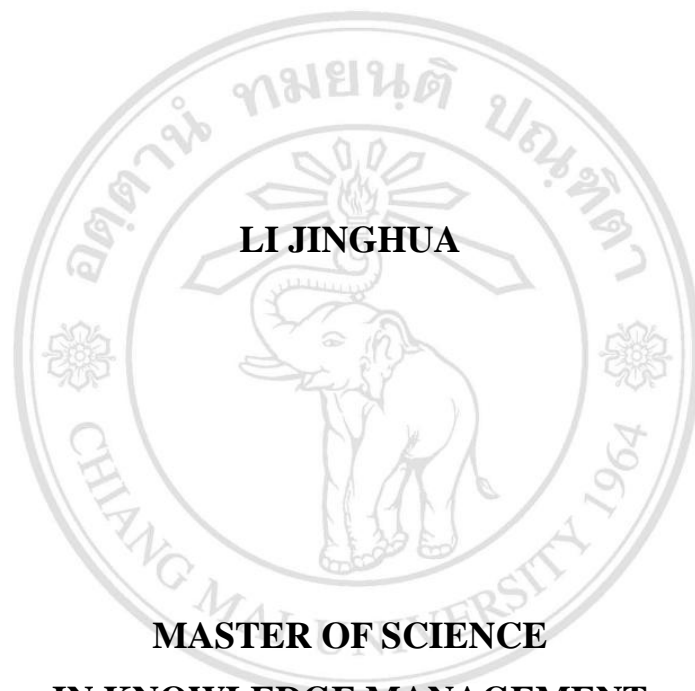


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**DESIGN MODEL TOUR BUS ROUTE IN  
CHIANG MAI CITY FOR CHINESE  
INDEPENDENT TOURISTS**



**MASTER OF SCIENCE  
IN KNOWLEDGE MANAGEMENT**  
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**GRADUATE SCHOOL  
CHIANG MAI UNIVERSITY  
NOVEMBER 2018**

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**DESIGN MODEL TOUR BUS ROUTE IN CHIANG MAI CITY FOR  
CHINESE INDEPENDENT TOURISTS**

**LI JINGHUA**



**AN INDEPENDENT STUDY SUBMITTED TO CHIANG MAI UNIVERSITY  
IN PARTIAL FULFILLMENT OF  
THE REQUIREMENTS FOR THE DEGREE OF  
MASTER OF SCIENCE  
IN KNOWLEDGE MANAGEMENT**

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IN KNOWLEDGE MANAGEMENT

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Li Jinghua

หัวข้อการค้นคว้าแบบอิสระ	การออกแบบต้นแบบเส้นทางรถจักรยานในอำเภอเมือง เชียงใหม่สำหรับนักท่องเที่ยวอิสระชาวจีน
ผู้เขียน	นางสาวหลี่ จิงหัว
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### บทคัดย่อ

การคมนาคมท่องเที่ยวถือว่าเป็นส่วนสำคัญที่ช่วยให้เกิดความรู้ประสบการณ์สำหรับนักท่องเที่ยวจากการเดินทางไปยังแหล่งท่องเที่ยวเป้าหมาย ซึ่งการคมนาคมท่องเที่ยวในจังหวัดเชียงใหม่มีแหล่งท่องเที่ยวเป้าหมายที่มีความน่าสนใจอย่างมากสำหรับนักท่องเที่ยวชาวจีน ทำให้นักท่องเที่ยวชาวจีนมีแนวโน้มเพิ่มมากยิ่งขึ้น

เพื่อเป็นการเพิ่มประสิทธิภาพต่อประเด็นดังกล่าว งานวิจัยนี้เน้นการออกแบบเส้นทางรถโดยสารสำหรับนักท่องเที่ยวอิสระชาวจีน (CITs) โดยได้กำหนดวัตถุประสงค์ของการวิจัยเพื่อ 1) ศึกษาปัญหาที่นักท่องเที่ยวอิสระชาวจีนได้พบในระหว่างการเดินทางท่องเที่ยว 2) วิเคราะห์สถานที่ท่องเที่ยวที่ในบริเวณเขตเมืองเก่าของเชียงใหม่ ที่นักท่องเที่ยวอิสระชาวจีนชื่นชอบ 3) ออกแบบและพัฒนาเส้นทางรถโดยสารที่เหมาะสมสำหรับนักท่องเที่ยวอิสระชาวจีนในเขตเมืองเก่าของเชียงใหม่

งานวิจัยนี้ได้นำแนวคิดเชิงออกแบบ (Design Thinking) และ 5A Tourism (หลักการสำหรับการท่องเที่ยว) มาใช้เพื่อเป็นกรอบสำหรับศึกษาถึงแหล่งท่องเที่ยวในจังหวัดเชียงใหม่ และประยุกต์ใช้การทำเหมืองข้อความ (text mining) เพื่อวิเคราะห์ข้อมูลความเห็นของนักท่องเที่ยวอิสระชาวจีนจากเว็บไซต์ Mafengwo ซึ่งเป็นเว็บไซต์ที่มีชื่อเสียงและเชื่อถือได้สำหรับนักท่องเที่ยวในประเทศจีนสำหรับการแบ่งปันประสบการณ์การเดินทางท่องเที่ยว และข้อเสนอแนะเกี่ยวกับการเดินทาง โดยใช้โปรแกรม Octoparse และ ICTCLAS 2013 เป็นซอฟต์แวร์เพื่อสนับสนุนกระบวนการวิเคราะห์ข้อมูล นอกจากนี้ยังใช้การสัมภาษณ์เชิงลึกเพื่อเก็บรวบรวมความคิดเห็นจากนักท่องเที่ยวอิสระชาวจีนที่เดินทางมาท่องเที่ยวในจังหวัดเชียงใหม่ เพื่อยืนยันข้อมูลที่ได้จากการวิเคราะห์เหมืองข้อมูล และใช้การสัมภาษณ์ผู้เชี่ยวชาญ เพื่อขอคำแนะนำเพิ่มเติมในการออกแบบเส้นทางรถ

คมนาคมท่องเที่ยวโดยรถโดยสารนำเที่ยว ข้อค้นพบที่ได้จากการวิเคราะห์ข้อมูลต่างๆ แสดงให้เห็นว่านักท่องเที่ยวอิสระชาวจีนนิยมเดินทางมาเชียงใหม่เพื่อการพักผ่อนเนื่องจากสามารถประหยัดค่าใช้จ่ายได้ เนื่องจากราคาตั๋วเครื่องบินมีราคาถูก หรือการส่งเสริมวิซ่าของประเทศไทย โดยการให้โปรโมชั่นราคาพิเศษแก่นักท่องเที่ยว

ผลการวิจัยพบว่าเส้นทางการเดินทางของรถโดยสารดังกล่าวสามารถช่วยให้นักท่องเที่ยวอิสระชาวจีนเดินทางและสัมผัสวัฒนธรรมและวิถีชีวิตท้องถิ่นของชาวเชียงใหม่ นอกจากนี้รถโดยสารสาธารณะยังสามารถตอบสนองความต้องการของนักท่องเที่ยวอิสระชาวจีนได้ เนื่องจากสะดวกปลอดภัย และประหยัดค่าใช้จ่าย นอกจากนี้ยังมีผลช่วยลดปัญหาการจราจรติดขัดในช่วงเวลาเร่งด่วน รวมถึงสามารถปรับปรุงภาพลักษณ์ของสถานที่ท่องเที่ยวได้ด้วย



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<b>Independent Study Title</b>	Design Model Tour Bus Route in Chiang Mai City for Chinese Independent Tourists
<b>Author</b>	Ms. Li Jinghua
<b>Degree</b>	Master of Science (Knowledge Management)
<b>Advisor</b>	Lect. Dr. Chalermpon Kongjit

## **ABSTRACT**

Travel transportation is an important part for tourists to experience a tourism destination. The travel transportation in Chiang Mai has face a challenge where is a popular tourism destination with the increasing number of Chinese tourists travel to Chiang Mai.

In order to enhance this efficiency issue, this research aims to design a tour bus for Chinese independent tourists (CITs). Therefore, the objectives of this research are 1) To investigate the problems that CITs faced when they were travelling; 2) To analyze the places where CITs prefer to travel in Chiang Mai ancient city; 3) To design and optimize the new choice for CITs travelling in Chiang Mai ancient city.

