered important the items related to information/courtesy. A logistic regression identifies frequency of travels, vehicle cleaning, waiting conditions, travelled distance and coverage as top-rated items. However, these items are different between the systems, since, according to the authors, their characteristics and processing conditions affect the performance of the transport system and, consequently, the consumer's satisfaction. Based on the results and findings derived from the application of these methods, public transport operators, authorities and policy makers may integrate in their strategic plans corrective actions and measures that can better tackle users' perception and thus increase the number of transit passengers.

In conclusion, it can be seen that by there are many factors affecting the population's decision to adopt public transportation use such as ease of access, infrastructure, environmental and economical benefits. However, there seem to be limited study on these factors regarding the lack of public transport usage in Cambodia. This study aims to focus on the factors that could encourage Cambodian citizens to use more public transportation instead of private vehicles.

CHAPTER 3

RESEARCH METHODOLOGY

The study focused on how citizens living in Cambodia decision on using the public transportation services. Hence, the survey method is used in this study has explored the main points which are required to be considered while measuring the factors affecting Cambodian consumers' decision to use transportation services. This chapter describes the research methodology in order to gather the best result for the research questions. The researcher has carried out the process according to the outline below:

1. Population and sample
2. Variables
3. Measurement tools
4. Data analysis

3.1 Population and sample

3.1.1 Population

Population: As the study was accomplished on the quantitative research methodology. The quantitative research methodology is the specific ways of proceeding or techniques that use to analyze, identify, select, process the information. This methodology is deciding to use in the research work due to its benefit and ease to collect the data. Through the collecting data process, there was the consists of citizens living in Cambodia.

3.1.2 Sample

Sample: Data collection from the respondent is conducted through questionnaires and surveys distributed to citizens living in Cambodia. The questionnaires and surveys are based on the identified variables described in the previous chapter.

In this survey, the researcher us the simplified formula for proportions which is “Taro Yamane”

$$n = \frac{N}{1+Ne^2}$$

n = the sample size

N = the population size

e = the acceptable sampling error

Choose a 95% confidence level, the tolerance ratio is 0.05

The formula can be substituted as follows:

$$n = \frac{17{,}046{,}963}{1+17{,}046{,}963(0.05)^2}$$

n = 399.99 ≈ 400 respondents

The population selected for this research is in the Cambodia from which the sample is selected as per random sampling method. Base on simplified formular for proportions, the sample size is taken as 400 based on the factors considered.

3.2 Variable

3.2.1 Independent variables

3.2.1.1 Personal factors consist of:

Gender

Age

Employment status

Income level

Educational level

3.2.1.2 Factors affecting consumers' decision to use public transportation consist of:

Socio-economic status

Accessibility

Infrastructure

Awareness/ Marketing

Economical and environmental benefits

3.2.2 Dependent variables

Decision to use public transportation services in Cambodia consist of:

Do you own any mode of transportation?

Which one do you prefer, your own transportation or public transportation?

What type of public transportation do you use the most?

How often do you use it?

How much do you normally pay for public transportation?

Where do you usually go while using public transportation?

What is the main reason for your usage of the public transportation?

Please rate your experience using the public transportation. (1 = Very negative, 2 = Negative, 3 = Neutral, 4 = Positive, 5 = Very positive)

Is public transportation heavily promoted in your area?

In your opinion, what is the reason why people reuse to use public transportation?

3.3 Measurement tools

Questionnaire survey was used as a measurement tool for this study. Data gathered through the questionnaire surveys will be measured using multiples choice format and likert scale format. Several questions regarding the dependent variable were conducted in multiple choice format while questions revolving around independent variable were conducted in likert scale format, where 5 levels likert scaling is used to measure three different opinions. The factors are measured as per

the perceive satisfaction level of the public transport users. The format of the five levels likert scaling includes in the research questionnaires are Strongly Agree, Agree, Neither Agree or Disagree, Disagree and Strongly Disagree Sure which are used to rate the importance of each factor as perceived by the users' likelihood to use public transportation.

The researcher has studied various variables from related documents and works to create a questionnaire survey. The questionnaire consists of 40 questions and divided into 3 parts as below:

Part 1, is the general information section of the decision to use public transportation service in Cambodia. The questionnaire will be closed-ended questions with multiple choice format in 10 questions including

Question 1, Do you own any mode of transportation? This question is using a "Nominal Scale" measurement, which the respondents can choose only one answer.

1. Bicycle
2. Motorbike
3. Car
4. None

Question 2, Which one do you prefer, your own transportation or public transportation? This question is using a "Nominal Scale" measurement, which the respondents can choose only one answer.

1. Own transportation
2. Public transportation

Question 3, What type of public transportation do you use the most? This question is using a "Nominal Scale" measurement, which the respondents can choose only one answer.

1. Bus
2. Taxi

3. Tuk Tuk

4. Motor-dup

Question 4, How often do you use it? This question is using a “Nominal Scale” measurement, which the respondents can choose only one answer.

1. Daily

2. 4-6 times a week

3. 1-3 times a week

4. Never

Question 5, How much do you normally pay for public transportation? This question is using a “Nominal Scale” measurement, which the respondents can choose only one answer.

1. <0.50$

2. 0.50$ - 2.00$

3. 2.50$ - 3.00$

4. > 3.00$

Question 6, Where do you usually go while using public transportation? This question is using a “Nominal Scale” measurement, which the respondents can choose only one answer.

1. Work

2. School

3. Shopping

4. Others

Question 7, What is the main reason for your usage of the public transportation? This question is using a “Nominal scale” measurement, which the respondents can choose only one answer.

1. Convenient

2. Cheap

3. Good for environment

4. Others

Question 8, Please rate your experience using the public transportation, which the respondents can choose only one answer. This question is using a “Rating scale” measurement.

1. Very negative

2. Negative

3. Neutral

4. Positive

5. Very positive

Question 9, Is public transportation heavily promoted in your area? This question is using a “Nominal scale” measurement, which the respondents can choose only one answer.

1. Yes

2. No

Question 10, In your opinion, what are the reason why people refuse to use public transportation? This question is using a “Nominal scale” measurement, which the respondents can choose only one answer.

1. Not popular

2. Unsanitary

3. Late

4. Inconvenient

Part 2, is also the general information section of personal factors. The questionnaire will be closed-ended questions with multiple choice format in 5 questions including

Question 1, Gender (Male, Female) which the respondents can choose only one answer. This question is using a “Nominal Scale” measurement.