Design thinking (DT) and 5A theory are used to design a framework for investigating the attractions in Chiang Mai. The process of text mining method is used to analyze data from CITs' comments in Mafengwo which is a famous and reliable website for CITs sharing their travel experiences and travel comments. The software called Octoparse and ICTCLAS2013 are utilized to support text mining process. In-depth interview is also used to collect the comments from CITs who are travelling in Chiang Mai, and reconfirm the data collected in text mining stage. An expert was interviewed to acquire more suggestions to help tour bus route design. The findings of data analysis indicate that CITs travel for the low cost and leisure life in Chiang Mai. They travel to Chiang Mai as the cheap air ticket or the promotion of Thai visa. The travel vehicle of Chiang Mai is one of the points that CITs consider more.

The results of this research show that the tour bus route can help CITs travel and experience the culture and local life of Chiang Mai. Additionally, a public tour bus can reach the needs of CITs which are convenient, safety and low costs when they are raveling, reduce the traffic pressure in the peak hour and improve the image of tourism destination.



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# CHAPTER 1

## Introduction

### 1.1 Tourism Industry in Chiang Mai

Traveling is being happened at any time in the planet. With the development of economy, tourism is become the global industry and it is growing up (Ghalia, 2016). UNWTO (2010) defined tourism as activities related to the relatively short period of time (usually less than one year) for individuals to travel and stay in places away from their customary environment. Tourism is one of the biggest industries in the world and is growing fast in recent years. The World Tourism Organization mentioned since 2007 that international arrivals will reach 1 billion in 2010 and forecasted that the number of tourists around the world would be more than 1.6 billion by 2020. It is implied that tourism economy is a significant economy for most countries in the world (Travel and Tourism Economy Impact, WTTC, 2017). Tourism industry can help raise the economy for a local community or a country directly and indirectly. The direct contribution of tourism industry is domestic GDP, and the indirect contribution is that tourism can supply the exchange source of international earning, invite investments, create jobs, extent revenues and raise the standard of living for a nation (Sriboonlue, 2008). According to Ministry of Tourism industry and Sport of Thailand (2016), there were 235 million of foreign traveled to Thailand, and tourism industry contributed to the Thai GDP Domestic Product 21.5 percent, which means that tourism market plays an important role in Thai GDP.

Tourism industry is life-sustaining element to Thailand GDP (Sriboonlue, 2008). In Thailand, there are a various of tourism attractions such as natural tourism, historical tourism, lifestyle sightseeing tourism and purchasing local products (Luangsa-Art, 2016). It is famous of its typical culture and heritage. A travel guide publisher, Lonely planet, mentioned that Thailand as the top-rated destination because of its value, food and outdoor market which was the most exciting. The developing tourism industry can invite more investments and create more positions for Thai local people. There are more and more tourists from China, Japan, Korea, Taiwan and Hong Kong appeared to visit

Thailand after 2014. Sydney and Thailand Bangkok have become the tourism destinations where independent tourists prefer due to the provided hotels and tourism service (Yahua Zhang & Yiqian Peng, 2014). Therefore, tourism industry can raise the standard of living for Thailand.

Researchers, Tapachi and Waryszak's (2000) findings show that low-priced shopping, foreign food, functional attributes of friendly people and historic sites, and experience of cognitive attributes of different cultures are the most favorable images of respondents' consent. Chiang Mai is the second largest city after Bangkok and for decades the most popular in the north for both foreign and Thai travelers to choose. Chiang Mai is a rich city in historical terms, it has been considered the center of the Lanna Kingdom since the nineteenth century. The tourist activities in the city include visit the temple, sightseeing, trekking, and home product shopping. Renard (1999) mentioned in his research that Chiang Mai is more traditional with Thai culture and Thai way of life such as Lanna culture, handmade products, massage and Buddhism. For example, everywhere in Chiang Mai, there are lots of temples. Most Thai people believe in Buddhism and there are many holidays because of Buddhist events.

According to the Tourism Academy (2016), Thailand is the most popular country for Chinese tourists and there were 8 million Chinese tourists (Figure 1.1). Chinese tourists has become the main tourist to Thai tourism market. Thailand is the tourism country where Chinese tourists have high expenditure in shopping, transportation and entertainment. In addition, with the developing technologies and mature tourism facilities, more and more Chinese tourists select travel alone or with a group of people such as friends and family without tour agencies. And most CITs (CIT) travel to Thai for a short relaxation and leisure.

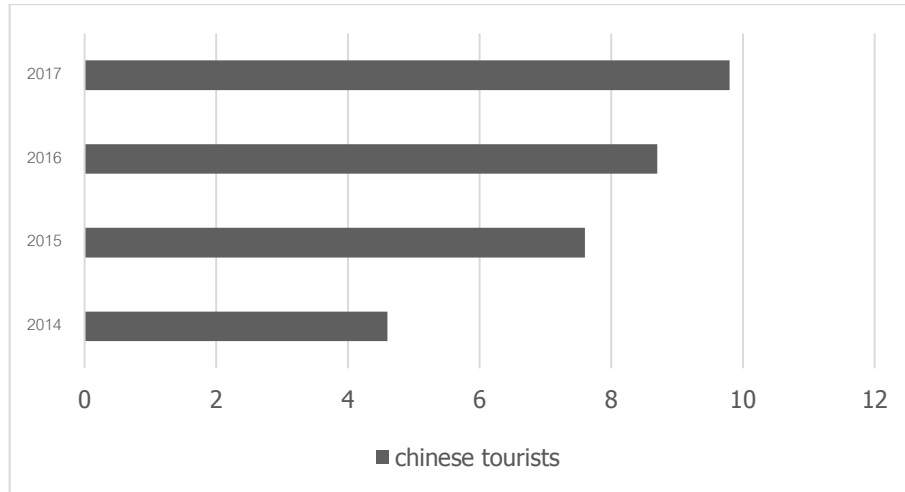


Figure 1.1 Number of Chinese tourists travel to Thailand (Million)

Source: Annual Development Report of China's Tourism (2017)

For CITs, basing on Annual Development Report of China's Tourism, 2017 (Figure 2), they care about the transportation, attraction, food and shopping of the destination before their trip. And transportation aspect is the most important one which be considered. The concept of transportation of a tourism destination for CITs means easy transit when they start their travelling. For example, it is easy to find a bus station and take the bus or it is convenience for tourists to take cars to go attraction places.

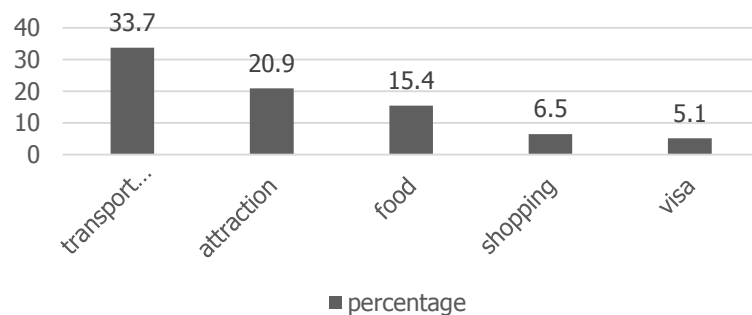


Figure 1.2 Considerate elements for Chinese tourists before travel

Source: Annual Development Report of China's Tourism, 2017

Safety tourism is one of fast developing area in tourism industry. Tourists select the travel destination before travelling, they consider the safety of the travel destination especially for Chinese tourists. The main travel motivation for Chinese tourists is relaxing and leisure but the prerequisite is the safety of travel destinations (Xiang,

2013).

## **1.2 Current Transit Vehicles in Chiang Mai**

In recent Chiang Mai city area, there are four vehicles for tourists to take when they are travelling in city area called red car, taxi, Tuk-tuk and motorcycle, and a public bus has been established in April 2017. However, the well-known transportation for tourists are red car called Songthaew in Thai and Tuk-tuk. The red car was popular for foreign tourists in previous years because of the lower price and convenience. It is still popular for tourists and local people, but the price is higher than past few years and the price of red car is not standard which makes customers have to bargain with the red car drivers especially for foreign tourists. Taxi is one of the transit vehicles in Chiang Mai city area, but Chinese tourists take it unless when they try to go to their hotel with lots of luggage. Sometime taxi drivers do not run the meter to cheat tourists. Tuk-tuk is one of the characteristics of Chiang Mai. Tourists can take it to anywhere they want only if they pay enough. But the price for taking Tuk-tuk is higher than red car and it is more dangerous. Another rising vehicle for foreign tourists is motorcycle. Most tourists like to rent motorcycle to travel around Chiang Mai. Some of them take motorcycle to Suthep mountain and other attractions outside the city. In fact, it is illegal for a foreigner to rent motorcycle in Thailand without driver license. Additionally, most Chinese tourists have never use motorcycle before, they are used to ride electromobile in China. However, motorcycle is the best choice for tourists in Chiang Mai. It is easy to learn and use for a new rider and it is cheap to rent for whole day. Bicycle is a cheap, green and popular vehicle in China, most tourists like taking bicycle to travel when they travel to a small town or a beautiful and fresh place. But Chiang Mai is tropical climate which is not suitable for people to ride a bicycle in daytime. Besides it, there are lots of Thai people take motorcycle, it is fast and dangerous for a new comer who take motorcycle. A public bus has been used in April for local transportation in Chiang Mai city. But few numbers of local people and tourists take this public city bus. There are four routes of the city bus which is designed to serve a long route which include hotels, attractions, markets and super malls in urban and suburb of Chiang Mai. Every bus comes within 20-30 minute so that passengers must wait a long time in a hot weather at outside. In addition, it may inconvenience for travelling and take time.

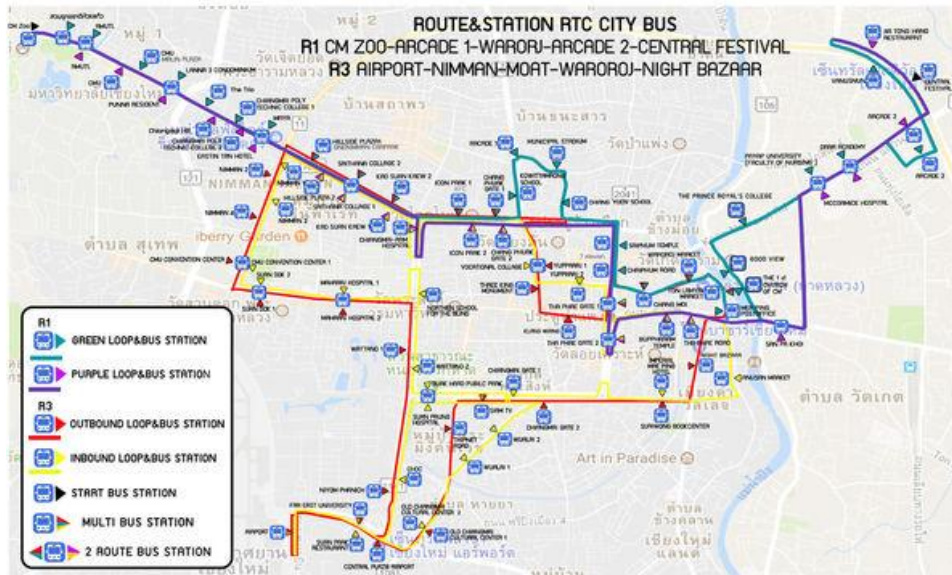


Figure 1.3 Route & Station RTC City Bus

Source: The Regional Transit Corporation's (RTC) Smart Bus, 2017

Most cities in China have encouraged city population to use bus pass card which can be used for bus and subway, and city population can use mobile pay (Alipay and Wechat pay) in some big cities (Table 3.3). There are some discounts when people use bus card or the mobile pay also some promotions with different seasons especially in winter for protecting environment.

The data from the travel note and comments shows that nearly half CITs who have traveled to Chiang Mai choose motorcycle to travel around the Chiang Mai city. Here are some comments, in Mafengwo which is a website for CITs to share their travel experience, from the travelers who traveled to Chiang Mai:

*It is the most convenient for tourists to rent motorcycle and travel in the city, but just a point is that's too hot and there some policemen.*

*The best way for traveler to travel in Chiang Mai is motorcycle. It is easy to rent. You just need passport and 200Bhat (non-standard price) and then you can rent the motorcycle for 24 hours. It's cheap and convenient. But you should be care for the policemen. If the policeman caught you, you should pay 500Bhat cause you rent car without driver license.*

(Mafengwo,2017)

In Thailand, it is illegal that foreigners rent car without driver license. If foreigner was caught by policeman, he will pay for or he must not back to his country. But for CITs, they can accept the forfeit:

*When we were caught by the policeman, we were asked to pay the forfeit about 500Bhat, it's okay, just 100yuan. After paid the forfeit, we could go to anywhere by motorcycle in three days. If you did not pay, you can't leave the country.*

(Mafengwo,2017)

CITs rent motorcycle without drive license which is illegal and dangerous. However, some CITs who had travelled to Thailand still recommend the new travelers to rent motorcycle when they are traveling to Thailand (Figure 1.2).

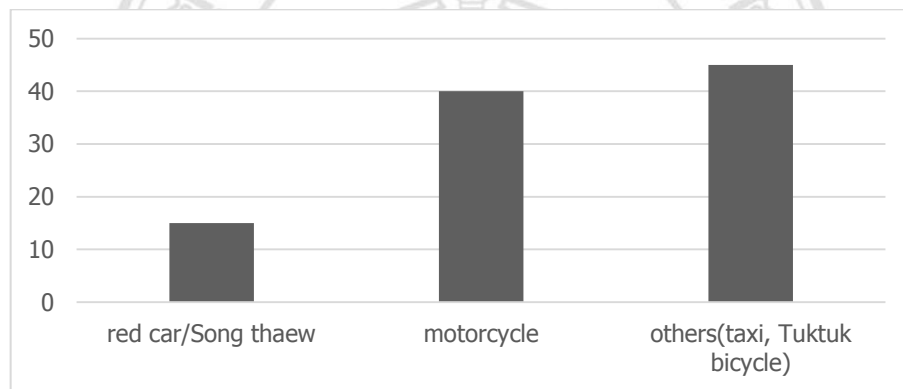


Figure 1.4 Tour Vehicles for CITs Using

Source: Mangfeiwo.cn

From the comments of CITs, they commented that they spent 100-250 baht to rent a motorcycle for a day and if you rent motor in the ancient city, it will be cheaper than in other places in Chiang Mai. Besides, the forfeit is cheap. Some tourists commented that the forfeit just 500 Baht and the validity period is three days. However, it causes lots of traffic accidents. According to Endsleigh, which is a Cheltenham-based UK insurance intermediary specializing in various spheres, almost a quarter (23%) of travel insurance it received in 2017 were from trips to Thailand. Hence, Thailand has been considered the most dangerous tourism country in the world. Some tourists choose red car which is a common vehicle in Chiang Mai city. It can go anywhere if customer pay enough. In fact, the red car is a kind of private vehicle, divers can set a price by

themselves. It costs lots of money if the diver set a high price to tourists who visit a place where is not so far from the starting point. More details are analyzed in Chapter 4.

### **1.3 The Significant of Tourism Destination Brand**

The destination brand is a new concept which applies to a destination and involving marketing activities to create a logo, promise and image that can be exactly perceived by consumers (Calgary, Alberta, 2001). A travel destination brand applies to the travel destination and consists of marketing activities which can be perceived by tourists. Tourists would like to visit a peaceful, friendly place or they will keep away from a destination where is dangerous and not convenient, and where has impolite people. Tourism safety and security was in the front of tourism and it became more and more important to a local or a national tourism development. Motor vehicle crashes considered as the most common cause of injury and death for tourists (Jeffrey Wilkes & Barry Wilson, 1998). Cavrak, Vladimir (2004) mentioned that traffic service quality is different and has different characteristics such as speed, comfort, punctuality, reliability. Traffic safety on tourism is a different one since it directly improves the satisfaction of tourism destination.

Thailand is called “smile country” because the local people is friendly. There are lots of Chinese tourists travel to Thailand every year. Chiang Mai is the second popular city for Chinese tourists. Chiang Mai has a long and colorful history and the beautiful sightseeing but the public transportation is not so convenient. Chinese tourists prefer motorcycle and red car. But it is illegal to rent a motorcycle for Chinese tourists who do not have the Thai driver license. On the other hand, the red car is private vehicle and the drivers can ser any price they like, it is non-standard price. Sometimes, tourists will cost a lot because of the non-standard price even they visit to a nearby place from the starting point. If there were more and more Chinese tourists got hurt because they rented motorcycle or they spent lots of money because the arbitrary red car driver, they will not visit Chiang Mai again and they will comment in the website so that new travelers who plan to Chiang Mai will not come to. Chiang Mai will lose a main travel group. It is an endless loop. It is a deadly situation for a travel destination to lose customer and it is bad for the travel image of a destination even for the economy of the travel destination.

ALAN T. MURRAY (1998) mentioned that public transportation is a significant term for resource consumption and the environment sustainability. And public transit accounts for significantly lower health-critical emission fatalities and road space on a passenger-kilometer basis than personal motorized modes (Madhav G, Badami, Mutaza Haider, 2007).