Question 2, Age, the respondents can choose only one answer, this question is using Scale in order to divide the age into age group which is also using a “Ordinal-scale variable” measurement. The question was divided into 6 age-ranged as below

1. Below 21 years old
2. 21-30 years old
3. 31-40 years old
4. 41-50 years old
5. 51-60 years old
6. Over 60 years old

Question 3, Employment status, the respondents can choose only one answer. This question is using a “Ordinal-scale variable” measurement as below

1. Study
2. Work
3. Unemployed
4. Others

Question 4, Income level, the respondents can choose only one answer. This question is using a “Ordinal-scale variable” measurement as below

1. Less than 100$
2. 100-199
3. 200-299

4. 300-399

5. 400-499

6. Over 500$

Question 5, Educational level, the respondents can choose only one answer. This question is using a “Ordinal-scale variable” measurement as below

1.Doctoral’s Degree/PhD

2. Master’s Degree

3. Bachelor’s Degree

4. High School

5. Primary School

Part 3, the information relating to factors affecting consumers’ decision to use public transportation. There are 25 questions which divided into 5 parts. This questionnaire is using “Rating scale” by divided into 5 levels consist of

5	means	Strongly disagree
4	means	Disagree
3	means	Neither agree or disagree
2	means	Agree
1	means	Strongly agree

The information that related to the factors affecting consumers’ decision to use public transportation, the data is divided into 5 parts including

1. Socio-economic status

2. Accessibility

3. Infrastructure

4. Awareness/Marketing

5. Economical and environmental benefits

In terms of the factors affecting consumers' decision to use public transportation which the questionnaire section is using "Rating scale". The researcher sets the criteria for consideration by finding the range of each class from the formula.

$$\frac{\text{Maximum Length} - \text{Minimum Length}}{\text{Greatest Vale of the Scale}} = \frac{5 - 1}{5} = 0.8$$

Table 3.1 Range of score of level of agreement

Range of Score of Level of Agreement	
1.00 – 1.80	Strongly Disagree with the statement
1.81 – 2.60	Disagree with the statement
2.61 – 3.40	Neither Agree or Disagree with the statement
3.41 – 4.20	Agree with the statement
4.21 – 5.00	Strongly Agree with the statement

3.4. Data Collection

The data used in this study was primary data which was collected from Cambodian citizens who living in Cambodia, the details are as follows:

Distributed the questionnaire on social media (Facebook, Messager, Line, group chat, etc.) by using google form since the research cannot provide the hard copy for respondents. The

questionnaire is for Cambodian citizens who are living in Cambodia since they know about the types and the exact use on the public transportation in Cambodia by allowing them to answer the questions independently.

After completing the questionnaire, the sample was returned to the researcher.

The researcher took the questionnaire back in order to verify the correctness and completeness of every questionnaire manually for further statistical analysis.

3.5. Data analysis

Analysis of the data consists of descriptive analysis, independent T-test, F-test (One-way ANOVA) and multiple regression analysis. Descriptive measures that are commonly used to describe a data set such as mean, mode, median, standard deviation and minimum and maximum values are tested using the gathered data. Multiple regression analysis is used identify the significant level of the considered factors.

CHAPTER 4

FINDINGS

"The Factors Affecting Cambodian Consumers' Decision to Use Public Transportation Services" is quantitative research or we can call it as sample survey research which uses a sample size of 400 respondents. Then, the data collected are analyzed by statistical computer program in order to achieve the research objectives and hypothesis. Also, the research has divided the analysis into 4 parts consist of

4.1. Personal factors analyze by descriptive statistics

4.2. Factors affecting consumers' decision to use public transportation service analyze by descriptive statistics

4.3. Decision to use public transportation services in Cambodia analyze by descriptive statistics

4.4. Research hypothesis test results

4.1 Personal factors analysis results

Personal factor data analysis will be using descriptive statistics including: the frequency and percentage in order to describe the general characteristics of gender, age, employment status, income level and educational level. In this case, we found that most of the respondents were female, the frequency is 230 equals to 56.40 percent higher, compare to male which is 178 equals to 43.60 percent.

Table 4.1 Frequency and percentage of sample classified by gender

Gender	***Frequency***	***Percent***
Male	178	43.60
Female	230	56.40
Total	**408**	**100.00**

When analyzing the age group, the majority of the respondents are in the age range 21-30 years old with 47.50 percent (the frequency is 194 respondents) while 25.70 are respondents below 21 years old (the frequency is 105 respondents) and 21.30 percent are 31-41 years old (the frequency is 105 respondents).

Table 4.2 Frequency and percentage of sample classified by age

Age	***Frequency***	***Percent***
Below 21	105	25.7
21-30	194	47.50
31-40	87	21.30
41-50	18	4.40
51-60	3	0.70
Over 60	1	0.20
Total	**408**	**100.00**

Majority of the respondents, representing 56.10 percent of the total respondents, answered that they are working which is 229 people. While 37.70 percent answered that they are studying, the frequency of the respondents are 154 people. Moreover, there is 3.40 percent answered that they

are unemployed, the frequency of the respondents are 14 people. Last but not least, there is 2.70 percent chose others as their answer, which the frequency of the respondents are 11 people.

Table 4.3 Frequency and percentage of sample classified by employment status

Employment Status	***Frequency***	***Percent***
Study	154	37.70
Work	229	56.10
Unemployed	14	3.40
Others	11	2.70
Total	**408**	**100.00**

Respondents whose income level are in the 300-399 range and less than 100$ range represents 21.30 percent of total respondents, over 500$ range represents 20.10 percent, and 200-299 range represents 14.70 percent. Only 11.50 percent of respondents have the income level at the 100-199 range which the frequency of 47 people. While 11 percent of respondents have the income level at the 400-499 range which the frequency of 45 respondents.

Table 4.4 Frequency and percentage of sample classified by income level

Income Level	***Frequency***	***Percent***
Less than 100$	87	21.30
100-199	47	11.50
200-299	60	14.70
300-399	87	21.30
400-499	45	11.00

Table 4.4 (Continue)

Over 500$	82	20.10
Total	**408**	**100.00**

Bachelor's Degree is the most answered which representing 55.40 percent and the frequency of the 226 respondents. Besides that, High school represents 27.70 percent with the frequency of the 113 respondents. Follow by 14 percent of the respondents selected Master's Degree with the frequency of 59 people. Furthermore, PhD represents 2 percent with the frequency of the 8 respondents.

Table 4.5 Frequency and percentage of sample classified by educational level

Educational Level	*Frequency*	*Percent*
PhD	8	2.00
Master's Degree	59	14.50
Bachelor's Degree	226	55.40
High School	113	27.70
Primary School	2	0.50
Total	**408**	**100.00**

4.2 Factors affecting consumers' decision to use public transportation results

For factors affecting consumers' decision to use public transportation service, from all results of the data analysis, in overall opinion of socio-economic status, accessibility, infrastructure

and awareness/marketing stand for a neutral level, while economical and environmental benefits stand for disagree level.