Therefore, this research investigates the tourism safety, convenience and low costs, try to create a new bus route model of a public tour bus for tourists travelling to Chiang Mai to make their trip more convenient, more safety and reduce the unwanted costs. And this research tries to improve the destination image of Chiang Mai, to make a better destination image and a better service for tourists.

#### **1.4 Research Objectives**

This research investigates the tourism industry in Chiang Mai city area. The time of investigation data collection is from 1st, June to 31st, October, 2017 which includes summer vacation and national day vacations for Chinese tourists.

The population of this research focuses on the CITs who is the rising group liking travel alone or with a group of people without travel agencies. In 2015, there are 30.4% Chinese tourists travel to Thailand independently and it was unchanged in 2016. According to the prediction of Chinese tourism industry (2017), there will be more than half Chinese tourists travel to Thailand without the help of travel agencies in the future.

Consequently, the research objective of this research is to design a public travel bus, which can reduce the accidents and traffic congestion, and improve the travel image of Chiang Mai. And there are still less researches focus on this problem.

Research objectives are following:

1. To investigate the problems that CITs faced when they were travelling
2. To analyze the places where CITs prefer to travel in Chiang Mai city area.
3. To design and optimize the new choice for CTs travelling in Chiang Mai city area.

## 1.5 Research Boundary

Due to the transportation part is the most important element for CITs when they are preparing to travel, this study focuses on the travel problems in the transportation perspective of tourism industry, using knowledge management to solve these problems.

The study investigated the travel needs of CITs from the transportation perspective. Chinese Independent tourists are the main travel group of the foreign travelers in Chiang Mai. With the developing technology used in tourism industry, it makes travel abroad easier, the number of Chinese independent tourists travelling to Chiang Mai are increasing. This study focuses on the problems that CITs faced when they were travelling, and the places where they like to visit in Chiang Mai city area. Combining DT and 5A theory to create a tour bus route model for a public travel to optimize a new choice for CITs experience the culture and folk life in Chiang Mai.



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## CHAPTER 2

### Literature Review

#### 2.1 Main Theories

##### 2.1.1 5A theory

The successful tourism destination is one with the most tourist (Morrison, 2014). But this would be the “quality” tourism destination not the “quantity” tourism destination. Western Tourism Australia (2009) mention that tourism destination could be determined by the “5A” which as the useful set to determine the “quality” and “quantity” of a tourism destination. 5A include attraction, access, accommodation, amenities and awareness. “Attraction” can be the natural attraction and the built attractions and the unexplained phenomena. Morrison and the Western Tourism Australia put that “Access” means the way to get to the attraction and the convenience to get to the attractions (Morrison, 2014). “Amenities” means the needs of tourists when they travel away from home such as shopping center, restaurant, visitor centers or emergency services and “Accommodation” is the basic needs for tourists which means tourists have somewhere to sleep. The last “A” in “5As” is “Awareness”, which means the positive attitude of the destination people especially for ones who in the front line of tourism. If the tourism destination missed the positive awareness of tourism, the best attraction, access, accommodation and amenities will be useless (Tourism Western Australia, 2009).

In consequence, 5A includes attractions, accommodations, amenities, access and awareness. Attractions mean some tourism attractions and popular places even the popular phenomenon. Accommodation means the place tourists can sleep or live in. And amenity means some needs of tourists such as shopping center restaurant or help

center. Access means the way tourists go to an attraction. Awareness mean the positive attitude of tourism destination people, which is the local people of tourism destinations. In this research, 5A theory can be a guideline to identify popular places where most Chinese independent tourist recommend in Chiang Mai.

According to the results of text mining, the key words showed four perspectives including attractions, amenities, accesses and accommodations. This research already focuses on the transportation perspective. Therefore, these popular places were classified into three groups depending on 5A “attraction”, “Amenities” and “Accommodations”.

### **2.1.2 Design Thinking**

Design thinking (DT) is a method for solve problems using the strategies that designers use in the design process (Visser, 2006). DT has also been developed as an approach to resolve issues outside of professional design practice, such as in business and social contexts.

Tim and Kätz (2009) mentioned that designers tend to participate only in the later stages of the new product development process, focusing on the aesthetics and functionality of the product. Many companies and other organizations are now aware of the utility of embedding design as a production asset throughout organizational policies and practices, and DT has been used to help many different types of businesses and social organizations become more constructive and innovative. After the years, many researchers focus on business and society with DT concept. DT is regarded as a germination spaces of viability, desirability and feasibility. Viability refers to the business perspective, desirability reflects the user’s perspective, and feasibility refers to the technology perspective. When these three spaces are operating innovation will increase ( Chasanidou , Gasparini , & Lee, 2015). DT is regarded as an approach for companies and organizations innovation (Seidel, 2013). DT can be considered as a broad range of innovation challenges for the application of design methods by multidisciplinary teams (Chasanidou , Gasparini , & Lee, 2015).

DT also has been used in other fields such as education.

Researcher Archer (1979) and Owen-Jackson (2002) reported that all forms of professional design education can be considered as developing DT among students, even if only implicitly, but DT is now clearly taught and professionally educated in various sectors of education. Designed as a discipline introduced to the UK's secondary education curriculum in the 1970s, it gradually replaced and/or developed some traditional arts and crafts subjects and is increasingly associated with technical research. This development has led to research related to education and design.

Goldman (2014) investigate in education field with DT learning. They found that in the K-12 field (kindergarten to 12th grade), DT is used to promote creative thinking, teamwork and student responsibility for learning. New DT courses have also been introduced at the university level, particularly in areas related to business and innovation research.

Although there are some differences in the precise terminology of formal methods, a basis of DT method had emerged. There are three methods commonly quote in DT process definition, brainstorming and prototyping. Define a problem or an opportunity through observation, then brainstorming to create ideas. Last step, building a model to promote the ideas development and concepts selection. The process can be discussed circularly (Seidel, 2013).

There are five main steps of DT process.

Vianna and other researcher (2011) analyzed the process of DT and various methods to support it. The four stages of DT are analyzed which are called "Immersion" "Analysis and Synthesis" "Ideation" and "Prototype". The first stage is immersion including "Primary Immersion" and "In-Depth Immersion". Immersion aims to approximate the context of the problem from the view of different stakeholders such as users, customers and organizations and exam the unsolved problem of organization. The unsolved problem means the problem cannot be solved in a regular way. Reframing, exploratory research and desk research are used in immersion stage to collect information and have a big concept of the problem from different perspectives. The second stage is analysis and synthesis, which aims to compile the information

collected in immersion stage. Conceptual map, empathy map and user's journey can be used to analyze the information to identify the problem. Third phase is ideation, which aims to generate solutions for the problem of organization. It is important to invite different kinds of people in this process to ideate various solutions in different perspectives. Ideation is always started by brainstorming which is a method to stimulate ideas in a short time. Idea menu, decision matrix and co-creation workshop also can help participants to generate ideas. The last phase of Vianna and his team is prototype, which is used to present ideation and validation of the ideas generated. Prototype is an action to make intangible ideas to tangible. It can be presented aiding with different methods such as volumetric model, storyboard, service prototype and others in various shapes. According to the authors' report, prototype is combined prototype and users. The process of prototype begins by asking questions with users. Then, models are represented with the aspects in the open which makes the testing for prototype possible. The testing results can be analyzed, and the process is repeated with the analyzed results to reach a definitive solution.

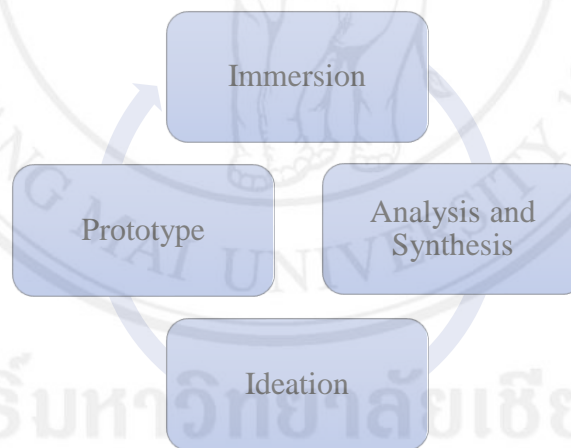


Figure 2.1 Process of DT

Source: DT: Business Innovation (2011)

According to the Institute of Design at Stanford introduction, there are five phases of the process of DT which are “Empathy” “Define” “Ideation” “Prototype” and “Testing”. Empathy is used to understand the users within the context they live in. It can give some clues for insight direction to create solution by observing or in-depth interview what people do and how they do to understand what people think and feel.