Table 4.6 Mean and standard deviation of the level of significant of factor affecting consumers' decision to use public transportation

Factor affecting consumers' decision to use public transportation	Range of Score Level		
	Mean	**S.D.**	**Range**
1. Socio-economic status	2.89	0.549	Neutral
2. Accessibility	2.65	0.666	Neutral
3. Infrastructure	2.80	0.740	Neutral
4. Awareness / marketing	2.84	0.817	Neutral
5. Economical and environmental benefits	2.43	0.751	Disagree

In below table, the overall opinion stands at a neutral level. Apparently, around 63 percent of respondents agreed that being in a committed relationship influences their decision to travel via public transport. While 2 percent of sample is neither coincide not reject the idea, 71 percent who still live with parents and 60 percent of respondents owning personal transportation confirmed their current social and economic status has little affect to their choice to utilize public transport.

Table 4.7 Mean and standard deviation of the level of significant classified by socio-economic status

Socio-economic status	Number of sample (Percentage)					Mean	S.D.	Range of Score Level
	5	4	3	2	1			
1. I am Currently a student.	129 (31.60)	93 (22.80)	20 (4.90)	82 (20.10)	84 (20.60)	3.25	1.569	Neutral
2. I am currently employed with a moderate to high income.	75 (18.40)	85 (20.80)	75 (18.40)	110 (27.00)	63 (15.40)	3.00	1.355	Neutral
3. I am currently living with my family.	20 (4.90)	57 (14.00)	39 (9.60)	156 (38.20)	136 (33.30)	2.19	1.182	Disagree
4. I am married.	138 (33.80)	120 (29.40)	8 (2.00)	71 (17.40)	71 (17.40)	3.45	1.524	Agree
5. I have my own transportation.	40 (9.80)	101 (24.80)	22 (5.40)	131 (32.10)	114 (27.90)	2.56	1.376	Disagree
Total						**2.89**	**0.549**	**Neutral**

If all things considered, a neutral view illustrates below table. To summarize, a total of 154 candidates partially believes living near a public transportation inspire them to take public transport. Similarly, the average respondents share impartial opinion toward how public transport would save time and cut down travel expense. On the other hand, a fairly 57 percent does not support that

traveling by public vehicles is a viable option for heading to work or school while 51 percent supported that handicapped and pregnant women receive small access to public transportation.

Table 4.8 Mean and standard deviation of the level of significant classified by accessibility

Accessibility	Number of sample (Percentage)					Mean	S.D.	Range of Score Level
	5	4	3	2	1			
1. I live near a public transportation platform.	32 (7.80)	62 (15.20)	154 (37.70)	137 (33.60)	23 (5.60)	2.86	1.005	Neutral
2. I can use public transportation to travel school or work daily.	9 (2.20)	41 (10.00)	94 (23.00)	234 (57.40)	30 (7.40)	2.42	0.852	Disagree
3. I can save time by using the public transportation.	29 (7.10)	55 (13.50)	125 (30.60)	170 (41.70)	29 (7.10)	2.72	1.021	Neutral
4. I can save time by using the public transportation.	15 (3.70)	69 (16.90)	139 (34.10)	174 (42.60)	11 (2.70)	2.76	0.892	Neutral

Table 4.8 (Continue)

5. Disable and pregnant women people can access the public transportation.	13 (3.20)	30 (7.40)	131 (32.10)	211 (51.70)	23 (5.60)	2.51	0.838	Disagree
Total						**2.65**	**0.666**	**Neutral**

Although some respondents show decisive attitude, most of the answers sway toward neutral level. As shown, 36.80 percent neither accepts nor ignores the fact that there are bus routes widely spread throughout the city. Moreover, around 40.40 percent appears unsure whether there is a large variety of public transport, and 39.70 percent of responses do not have an exact view if the public transport infrastructure is being well-preserved.

Table 4.9 Mean and standard deviation of the level of significant classified by infrastructure

Infrastructure	**Number of sample (Percentage)**					**Mean**	**S.D.**	**Range of Score Level**
	5	**4**	**3**	**2**	**1**			
1. There are bus routes to almost all the locations in the city.	45 (11.00)	79 (19.40)	150 (36.80)	120 (29.40)	14 (3.40)	3.05	1.033	Neutral

Table 4.9 (Continue)

2. The public transportation infrastructure is regularly maintained.	15 (3.70)	61 (15.00)	162 (39.70)	156 (38.2)	14 (3.40)	2.77	0.875	Neutral
3. The public transportation is well staffed.	14 (3.40)	57 (14.00)	142 (34.80)	178 (43.60)	17 (4.20)	2.69	0.886	Neutral
4. The public transportation infrastructure is up-to-date.	17 (4.20)	65 (15.90)	130 (31.90)	180 (44.10)	16 (3.90)	2.72	0.922	Neutral
5. The public transportation offers many modes of travel.	29 (7.10)	42 (10.30)	165 (40.40)	159 (39.00)	13 (3.20)	2.79	0.929	Neutral
Total						**2.805**	**0.740**	**Neutral**

Based on below table, 41.40 percent of respondents do not align with the fact that general media is promoting public transportation. In the same token, it appears that roughly 184 people deny seeing groups or pages of social platforms that are specifically made for spreading the topic of public transport to the general audience. While a portion of answers is objective, there are also neutral opinions among the three statements. For example, 48.50 percent shows no comment on the availability of public transport is widely known by the city's folks. In addition, 180 passengers cannot confirm if the people are being motivated to take public shared ride. Lastly, a total of 43.40

percent provide neutral responses when asked if people understand the benefits of utilizing public transportation.

Table 4.10 Mean and standard deviation of the level of significant classified by awareness/marketing

Awareness/ Marketing	Number of sample (Percentage)					Mean	S.D.	Range of Score Level
	5	4	3	2	1			
1. Public transportation is promoted on the media.	55 (13.50)	85 (20.80)	78 (19.10)	169 (41.40)	21 (5.10)	2.96	1.170	Neutral
2. lot of people are aware of the availability of the public transportation.	14 (3.40)	44 (10.80)	198 (48.50)	135 (33.10)	17 (4.20)	2.76	0.829	Neutral
3. People are encouraged to use public transportation.	24 (5.90)	49 (12.00)	180 (44.10)	142 (34.80)	13 (3.20)	2.83	0.896	Neutral

Table 4.10 (Continue)

4. People are aware about the benefits of using public transportation.	18 (4.40)	55 (13.50)	177 (43.40)	146 (35.80)	12 (2.90)	2.81	0.867	Neutral
5. There are public transportation pages on the social media.	49 (12.00)	75 (18.40)	77 (18.90)	184 (45.10)	23 (5.60)	2.86	1.151	Neutral
Total						**2.84**	**0.817**	**Neutral**

The highest medium shows that 162 people actually disagreed with the idea that not having a personal transportation encourage them to take the public transports. Likewise, contributing to society can be a form of spending on traveling via public transport was denied by 41.40 percent of the total sample. On top of this, 50.70 percent is standing against cutting down pollution is the reason they pick up public transports. Besides, 199 respondents did not think taking public shared ride will ease traffic congestion within the city.

Table 4.11 Mean and standard deviation of the level of significant classified by economical and environmental benefits

Economical and environmental benefits	**Number of sample (Percentage)**					**Mean**	**S.D.**	**Range of Score Level**
	5	**4**	**3**	**2**	**1**			
1. Paying for public transportation is contributing to society.	17 (4.20)	43 (10.50)	140 (34.30)	169 (41.40)	39 (9.60)	2.58	0.947	Disagree
2. I use the public transportation because I can help protect the environment.	0 (0.00)	29 (7.10)	128 (31.40)	195 (47.80)	56 (13.70)	2.32	0.797	Disagree
3. I use the public transportation because I don't own any mode of personal transportation.	54 (13.20)	38 (9.30)	83 (20.30)	162 (39.70)	71 (17.40)	2.61	1.253	Neutral
4. Public transportation can reduce pollution.	2 (0.50)	29 (7.10)	115 (28.20)	207 (50.70)	55 (13.50)	2.30	0.809	Disagree

Table 4.11 (Continue)

5. Public transportation can reduce traffic congestion.	10 (2.50)	24 (5.90)	117 (28.70)	199 (48.80)	58 (14.20)	2.34	0.880	Disagree
Total						**2.43**	**0.751**	**Disagree**

4.3 Decision to use public transportation service in Cambodia results

Majority of the respondents, representing 37.30 percent of the total respondents, answered that they are owning a motorbike which is 152 people. While 34.60 percent answered that they don't own any types of transportation, the frequency of the respondents are 141 people. Moreover, there is 21.30 percent answered that they are owning a car, the frequency of the respondents are 87 people. Last but not least, there is 6.90 percent chose bicycle as their answer, which the frequency of the respondents are 28 people.

Table 4.12 Frequency and percentage of mode of transportation

Mode of transportation	***Frequency***	***Percent***
Bicycle	28	6.90
Motorbike	152	37.30
Car	87	21.30
None	141	34.60
Total	**408**	**100.00**

When analyzing the preference of the respondents between own transportation and public transportation, the majority of the respondents are preferred to use public transportation with 52.70 percent (the frequency is 215 respondents) while 47.30 percent of respondents prefer to use their transportation (the frequency is 193 respondents).

Table 4.13 Frequency and percentage of respondents' preference on the transportation

Respondents prefer	***Frequency***	***Percent***
Own transportation	193	47.30
Public transportation	215	52.70
Total	**408**	**100.00**

Majority of the respondents, representing 38.70 percent of the total respondents, answered bus and tuk tuk with the frequency of 158 people. While 14.00 percent answered motor-dup, the frequency of the respondents are 57 people. Last but not least, there is 8.60 percent chose taxi as their answer, which the frequency of the respondents is 35 people.

Table 4.14 Frequency and percentage of types of public transportation the respondents mostly use

Type of public transportation	***Frequency***	***Percent***
Bus	158	38.70
Taxi	35	8.60
Tuk Tuk	158	38.70
Motor-dup	57	14.00
Total	**408**	**100.00**

1-3 times a week is the most answered which representing 56.10 percent with the frequency of 229 respondents. Besides that, 4-6 times a week represents 28.90 percent with the frequency of the 118 respondents. Follow by 10.50 percent of the respondents selected Daily with the frequency of 43 people. Furthermore, Never represents 4.40 percent with the frequency of the 18 respondents.

Table 4.15 Frequency and percentage of how often that the respondents use the public transportation

Often use	***Frequency***	***Percent***
Daily	43	10.50
4-6 times a week	118	28.90
1-3 times a week	229	56.10
Never	18	4.40
Total	**408**	**100.00**

When analyzing on how respondents normally spend when using public transportation, the majority of the respondents who answer 0.50$ - 2.00$ as their normally spend on public transportation with 61.30 percent (the frequency is 250 respondents) while 20.10 percent of respondents chose 2.50$ - 3.00$ (the frequency is 82 respondents). Moreover, there are 13.50 percent chose < 0.50$ (the frequency is 55 respondents). Lastly, there are 5.10 percent chose > 3.00$ with the frequency of 21 people.

Table 4.16 Frequency and percentage of how respondents normally spend when using public transportation

Normally pay	***Frequency***	***Percent***
<0.50$	55	13.50
0.50$ - 2.00$	250	61.30
2.50$ - 3.00$	82	20.10
>3.00$	21	5.10
Total	**408**	**100.00**

Respondents whose chose school represents 32.60 percent of total respondents, which the frequency is 133 people. Work represents 30.90 percent with 126 of frequency, also others represents 20.80 percent with 85 of the frequency. While 15.70 percent of respondents chose shopping which the frequency of 64 respondents.

Table 4.17 Frequency and percentage of where those respondents usually go when using the public transportation

Usually go	***Frequency***	***Percent***
Work	126	30.90
School	133	32.60
Shopping	64	15.70
Others	85	20.80
Total	**408**	**100.00**

Majority of the respondents, representing 44.10 percent of the total respondents, answered that using public transportation is convenient which is 180 people. While 34.30 percent answered that using public transportation is cheap, the frequency of the respondents are 140 people. Moreover, there is 12.00 percent answered others, the frequency of the respondents are 49 people. Last but not least, there is 9.60 percent chose good for environment as their answer, which the frequency of the respondents are 39 people.

Table 4.18 Frequency and percentage of the main reason of the usage of using public transportation

Main reason of usage	***Frequency***	***Percent***
Convenient	180	44.10
Cheap	140	34.30
Good for environment	39	9.60
Others	49	12.00
Total	**408**	**100.00**

4 (Positive) is the most answered which representing 43.60 percent with the frequency of 178 respondents. Besides that, 3 (Neutral) represents 41.20 percent with the frequency of 168 respondents. Follow by 10.50 percent of the respondents selected 5 (Very positive) with the frequency of 43 people. Furthermore, 2 (Negative) represents 4.20 percent with the frequency of the 17 respondents. Last but not least, 1 (Very negative) represents 0.50 percent with the frequency of 2 respondents.