The goal of defining a schema is to create a meaningful, actionable problem statement. Define is a process to analyze information collected in empathy phase and address the problem. The process should focus on three elements: user, needs and insight which will drive to other design work. Ideation is about generating the widest possible range of ideas. Brainstorming is always used to do ideation. It is not only for create right ideas, but for generating the possibility ideas for solution. Prototype mode can be anything to present the daft solution. It is not only for present solution ideas but for testing. What is tried to test and how to test is critical for creating the prototype. Testing phase is utilized to demand feedback about prototype from users and other communities the prototype designed for. It is important for a better solution design to acquire feedback from users. And it is another opportunity to learn about users and rebuild empathy. When doing testing, it is better to give the prototype to users and let them interpreter it or let users experience the prototype. Observing how they act with the prototype and interview them about the feel to the prototype.

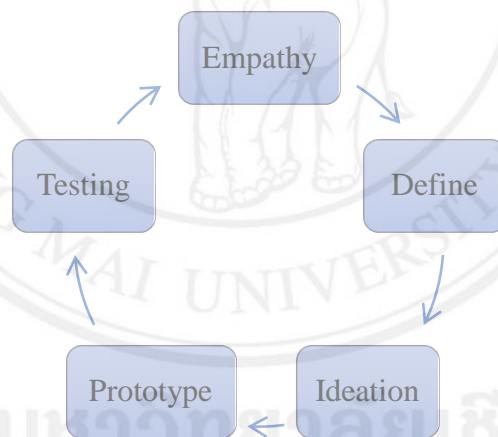


Figure 2.2 Deign Thinking

Source: the Institute of Design at Stanford introduction

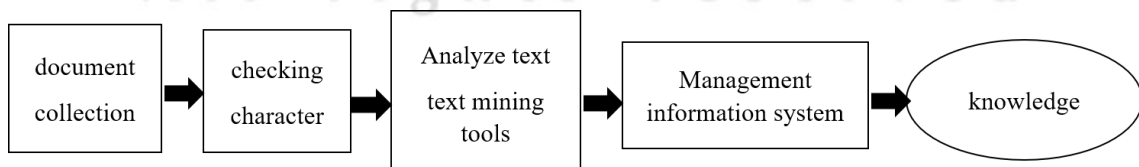
DT has always been used in education and business fields, but few researchers focus on tourism industry. Additionally, there is not a research uses DT process to create a route for tourists to improve the tourism destination image. This research uses the process of DT and apply various methods to support process working. In this research, the CITs' perspective is regarded as user's perspective which means the needs

of customer. Travel route model as a prototype for CIT's to test and acquire feedback about the model.

## 2.2 Text Mining

With the rapid growth of textual information, the demand for powerful text mining systems is growing. These text mining systems can automatically discover useful knowledge in texts (MEI, 2009). Text mining involves discovering novel knowledge from text data. Before mining the text, understanding the context is a key point in many text mining tasks. The author Mei (2009) suggested in his research that it is important to understand the context information in text data because it affects the choice of words topic, and other user behavior in the text.

Text mining is the process of knowledge discovery by computer of new previously unknown information, by automatically extracting information from different written resources (Vishal Gupta, 2009). It is similar with data mining, but different goal. Vishal and Yonatan mentioned in their works that in text mining, the goal is to discover unknown information from the unstructured information. In addition, it is also different from a search engine, which returns information about a particular query and allows the person doing the querying to determine the relationships (Trybula, 1999). A common approach to text mining is through the modeling of the generative process of text data, or the generative modeling of text (MEI, 2009). Text mining can be visualized as consisting of two phases: Text refining that transforms free-form text documents into a chosen intermediate form, and knowledge distillation that deduces patterns or knowledge from the intermediate form (Ah-Hwee Tan).



*Vishal Gupta, 2009*

Figure 2.3 Process of Text Mining

Text mining has been used in wide areas for different purpose (Hussein Hashimi, Alaaeldin Hafez, & Hassan Mathkour, 2015). In the book written by Chen and Hsichum, in 2001, mentioned that core KMS text mining techniques can be classified to four parts: linguistic analysis/NLP, statistical/co-occurrence analysis, statistical and neural networks clustering/ categorization, and visualization/HCI.

Linguistic analysis technique aims to identify the key concept and descriptors such as who, what, when and where. The text mining technique can be used in this research called ICTCL3.0. It belongs to linguistic analysis techniques. Using this technique to mine the descriptors from internet comments.

Text mining is a mining text process. It is supported by mining tools and analyzing tools. In this research, text mining can be used to collect text from travel note and comments of CITs in the Web pages called Mafengwo.com where CITs can share their travel experiences. And analyzing these comments and travel note to have a better understanding on Characteristics of CITs. Techniques of Octoparse and ICTCLAS 3.0 can support this process.

## **2.3 Approaches of Tourism Development**

### **2.3.1 Tourism of Chiang Mai**

Chiang Mai is in the northern Thailand, which is the largest city in northern Thailand. It is the capital of Chiang Mai province and sits astride the Ping river. The weather of Chiang Mai is always cool with round 25 °C throughout the year. The north of Chiang Mai borders on the Shan state of Myanmar which create number of culture exchange attractions. The south is next to Tak province with variety of tourism attractions. The east is next the beautiful and quiet province named Lamphun province, and the west is next to Mae Hong Son province where has most popular places such as Amphoe Pai and Doi Mae U-kho (Tourism Authority of Thailand, 2018). The mayor reasons made Chiang Mai became a tourism attraction are its topography, climate, and culture history. Chiang Mai has a long history. It was the capital of the Lanna kingdom. King Pha Yu enlarged and fortified the city and built Wat Phra Singh to shrine his father (Coedes, George, & Vella). The city was surrounded by moats and defensive walls since around mid-16th century. Chiang Mai has over 300 Buddhist temples, and

the oldest in Chiang Mai since in 13th century (Coedes, George, & Vella). Because of the Buddha believe of Chiang Mai local people, there are lots of festivals including Songkran festival and Loi Krathong.

According to Thailand Tourist Authority, in 2016 Chiang Mai had 9.1 million visitors. Tourism in Chiang Mai has been growing annually by 15 per year since 2011, mostly due to Chinese tourists. There are three vehicles connect Bangkok and Chiang Mai: train, bus and airplane. The city transportation is songthaew, tuk-tuk and motorcycle. However, with the population density continues to greater pressure is happened to the city transportation system. The road traffic is often badly congested in peak hour.

This research focuses on transportation perspective and this item aims to introduce the big concepts of Chiang Mai tourism situation. For the local people perspective, it is convenient to everywhere in the city, but for tourists, the situation is not similar. Tourists travel to Chiang Mai to experience the local life and culture, but it is difficult for them to go around the city. There is no public transition in Chiang Mai for tourists. A public transition can help alleviate traffic pressure in peak hour.

### **2.3.2 Public Transportation**

Transportation is one of the main compositions of tourism expenditure (Yixian Xiang, 2013). Public transportation is an important service to serve the individuals who are unable, poor, or less unwilling to use a private vehicle (Gerad C. Wellman, 2011). An effective transport system and associated city form will improve the local economic and social opportunities (Murray, Davis, Stimson & Ferreira, 1998).

Researcher Murray, Davis, Stimson and Ferreira suggested in their research in 1998 that developing an appropriate public transport system is crucial to achieving regional sustainability. In this paper, they discussed methods to evaluate public transport access and examined the ways to increase public transport access and its possible impact.

Sorupla and Candidate (2005) mention in their paper that transportation is seen as a part of tourism system, which is an access bringing tourists to destinations. The impact of automobiles in tourism is increasing with the increasing number of daytrip and leisure travel. Tourism and accessibility are related to the level of degradation of tourism destination. Accessibility can make or break a tourism destination. The author mentioned that a bigger number of tourists can increase the level of degradation.

Badami and Haider (2007) explore the urban bus transit operations from 1990-91 to 2000-01 in Indian city. He pointed out that urban bus transit had dilemma in “viability-affordability” in India. It was a serious challenge for small and medium cities to provide a viable public transit, one of the reasons was personal motor vehicle grew quickly nationally than in some major cities.

Transportation is one of the consideration elements and main expenditure in travel for tourists especially for independent tourists who plan and booking everything by themselves. Public transportation as a part of tourism system (Sorupla and Candidate, 2005). This research will use this concept to identify the importance of public transportation for a tourism destination, and the reason that this research focus on transportation perspective. In addition, there are few researches investigate in this field.