Table 4.19 Frequency and percentage of respondents who rate their experience using the public transportation

Rate your experience	***Frequency***	***Percent***
1 (Very negative)	2	0.50
2 (Negative)	17	4.20
3 (Neutral)	168	41.20
4 (Positive)	178	43.60
5 (Very positive)	43	10.50
Total	**408**	**100.00**

When analyzing the heavily promoted of public transportation in the respondents' area, the majority of the respondents are saying yes with 51.50 percent (the frequency is 210 respondents) while 48.50 percent of respondents are saying no (the frequency is 198 respondents).

Table 4.20 Frequency and percentage of heavily promoted of public transportation in your area

Heavily promoted	***Frequency***	***Percent***
Yes	210	51.50
No	198	48.50
Total	**408**	**100.00**

Unsanitary is the most answered which representing 38.20 percent and the frequency of respondents are 156 people. Besides that, not popular represents 23.00 percent with the frequency of 94 respondents. Follow by 21.10 percent of the respondents selected late with the frequency of

86 people. Furthermore, inconvenient represents 17.60 percent with the frequency of 72 respondents.

Table 4.21 Frequency and percentage of refusing to use public transportation based on respondents' opinion

Refuse to use	***Frequency***	***Percent***
Not popular	94	23.00
Unsanitary	156	38.20
Late	86	21.10
Inconvenient	72	17.60
Total	**408**	**100.00**

4.4. Research hypothesis test results

Based on the research "Factor affecting Cambodian consumers' decision to use public transportation services" in order to achieve the research purposes and research questions, the researcher tested the research hypotheses according to variables as follows

4.4.1 A comparative study of the difference in the mean level of decision to use public transportation service in Cambodia classified by gender

Ho: Gender influences the decision to use public transportation service in Cambodia >> no different

Ha: Gender influences the decision to use public transportation service in Cambodia >> different

The variance test results for both of two samples with Levene's test, the value of levene statistics equal to 1.183 and the p-value is equal to .024 which means that we don't reject the null hypothesis of equal variances. Moreover, the results of the comparative analysis of the difference

between the mean level of decision to use public transportation service in Cambodia classified by gender both male and female, it found that different gender influenced the decision to use public transportation service in Cambodia is significantly different as shown in the table 4.22 below.

Table 4.22 Compare differences in the mean level of decision to use public transportation service in Cambodia classified by gender

Gender	Frequency	Mean	S.D.	t	Sig.
Male	178	2.2539	.30590	-2.415	.016
Female	230	2.3230	.27092		

Note. * Statistical Significance at 0.05

4.4.2 A comparative study of the difference in the mean level of decision to use public transportation service in Cambodia classified by age group

Ho: Age groups influences the decision to use public transportation service in Cambodia >> no different

Ha: Age groups influences the decision to use public transportation service in Cambodia >> different

The results of the comparative analysis of the difference between the mean level of decision to use public transportation service in Cambodia classified by age groups, it found that different age groups influenced the decision to use public transportation service in Cambodia is significantly different as shown in the table 4.23 below.

Table 4.23 Compare differences in the mean level of decision to use public transportation service in Cambodia classified by age groups

		SS	DF	MS	F	Sig.
Decision to use public transportation service in Cambodia	Between Groups	1.422	5	.284	3.525	.004
	Within Groups	32.428	402	.081		
	Total	**33.849**	**407**			

Note. * Statistical Significance at 0.05

4.4.3 A comparative study of the difference in the mean level of decision to use public transportation service in Cambodia classified by employment status

Ho: Employment status influences the decision to use public transportation service in Cambodia >> no different

Ha: Employment status influences the decision to use public transportation service in Cambodia >> different

The results of the comparative analysis of the difference between the mean level of decision to use public transportation service in Cambodia classified by employment status, it found that different employment status influenced the decision to use public transportation service in Cambodia is significantly different as shown in the table 4.24 below.

Table 4.24 Compare differences in the mean level of decision to use public transportation service in Cambodia classified by employment status

		SS	DF	MS	F	Sig.
Decision to use public transportation service in Cambodia	Between Groups	2.251	3	.750	9.596	.000
	Within Group	31.598	404	.078		
	Total	**33.849**	**407**			

Note. * Statistical Significance at 0.05

4.4.4 A comparative study of the difference in the mean level of decision to use public transportation service in Cambodia classified by income level

Ho: Income level influences the decision to use public transportation service in Cambodia >> no different

Ha: Income level influences the decision to use public transportation service in Cambodia >> different

The results of the comparative analysis of the difference between the mean level of decision to use public transportation service in Cambodia classified by income level, it found that different income level influenced the decision to use public transportation service in Cambodia is significantly different as shown in the table 4.25 below.

Table 4.25 Compare differences in the mean level of decision to use public transportation service in Cambodia classified by income level

		SS	DF	MS	F	Sig.
Decision to use public transportation service in Cambodia	Between Groups	1.558	5	.312	3.879	.002
	Within Group	32.291	402	.080		
	Total	**33.849**	**407**			

Note. * Statistical Significance at 0.05

4.4.5 A comparative study of the difference in the mean level of decision to use public transportation service in Cambodia classified by educational level

Ho: Educational level influences the decision to use public transportation service in Cambodia >> no different

Ha: Educational level influences the decision to use public transportation service in Cambodia >> different

The results of the comparative analysis of the difference between the mean level of decision to use public transportation service in Cambodia classified by educational level, it found that different educational level influenced the decision to use public transportation service in Cambodia is significantly different as shown in the table 4.26 below.

Table 4.26 Compare differences in the mean level of decision to use public transportation service in Cambodia classified by educational level

		SS	DF	MS	F	Sig.
Decision to use public transportation service in Cambodia	Between Groups	1.663	4	.416	5.204	.000
	Within Group	32.187	403	.080		
	Total	**33.849**	**407**			

Note. * Statistical Significance at 0.05

4.4.6 The results of the analysis of the influence between personal factors and factors affecting consumers' decision to use public transportation by using multiple regression

Table 4.27 The results of the multiple regression analysis by using the enter command

Independent Variables	**Unstandardized Coefficient**		**Standar-dized Coeffici ent**	**t**	**p-value**	**Collinearily Statistics**	
	B	**SE.**	**Beta**			**Toler.**	**VIF**
(Constant)	1.188	.156		11.690	.000	1.000	1.000

Table 4.27 (Continue)

Personal factors (X_1)	.125	.032	.215	3.961	.000	.782	1.279
Socio-economic status (X_2)	.021	.030	.040	.710	.478	.725	1.380
Accessibility (X_3)	.062	.028	.144	2.241	.026	.561	1.784
Infrastructure (X_4)	-.050	.027	-.127	-1.846	.066	.483	2.072
Awareness/Marketing (X_5)	-.001	.024	-.002	-.022	.983	.485	2.061
Economical and environmental benefits (X_6)	.037	.022	.096	1.692	.091	.709	1.411

Note. * Statistical Significance at 0.05

R = .278 R^2 = .077 Adj. R^2 = .064 S.E = .27908 F = 5.600 p-value = .000

From table 4.27, a preliminary test on the correlation of variables was performed or can be collinearity (Multicollinearity) by with Tolerance and VIF statistics in order to check for correlation and variance problems of the independent variables, it was found that the Tolerance is greater than 0.1 and the VIF is less than 10 indicated that there was no problem of collinearity. Therefore,

multiple regression analysis can be performed by using the Enter command. In the Enter command, the researcher put all the dependent variables in order of conceptual framework of the research. The results of the analysis revealed that the effect between independent variables and dependent variables, the efficacy value of R^2 predication was .077. The influencing factors were personal factors (Beta equal to .215), and accessibility (Beta equal to .144)

Multiple correlation coefficient (R equal .278)

Adjusted predictive efficiency value (Adj. R^2 equal .064) (F equal 5.600)

Standard error in prediction (S.E. equal .27908)

Which can be forecast the raw score as follows:

- Equation in raw score format

$Y = 1.188 + .125 (X_1) + .021 (X_2) + .062 (X_3) + (.050) (X_4) + (.001) (X_5) + .037 (X_6)$

- Equation in hypothetical score format

$Z = .215 (Z_1) + .040 (Z_2) + .144 (Z_3) + (.127) (Z_4) + (.002) (Z_5) + .096 (Z_6)$

Table 4.28 The results of the multiple regression analysis by using the stepwise command

Independent Variables	**Unstandardized Coefficient**		**Standar -dized Coeffici ent**	**t**	**p-value**	**Collinearily Statistics**	
	B	**SE.**	**Beta**			**Toler.**	**VIF**
(Constant)	1.902	.077		24.563	.000	1.000	1.000
Personal factors (X_1)	.115	.030	.197	3.892	.000	.901	1.110
Accessibility (X_2)	.044	.022	.101	1.985	.048	.901	1.110

Note. * Statistical Significance at 0.05

R = .229 R^2 = .053 Adj. R^2 = .050 S.E = .28106 F = 22.504 p-value = .000

From table 4.28, a preliminary test on the correlation of variables was performed or can be collinearity (Multicollinearity) by with Tolerance and VIF statistics in order to check for correlation and variance problems of the independent variables, it was found that the Tolerance is greater than 0.1 and the VIF is less than 10 indicated that there was no problem of collinearity. Therefore, multiple regression analysis can be performed by using the Stepwise command. In the Stepwise command, the researcher put all the dependent variables in order of conceptual framework of the research. The result was found out that personal factors and accessibility were statistically significant at the level 0.05, which both of the variations can be explained as below.

Efficacy value of R^2 predication was .053

Multiple correlation coefficient (R equal .229)

Adjusted predictive efficiency value (Adj. R^2 equal .050) (F equal 22.504)

Standard error in prediction (S.E. equal .28106)

Which can be forecast the raw score as follows:

- Equation in raw score format

$Y = 1.902 + .115 (X_1) + .044 (X_2)$

- Equation in hypothetical score format

$Z = .197 (Z_1) + .101 (Z_2)$

All in all, personal factors and accessibility have a strong effect on decision to use public transportation services in Cambodia as the table that has been shown above. The reason that R2 is quite small is due to the reason that the number of the participants is in small amount and there are a lot of variables in the questionnaire research.

CHAPTER 5

DISCUSSION AND CONCLUSION

Research study on factor affecting Cambodian consumers' decision on using public transportation service is questionnaire research or we can call it that sample survey research of 400 sample sizes by using a questionnaire as a tool to collect the data. As the sample sizes of the questionnaire that the researcher plan to establish was 400, but the actual sample sizes that have been completed by the respondents were 408 instead. So, there are 408 questionnaires that researcher used for data analysis.

5.1 Summary of research results

Results of the research study on the factor affecting Cambodian consumers' decision to use public transportation services can be summarized as follows:

Part 1: Analysis of personal factors, from the results of the data analysis of the questionnaire, majority of the respondents are female which the frequency of the respondents is 230 equals to 56.40 percent, most of which age groups are between 21-30 years old with the frequency of the respondents is 194 equals to 47.50 percent. In addition, the respondents' employment status is mostly working people with the frequency of the respondents is 229 equals to 56.10 percent, and for the monthly income the majority respond that their income level is in the 300-399 range and less than 100$ range have the higher percentage which is 21.30 percent with the frequency of the respondents 87. Moreover, the most answered in educational level is bachelor's degree which representing 55.40 percent and the frequency of the 226 respondents.

Part 2: Analysis of factors affecting consumers' decision to use public transportation, from the results of the data analysis of the questionnaire, in overall opinion of socio-economic status stand for a neutral level with the mean of 2.89 and

standard deviation 0.549. While accessibility also stand for a neutral level with the mean of 2.65 and standard deviation 0.666. Moreover, infrastructure the overview stands for neutral with the mean of 2.805 and standard deviation 0.740. Furthermore, the awareness/marketing also stand for neutral with the mean of 2.84 and standard deviation 0.817. Last but not least, economical and environmental benefits stand for disagreement with the mean of 2.43 and standard deviation 0.751.

Part 3: Analysis of decision to use public transportation service in Cambodia, from the results of the data analysis of the questionnaire, majority of the respondents on the mode of transportation represents 37.30 percent of the total respondents, answers that they are owning a motorbike which the frequency is 152 people. The respondents' preference on the transportation found out that majority of the respondents prefer to use public transportation rather their own transportation which the frequency of the respondents is 215 represents 52.70 percent. In addition, majority of the respondents, representing 38.70 percent of the total respondents answered bus and tuk tuk with the frequency of 158 people. Moreover, 1-3 times a week is the most answered which representing 56.10 percent with the frequency of 229 respondents. The respondents mostly spend at least 0.50$ - 2.00$ as their normally spend on public transportation with 61.30 percent and the frequency of the respondents is 250. Respondents whose choose school represents 32.60 percent of total respondents which the frequency is 133 respondents. Most of the respondents, answered that using public transportation is convenient, representing 44.10 percent with the frequency of respondents is 180. 4 (Positive) is the most answered which representing 43.60 percent with the frequency of 178 respondents. Furthermore, when analysis the heavily promoted of public transportation in the respondents' area, the majority of the respondents are saying yes with 51.50 percent and the frequency of the respondents is 210. Last but not least, unsanitary is the most answered which representing 38.20 percent and the frequency of the respondents is 156 people.