### **2.3.3 Tourism Safety and Security**

Safety and security in travel and tourism was in the front of tourism and it became more and more important to a local or a national tourism development. On one hand, with the rapidly developing of transportation, travel is more convenient. On the other hand, travel and tourism are no longer an activity narrowly defined social classes or classes, but the whole is expanding. The middle class gradually became involved. Besides this, travel and tourism has become a vital industry for some developing countries (István Kôvári – Krisztina Zimányi).

Sevil F. & Alan R. Graefe, in 1998, mentioned that terrorism and political turmoil present main challenge to the tourism industry despite the importance to economy. The number of tourists following the peak of terrorist activities shows that passengers are seriously reacting to potential risks, and “overreaction will increase the

impact and importance of terrorist activities. Terrorism has influenced tourism industry. Because of the risk and terrorism, many tourists canceled their foreign vacation in the mid-90s. The author had examined international tourist decision made within the terrorism and risk in foreign countries but there was little research payed attention on this context. According to the report of Liujing (2011), the author mentioned that there were 3.2 million tourists visited Egypt in 1992. But there were lots of terrorist accident rapidly happened in Egypt, the number of tourists reduced to 2.5 million in 1993. Until recent years, terrorist accident happened around the world. Terrorism still is a key factor, which tourists choose the tourism destination.

Wilkes and Wilson (1998) suggested that motor vehicle crashes considered as the most common cause of injury and death for tourists. Crashes are normally related to events from which it is difficult to isolate a single cause. After in-depth study, road crashes caused because human error. Excessive speed and alcohol-impairment are the major two factors to road crashes in the world. This paper demonstrated that there were many different consequences from road crashes. Road safety for international tourists should consider as an important fact when they are in the decision-making process. Road safety in Australia has high standards in public system (Wilkes and Wilson, 1998), however, in most countries, road safety for international tourists has been neglected. Cavrak, Vladimir (2004) mentioned that traffic service quality is different and has different characteristics such as speed, comfort, punctuality, reliability. Traffic safety on tourism is a different one since it directly improves the satisfaction of tourism destination.

CVIKL and ARTIĆ (2010) suggested wellness tourism was one of the fasted growing areas in tourism industry. Wellness tourism is a combination of relationships and events brought about by the travel, accommodation guests have to relax and improve the health of basic motivation and it is a business opportunity for the tourism sector. It is a new but growing fast tourism branch. Today's guest is highly educated and they travel for not only attractions but also healthy life style.

Tourism safety and security is drawing attention to tourists. A safety and peaceful tourism destination is a prerequisite to tourists. These concepts will be used to identify the importance for tourists when they are traveling especially travel to a new place even a new country where is different with language and culture.

#### **2.3.4 Characteristics of Chinese Independent Tourists**

In the end 20th century, independent travel has become popular in youth in developed and developing countries (Samuel, Wan & Pan, 2015). With the swiftly developing of technologies, independent travelers are not only youths but every age of people. According to the report of Samuel, Wan and Pan (2015), it suggested independent tourists could adapt to a new knowledge quickly. Independent travel means that tourists travel alone or with groups, they arrange travel plan and activities by themselves more or less without the help from travel intermediaries. There are some different definitions of independent tourist comparing with backpackers. Morrison and O'leary (1993) defined independent tourist are who only make their transportation and accommodation arrangement, and not buy package or tour in advance. Hyde and Lawson (2003) defined independent tourists are who only buy international air ticket or accommodations from travel agencies or on the internet. Internet changed the way people collect data or information, it has become one of the popular information sources through over the world (Lu & Chen, 2014). The number of Chinese outbound tourists has increased over the last two decades (Samuel, Wan & Pan, 2015).

There are various of Applications for Chinese tourists, which includes travel application, payment applications and booking applications so that more and more Chinese choose travelling independently, which means independent Chinese tourists book international air tickets and accommodations by themselves or they only gain some information from travel agencies. Lu and Chen (2014) examined in their research that Chinese tourists like to use leaflets, TV and radio to gain the knowledge about a tourism destination and CITs prefer to use travel guidebook before leaving. Normally, backpacker is budget on transportation and accommodation and have a depth experience in a destination (Loker-Murphy & Pearce, 1995). Chinese independent tourist is different from independent Western tourists and group outbound Chinese

tourists (Xiang, 2013). The researcher named Xiang (2013) mentioned in his research that the main reason for Chinese tourists become independent tourists is the freedom compared with group tourists with the help of travel agencies. It is similar that independent Chinese tourists and group Chinese tourists are travel for sightseeing, but CITs have to collect kinds of information by themselves before departure. CITs like visiting routine destinations which is similar with the plan of travel agencies. They like visiting historical sites, walking and shopping (Xiang, 2013). Independent tourists also like to visit the places where are popular in the internet or some who is popular or famous in the internet recommended. Chinese independent outbound tourists look for a relaxing and leisure trip. They travel for fun and entertainment, adventure, new friend, trying different things and experiencing new culture (Chow & Murphy, 2011). For Chinese tourists who travel inbound or outbound, most of them want a leisure trip because they travel to escape the busy and tired life and work.

With the developing of the technology, travel outbound become more convenient. There are more and more Chinese tourists choose to have an independent trip. Gaining some information about characteristics of CITs can make a better understanding for CITs' behavior and help to collect data more precise about attractions, amenities and accommodations from CITs.

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## 2.4 Framework

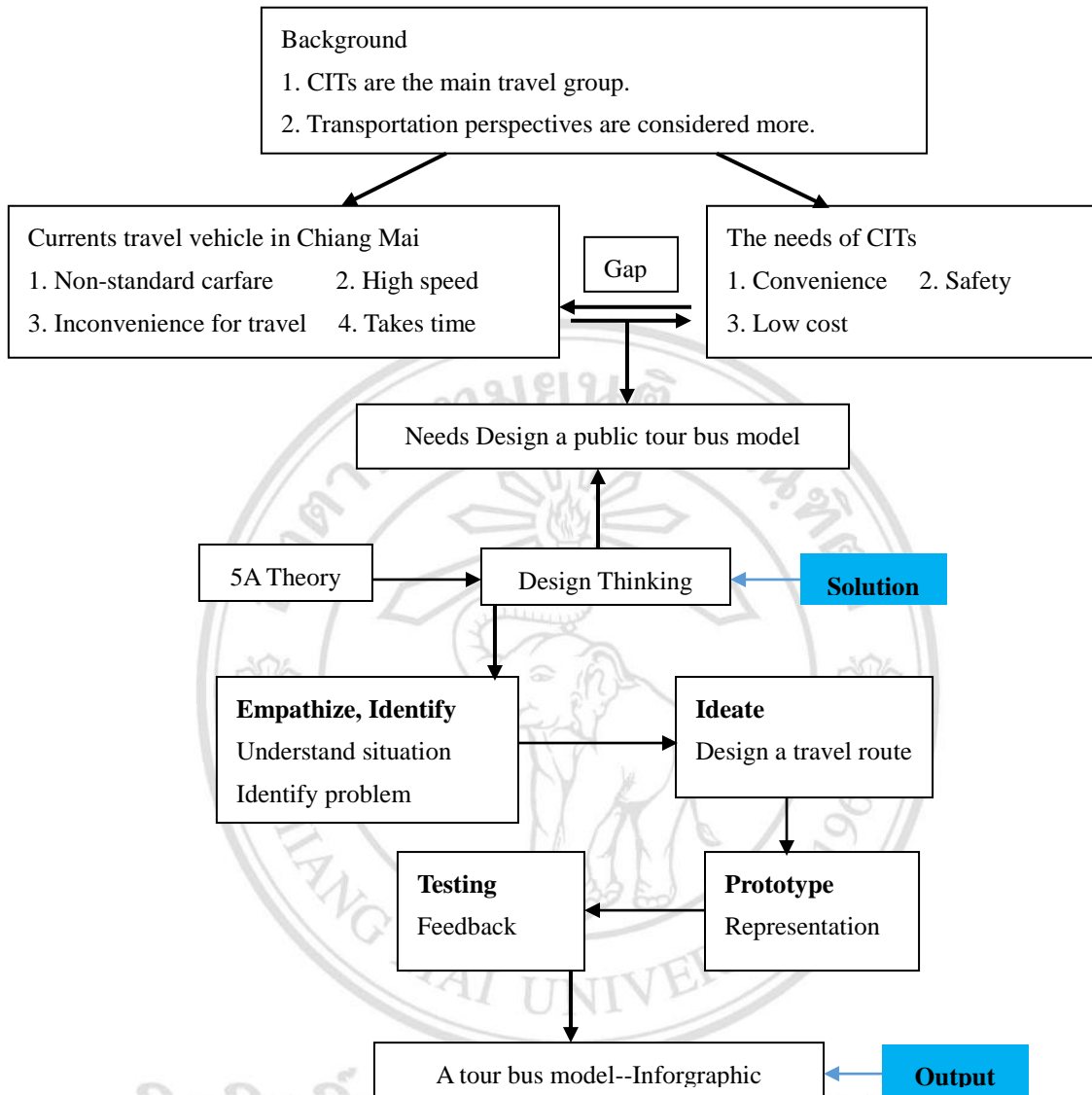


Figure 2.4 Framework

This research uses 5A theory as the main theory to be a guide of collecting data and analyzing data, then uses DT as the research process to complete the travel route creation. In the first two step of empathy and identify, research aims to understand the current situation of Chiang Mai. The ideation aims to create the solution for the problem and represent in prototype. Finally, interview CITs to test the solution.