Part 4: Analysis of research hypothesis, from the results of the data analysis of the questionnaire, the results of the comparative analysis of the difference between the mean level of decision to use public transportation service in Cambodia classified by gender both male and female, it found that different gender influenced the decision to use public transportation service in Cambodia is significantly different at the level .016. Moreover, the results of the comparative analysis of the difference between the mean level of decision to use public transportation service in

Cambodia classified by age groups, it found that different age groups influenced the decision to use public transportation service in Cambodia is significantly different at the level 0.04. The results of the comparative analysis of the difference between the mean level of decision to use public transportation service in Cambodia classified by employment status, it found that different employment status influenced the decision to use public transportation service in Cambodia is significantly different at the level .000. The results of the comparative analysis of the difference between the mean level of decision to use public transportation service in Cambodia classified by educational level, it found that different educational level influenced the decision to use public transportation service in Cambodia is significantly different at the level .000.

5.2 Discussion

It can be seen that there are not many studies focusing on the factors affecting people's decisions to use public transportation. In Cambodia, the public transportation is not a very attractive option for people looking to commute daily. This is study looks to identify whether gender, age and other personal factors would affect the decision to use public transportation. The results stated in the previous chapter indicate that gender does not play a major role in people decision to use public transportation. However, age and personal social-economic status seem to play a part in people decision.

Contrary to hypothesized association, personal factors seem to have little impact on the decision to use public transportation. What surprising in this study is that the outside factors play a major role when it comes to choosing public transportation as an option to commute daily. The results indicate that the lack of advertising and promotion is a major factor that people do not use public transportation. It is a logical response considering the Cambodian culture. Public transportation is a new concept in Cambodia and Cambodian people need time to get fully accustom to it. If there is not enough promotion and advertisement, the public would not be aware of the benefits of public transportation.

It can also be seen that cleanliness is a major factor when people consider using public transportation. The result shows that people are more likely to use public transportation if it is clean

and safe which aligns with the 2017 Glasgow Subway Passenger Survey. This makes perfect sense as people are much more aware of the sanitary practices and the danger of being in unsanitary places. The Covid-19 pandemic is also a major reason why people would be more careful when being outside.

The study also demonstrates a correlation between the accessibility and the willingness to use public transportation. People agree that if the public transport is near and convenient for them, they are more likely to us it. As buses were only introduced in Cambodia not long ago, it is common that the bus routes are very limited as they only revolve around the central part of the city. These results build on existing evidence of Woldeamanuel and Cyganski (2011) that states ease of access is one of the most influential factors in people's confidence, loyalty and willingness to use public transport.

5.3 Limitations of study

During the research of this study, there were some limitations. The major limitation on establishing the research result was when survey questionnaires needed to be spread to each person. Some people refused to do the surveys, resulting in many incomplete responses which were discarded from the research study. Some respondents may have not interpreted the questions correctly when they answered so it brought some of unspecified results. Moreover, this can be an indication that there was a possibility that some of respondents did not give accurate data of themselves and just simply answered for the sake of completing the survey as quickly as possible.

5.4 Conclusion

The thematic examine factors affecting Cambodian consumers' decision to use public transportation services set out to gain a better understanding of what are the factors affecting Cambodian consumers' decision to use public transportation services. After conducting this research, the result answers the research question. With the increase or develop of technology advance in the present time, public transportation had played a significant role in the developing

and developed world. When people use public transportation, their decisions are affected by various factors. Those main influence factors could vary from risk and convenience.

From research on factors affecting Cambodian consumers' decision to use public transportation services, the researcher has some suggestions for governments or public sectors to be considered for improvement in order to maximize benefits for the society as follows:

Would appreciate if there are more accessible public transportation (i.e., more bus lines) and encourage to develop the transportation routes in order to make it convenient for passengers. In these cases, the research would like to suggest to the governors whom responsible for public transportation to consider on this factor since in the present time there is a little of bus line.

Develop different kinds of public transportation modes that our country already has. As Cambodia is a developing country, the citizens would like to suggest the governors to have a look on developing more kinds of public transportation which will be convenience for citizens and provide more benefits for the country, too.

Establish more contents on social media platform (i.e., Facebook, Line, Instagram, Twitter and so on.) in order to promote more about public transportation in Cambodia. Based on this case, it can help to encourage the citizens to use public transportation rather than their own transportation which can help the economical and environmental benefits of the country.

Besides, the researcher has notice that gender, age group, employment status, income level and educational level are significantly different. Since, it is significantly different the governments should find different strategies in order to publish the information to different kinds of people which every one of them could reach what the governments want to convey. For example, the governments could find strategies that can reach different age group as different age group prefer different things. As younger generation would like to play more social media than older generation, so the governments can promote or establish the articles on social media for younger generation and establish the articles on the newspaper since older generation prefer to read news on the newspaper. For content on social media in order to attract the readers to read the articles, governments should find more playful art or catchy slogan, so the everyone them will share to spread the news or articles. Moreover, different genders have different intention to use the public transportation. For this case,

the governments should find more strategies in order to make sure that it is safe for passengers to use public transportation since females have a high intention to use more public transportation than males.

Last but not least, for gender, age group, employment status, income level and educational level are significantly different, but the significantly difference in those data are due to the sample random sampling method. There is no significant between each category of the statistic that affect the preference to use public transportation services. This difference is due to the fact that the number of participants who answer the survey happen to choose the fact of every one of them.

5.5 Future research

From thematic examines Cambodian consumers' decision to use public transportation services, the researcher has found the other variables than those specified in the conceptual framework. Therefore, it is worth studying more about other variables related to traffic congestion, traffic accidents, infrastructure or other things that can encourage Cambodian citizens to use public transportation more than own public transportation. If people decision to use more public transportation, it will bring many benefits for environmental and economical for the country.

In addition, for the future research, the researcher would like to conduct a questionnaire which use qualitative methodology instead of quantitative methodology which the researcher can get to know insights and in-depths regarding to the answer that the respondents will respond. This may be conducted in the form of interview. Last but not least, in the future study, the conceptual framework may be reapplied by adjusting both independent and dependent variables since the current thematic may be too broad for the respondents to answer the questions. The results of the comparative analysis of the difference between the mean level of decision to use public transportation service in Cambodia classified by income level, it found that different income level influenced the decision to use public transportation service in Cambodia is significantly different at the level .002.