## **CHAPTER 3**

### **Methodology**

#### **3.1 Research Scope**

##### **3.1.1 Area of Study**

Annual Development Report of China's Tourism (2017) reported that Chinese tourists will consider about the transportation, attraction, food and shopping of the destination before their trip, and the transportation perspective is the first they consider and care. This study focuses on the tourism industry transportation perspective in Chiang Mai Thailand, which is the second largest city in Thailand. Travel is becoming more and more convenience because of the developing of technologies as the foreign independent tourists is becoming the main group who travelling to Chiang Mai. With the increasing number of tourists, Chiang Mai has faced huge change in various perspectives especially for transportation perspective. There was a lot of car accidents happened because CITs rent motorcycle without Thai driver license, non-standared price of red car and not convenient to take red car, Tuk-tuk or the public bus. This research selects transportation service as an aspect with emphasis on how to design a tour bus route to serve better on transportation perspective.

According to data collection and data analysis, the ancient city is the most popular place that CIT like to visit in the city area and there are various attractions and amenities in the ancient city or around the ancient city.

##### **3.1.2 Area of Population**

The developing technologies make travel more convenient than past years, more and more tourists choose independent travel which means that tourists make travel plan by themselves even booking hotels and tickets. The same situation happened in Chinese tourism industry. It is becoming popular for Chinese tourists to choose independent travel. In addition, the living cost of Chiang Mai is cheaper than most countries and the

ticket promotion, visa-free and landing visa also promote the travel motivation of Chinese independent tourist to travel to Chiang Mai. Therefore, CITs have been the main travel group of Chiang Mai. This research focus on CITs who is travelling or have traveled to Chiang Mai.

The data was collected from travel notes of CITs who had travel to Chiang Mai and shared their travel experiences in the website. There were 42607 pieces travel notes in the deadline was April when the research started to collect data. There are 534 pieces of travel note are in the research time which is 1st June to 31st October 2017. However, there are 110 pieces of travel notes can be used.

A researcher interviewed an expert about the attractions in Chiang Mai city area who is working in Chiang Mai University and had researched about 50 temples of Chiang Mai.

There were only 20 CITs were willing to cooperate with interview to reconfirm the data that collected from travel note in 18th June in 2018, which was the Dragon Boat Festival in China, and there were in total three to five days for holiday to celebrate it. The in-depth interview focused on the attraction that they had visited and the reason they visited these attractions. It was also payed attention to the transportations they used and the reason why they choose these vehicles and the difficulties when they were travelling.

### **3.1.3 Research Time**

The data collection period is from 1st, June and 31st, October in 2017 which includes a summer vacation normally between June to August and a week national holiday in October. It is the peak season for Chinese tourists to travel outside.

### **3.1.4 Research Source**

The data is collected from Mafengwo.cn, which is a Chinese website for independent tourists to collect traveling information and booking hotel or restaurant before they travel and share their travel experiences after they traveled. Mafengwo has gained the Certificate of credit rating. Every user must register first and has their identity document before they share their travel experience.

### 3.2 Research Procedure

Table 3.1 Research Procedure

Research procedure			
Step	Theory/Concept	Tools/Techniques	Output
Empathy	DT	Observation	<ul style="list-style-type: none"> <li>• Current tourism situation of Chiang Mai</li> <li>• Problems when tourists are travelling</li> </ul>
Identify		Text mining Informal interview	
Ideate	5A theory DT	Text Mining Interview Brainstorming	<ul style="list-style-type: none"> <li>• Where do CITs like to visit most?</li> <li>• The most popular places in city area for Chinese independent tourist.</li> <li>• Other famous places that CITs have not visited.</li> <li>• Advice about the selected attraction.</li> </ul>
Prototype	DT 5A Theory	Flowchart	<ul style="list-style-type: none"> <li>• A route model daft</li> </ul>
Testing	DT	Interview	<ul style="list-style-type: none"> <li>• Get feedback from stakeholders.</li> </ul>

#### 3.2.1 Empathy and Identify Problem

The aims of this step are trying to understand the current tourism situation in Chiang Mai of CITs. Collecting and analyzing data to understand travel problems for CITs.

**Phase 1: observation.** With the increasing number of foreign tourists who are travelling to Chiang Mai especially CITs, transportation in Chiang Mai is facing a big challenge. There was no public transportation in Chiang Mai city area until April 2017, even nowadays, tourists still do not take the city bus. Tourists preferred to take the popular transportation in Chiang Mai that is the red car. After three months observation in Nimman road and ancient city, the observation is summarized as follow:

1. CITs bargained many once or twice to choose a suitable price for them to take the red car.
2. They seldomly take Tuktuk.
3. There were most younger tourists choose motorcycle.

**Phase 2:** After observing the tourism situation in Chiang Mai, a method called text mining in this phase was used to help analysis what has happened in Chiang Mai in details from the transportation perspective. Researcher tried to collect transportation information from travel notes but almost tourists did not explain the problems that they faced when they were travelling in Chiang Mai city area. Therefore, researcher collected the transportation information from the comments for Chiang Mai transportation in Mafengwo which is different from travel notes. Transportation comment is an answer and questions part for a main subject. The technique Octoparse was used to collect the information and ICTCLAS2013 was used to analyze the information.

**Phase 3:** This phase aims to confirm the results of data analysis from phase 2. There were 8 CITs be in-depth interviewed in Nimman road and MAYA shopping mall where CITs like to visit. This interview aimed to acquire more information about the transportation problem that tourists faced. The questions are created following the 5A theory combined with attractions, access, accommodations, amenities and awareness. The interviewed questions are below:

1. How long have you been Chiang Mai?
2. Where do you live in?
3. Why do you choose there?
4. Where did you visit?
5. Why do you want to visit the attractions?
6. Have you tried some delicious food? Do you remember the name of the restaurants? What are they?
7. Why did you choose these restaurants?
8. What kind of vehicles do you take these days?
9. Why do you want to take it?
10. Are there any problems that you faced?

### 3.2.2 Ideation

The second step in the research process aim to create a tour bus route for a tour bus to solve the problem analyzed in the first step.

#### **Phase 1: Data collection**

The data to this research means the text of travel notes of CITs who traveled to Chiang Mai and shared their travel experience on internet and it is collected by a text mining method named Octoparse Version 6.4.6. Octoparse is a cloud-based web data extraction solution which can help users extract information from various types of open websites. It enables users from a variety of industries to scrape unstructured data and save it in different formats including Excel, plain text and HTML. Octoparse is used to collect the data from a Chinese website named Mafengwo where CITs can share their travel experiences and travel suggestions. In the period time, there are 534 pieces travel note but 102 pieces are available.

#### **Phase 2: Data Analysis**

In this step, a technique named ICTCLAS2013 to analyze key words from the phase 2. Dr. Zhang Pinghua has been designing ICTCLAS2013 since 2007 which is designed to decompose Chinese words which means decompose sentences to phrases, phrases to words. ICTCLAS2013 has rewarded the first in the comprehensive part of the International SIGHAN Decomposition Word Contest in 2003. The main function of ICTCLAS2013 is mark the characteristic of words, create users' words and decompose words. Researcher need to analyze the data twice for different aims.

For the first time, Use ICTCLAS2013 to analyze all the travel notes which means to distill the key words from data under the guide of 5A theory. Data analysis aims to answer the following questions:

1. Where do CITs like to visit in Chiang Mai city area?
2. Where are the most popular places in city area for Chinese independent tourist?