BIBLIGRAPHY

BIBLIGRAPHY

1. Borhan, M. N. et al (2014). Predicting the Use of Public Transportation: A Case Study from Putrajaya, Malaysia. *The Scientific World Journal*. https://doi.org/10.1155/2014/784145
2. Cambodia Carbon (CO2) Emissions 1960-2021. (2021). from https://www.macrotrends.net/countries/KHM/cambodia/carbon-co2-emissions
3. Cambodia Greenhouse Gas (GHG) Emissions 1970-2021. (2021). from https://www.macrotrends.net/countries/KHM/cambodia/ghg-greenhouse-gas-emissions
4. Cambodia Population 2021 (Demographics, Maps, Graphs). (2021). from https://worldpopulationreview.com/countries/cambodia-population
5. L. Steg and C. Vlek, "The role of problem awareness in willingness-to-change car use and in evaluating relevant policy measures," in *Traffic and Transportation Psychology*, J. A. Rothengater and E. Carbonell Vaya, Eds., Theory and Application, pp. 465-475, Pergamon, Elmsford, NY, USA, 1997
6. Passenger Cars - Cambodia | Statista Market Forecast. (2021). from https://www.statista.com/outlook/mmo/passenger-cars/cambodia
7. Phnom Penh, Cambodia's Outsourced Public Transportation System Fails Citizens | Smart Cities Dive. (2021). from https://www.smartcitiesdive.com/ex/sustainablecitiescollective/phnom-penh-cambodia-s-outsourced-public-transportation-system-fails-c/1052696/
8. Planet, L. (2021). Local Transport in Cambodia - Lonely Planet. from https://www.lonelyplanet.com/cambodia/narratives/practical-information/transport/getting-around/local-transport
9. PP residents urged to use public transport [Phnom Penh Post], 2019-12-05. (2021). Retrieved 19 December 2021, from https://www.mpwt.gov.kh/en/press/9681

10. Tourismcambodia.com. 2021. *Phnom Penh City Bus - Tourist Information Center | Tourism Cambodia*. [online] Available at: <https://www.tourismcambodia.com/tourist-information/phnom-penh-city-bus.htm>
11. V. Himanen, P. Nijkamp, and J. Padjen, "Environment quality and transport policy in Europe," *Transportation Research A,* vol. 26, no. 2, pp. 145-157, 1992.
12. Where is Cambodia in the World?. (2021)., from https://worldpopulationreview.com/countries/cambodia/location
13. Woldeamanuel, M. G., & Cyganski, R. (2011). Factors Affecting Travelers' Satisfaction With Accessibility To Public Transportation. *Association For European Transport and Contributors*.
14. (2021). from https://unescap.org/sites/default/d8files/knowledge-products/Pop_data_sheet2021_20211214.pdf
15. (2021). from https://www.ctc-n.org/sites/www.ctc-n.org/files/UNFCCC_docs/tna_project_idea_cambodia_mitigation_promoting_urban_public_transport_in_.pdf
16. (2021). from https://www.khmertimeskh.com/84611/public-transport-priority-wb/\

APPENDIX

Questionnaire Survey Questions

"The factors affecting Cambodian consumers' decision to Use public transportation services"

Welcome to MBA Program's Student "The Factors Affecting Cambodian Consumers' Decision to Use Public Transportation Services" research. I am a student whose purpose is to examine the factors which will affect Cambodian consumer's decision to use public transportation services. This survey will take approximately 5 minutes to complete. Your contribution to our research will be greatly appreciated. All information collected from this survey will be kept confidential and will only be used for academic purposes only. Thank you again for your contribution.

I. Decision to use public transportation service in Cambodia

Please kindly select the answer that is best matches for your response.

1. Do you own any mode of transportation? (If yes, please choose one of the choices)

   ☐ Bicycle ☐ Motorbike ☐ Car ☐ None

2. Which one do you prefer, your own transportation or public transportation?

   ☐ Own transportation ☐ public transportation

3. What type of public transportation do you use the most?

   ☐ Bus ☐ Taxi ☐ Tuk Tuk ☐ Motor-dup

4. How often do you use it?

   ☐ Daily ☐ 4-6 times a week ☐ 1-3 times a week ☐ Never

5. How much do you normally pay for public transportation?

   ☐ <0.5$ ☐ 0.5-2 ☐ 2.5-3 ☐ >3$

6. Where do you usually go while using public transportation?

☐ Work ☐ School ☐ Shopping ☐ Others

7. What is the main reason for your usage of the public transportation?

☐ Convenient ☐ Cheap ☐ Good for the environment ☐ Others

8. Please rate your experience using the public transportation. (1 = Very negative, 2 = Negative, 3 = Neutral, 4 = Positive, 5 = Very positive)

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

9. Is public transportation heavily promoted in your area?

☐ Yes ☐ No

10. In your opinion, what is the reason why people refuse to use public transportation?

☐ Not popular ☐ Unsanitary ☐ Late ☐ Inconvenient

II. Independent Variables

Please kindly select the answers that is true about you.

a. Personal factors

1. Gender

☐ Male ☐ Female

2. Age

☐ Below 21
☐ 21 - 30
☐ 31 – 40
☐ 41 – 50
☐ 51 – 60
☐ Over 60

3. Employment Status

☐ Study ☐ Work ☐ Unemployed ☐ Others

4. Income level

☐ Less than 100$
☐ 100$ - 199$

☐ 200$ - 299$
☐ 300$ - 399$
☐ 400$ - 499$
☐ Over 500$

5. Educational level
☐ PhD
☐ Master's Degree
☐ Bachelor's Degree
☐ High School
☐ Primary School

b. Factors affecting consumers' decision to use public transportation

Please kindly select the most appropriate statement which corresponds most closely to your desired response.

a. Socio-economic status

Statement	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
1. I am currently a student.					
2. I am currently employed with a moderate to high income.					
3. I am currently living with my family.					
4. I am married.					

5. I have my own transportation (car, bike, motorbike…)					

b. Accessibility

Statement	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
1. I live near a public transportation platform.					
2. I can use public transportation to travel to school or work daily.					
3. I spend little to no money on public transportation.					
4. I can save time by using the public transportation.					
5. Disabled and pregnant women people can access the public transportation.					

c. Infrastructure

Statement	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
1. There are bus or train routes to almost all the locations in the city.					

2. The public transportation infrastructure is regularly maintained.					
3. The public transportation is well staffed.					
4. The public transportation infrastructure is up-to-date.					
5. The public transportation offers many modes of travel.					

d. Awareness/ Marketing

Statement	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
1. Public transportation is promoted on the media.					
2. A lot of people are aware of the availability of the public transportation.					
3. People are encouraged to use public transportation.					
4. People are aware about the benefits of using public transportation.					
5. There are public transportation pages on the social media.					

e. Economical and environmental benefits

Statement	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
1. Paying for public transportation is contributing to society.					
2. I use the public transportation because I can help protect the environment.					
3. I use the public transportation because I don't own any mode of personal transportation.					
4. Public transportation can reduce pollution.					
5. Public transportation can reduce traffic congestion.					