For the second time, researcher need to create new words depending on the key words for some key words or phrases are new words that means these words do not include in the lexicon of ICTCLAS2013. For example, Suthep mountain in Chinese is Xu Tieshan, ICTCLAS2013 composes it into two words because there is not a word

named Suthep mountain. Users need to create a new word that is 素贴山 (Suthep mountain). Researcher need to analyze the data again after creating the new words. The results in the second time is more specific, and the frequency of each key words and phrases also can be calculated via the technique. Then, as the guiding of 5A theory to group key word to be three groups: attractions, accommodations and amenities.

### **Phase 3: Interview**

Interview was used in phase 3 aimed to conform the results of phase 2 by using in-depth interview and acquire more knowledge about tourism attractions from expert and brainstorming.

Stage 1: A expert was interviewed to acquire more suggestion about attractions in the city area of Chiang Mai where is full of Thai culture that tourists and make a better understanding about Thailand. The expert whose research is about cultural management and animation. He has investigated culture and the temples of Chiang Mai city. The interview questions are following:

1. How do you think the attractions that I have analyzed, would you like to give me some suggestions?
2. Are there some recommended for the attractions in the city area for foreign tourists? And why?

There were 8 CITs were interviewed to support the selected attractions. These CITs were interviewed in the Nimman road where Chinese tourists like to visit most. The interview questions are following:

1. How many times do you travel to Chiang Mai?
2. Where have you visited in Chiang Mai city area? Why?
3. How did you go to the attractions? Why?
4. Where do you plan to visit in Chiang Mai city area? Why?
5. Do you have anything to add?

Stage 2: A brainstorming was held to gain more suggestions about attraction selection from transportation relatives. The participants of brainstorming are the RTC staffs, a staff from a tour bus company in Chiang Mai, a researcher from Social Development Department of Chiang Mai University, two researchers from Knowledge

Management part of Collage of Arts, Media and Technology of Chiang Mai University (Figure 4.1).

Table 3.2 Participants of Brainstorming

Participant	Organization	Number of people
RTC staffs	RTC	2
staff	Tour bus company	1
Researcher	Social Development Department	1
Researcher	Knowledge Management part	1

Table 3.3 Process of Brainstorming

Stage	Process	Topic
Stage 1	Presentation	Process of attraction selection
Stage 2	Questions & Answers	Questions about the research, and answer
Stage 3	Give Suggestions	Participants give suggestions
Stage 4	Conclusion	A conclusion of suggestions.

A presentation was presented about the process of attraction selection and the results of the selected attractions to help participants have an understanding about the research. After presentation, participants point out suggestions and advice to attraction selection.

**Phase 4: Attraction Comments from Mafengwo**

Phase 4 was tried to analyzed the reason for CITs selecting their travel attractions which were analyzed in phase 3.

Mining the comments of each attractions and analysis these attractions the reasons that CITs visit these attractions. Use text mining process to collect comments of each attractions from Mafengwo.cn website and analysis the reasons that CITs visited. Analyze the key words by using the software ICTCLAS2013, and then create user's word depending on the analyzed key words. Because the key words which is analyzed may have no meaning, for example, "Beautiful" is a key word, but there is no subject of the key words, so it is meaningless. After creating user's words, the comments are analyzed again to get the meaningful key words. Grouping the key words to analyze the reasons.

However, attractions which expert suggested do not be commended by CITs because they do not know these attractions at once. These attractions are also selected for the new selections for tourists.

### **3.2.3 Prototype**

Before connecting the attractions selected in phase 3, researcher invited the supervisor and some researchers to visit these attractions by taking car and observed the road situation. It can help to make a better understanding of the road situation and sketch the real route. At first, the supervisor invited a researcher who born and grow up in Chiang Mai and has full knowledge about the city to design a route for researchers to visit these attractions. Then, researchers visited these attractions by taking car. It took about three hours to visit all the attractions without getting off the car and taking sightseeing.

The output of this research is a flowchart to represent the travel route. Select attractions to be bus stations. And connect the stations with the road situation and the result from data analysis. Every attraction will introduce in some sentences besides the attractions.

### **3.2.4 Testing**

The interview was held to test the tour bus route and get feedbacks from CITs. At first, interviewees were tried to understand the travel route by themselves, then they were interviewed to get some feedbacks and suggestions about the tour bus route. The interview questions are below:

1. The travel route in the ancient city, how do you think about it? Would you like to give me some suggestions?
2. How about the attractions selected for you?
3. Do you have any suggestions?



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## CHAPTER 4

### Results and Analysis

#### 4.1 Results of Empathy and Identify Problem

Annual Development Report of China's Tourism (2016) reported that transportation element is the most important consideration parts for Chinese tourists when they plan to travel. In this stage text mining is used to collect and analysis information in transportation perspective in Chiang Mai city area of CITs' comments. The comments are collected in Mafengwo website which commended between 1<sup>st</sup> June to 31<sup>st</sup> October in 2017.

According to the results of data analysis, the reasons why CITs travel to Chiang Mai are following:

Table 4.1 Reasons for traveling to Chiang Mai

Reasons	Percentage (%)
Low living costs	43
Recommendations online	10
Leisure life	8
Easy to apply visa	14
Cheap air ticket	19
Lovely streets (make people feel fresh)	6

The data collected from the travel notes showed that CITs liked traveling to Chiang Mai due to its lower living costs than China's. Another important element is the cheap air ticket. Especially in the off-season, air companies had the promotion for tickets to Thailand even Chiang Mai. The third efficiency element is the visa for tourists. CITs could more easily to apply tourists' visa for traveling to Thailand.

For the accommodation perspective, CITs prefer to live in the ancient city rather than Nimman road.

Table 4.2 Accommodation selection of CITs

Accommodation	Percentage (%)
Nimman road	34
Ancient city	63
Others	3

There were more than half of CITs liked living in the ancient city for the attractions, various attractions in the ancient city.

Table 4.3 Reasons for CITs choose the accommodation in ancient city

Reasons	Percentage (%)
Various hotels, hostels and guest houses	11
Low price	13
Recommendation online	33
Convenient transportation	19
Multiple attractions	21
Swimming pool	3

There were more than half of CITs liked living in the ancient city for the attractions, various attractions in the ancient city. They mentioned that it was convenient for them living in the ancient city to travel around. Additionally, there were lots of recommendations on the internet recommended the hotels or guest house in the ancient city for the low price and positive comments.

The comments of the reasons why CITs liked living in Nimman road were less than the comments about the ancient city, but the reasons were almost similar with the reasons about the living in ancient city.

Table 4.4 Comments for transportation

Vehicles	Number of Comments	Percentage (%)
Motorcycle	60	40
Red car	23	15
Others (Tuktuk, bicycle, walk)	67	45
Total	150	100

The total comments are 150 pieces which includes the comments about renting motorcycle, taking red car and others. CITs prefer to rent motorcycle to travel around the city due to its cheap for rent and convenient to stop and park.

Table 4.5 Comments for motorcycle

Items	Number of Comments	Percentage (%)
Imposed a forfeit	9	15
Dangerous	37	61.7
Convenient	14	23.3
Total	60	100

There are 15% comments of tourists mentioned that they were imposed a forfeit because of renting motorcycle without Thai driver license. And 61.7% comments of tourists shared that it is dangerous to ride motorcycle because there are different transportation rules between Chinese and Thai and the speed is very fast of local Thai people. However, there are some tourists still recommend new travelers to ride motorcycle when they are traveling to Chiang Mai city area.

Although motorcycle is dangerous, Chinese tourists prefer to rent motorcycle to visit city area because of its cheap and convenient. However, nobody tells them it is illegal.

Table 4.6 Comments for red car

Items	Number of Comments	Percentage (%)
Expensive	8	34.8
Convenient	5	21.7
Difficult to communicate with driver	7	30.5
Others	3	13.0
Total	23	100

The comments from CITs about the red car in Chiang Mai city area is 23 in the period time. They also shared that it was different price when they visited the same place and take different red car. The ticket price of red car is not standard. 34.8% tourists commended that it was expensive for travelling in the city area with not long distance. 21.7% tourists mentioned that red car was convenient and easy to take. However, there are 30.5% tourists have some difficulties in talking with red car drivers. They mentioned that there are a large number of red cars in Chiang Mai city area, it is easy to take, and tourists do not know whether there are some new or more convenient vehicles in Chiang Mai.

Red car is more safety than motorcycle for foreign tourists to use in Chiang Mai despite the price and language problem. One of the characteristics of Chinese tourists is liking products valued for money. That means a product combine with its quality and value for money. However, the ticket price of red car is not standard. It can be changed. Tourists would feel they are different treatment.

On the other hand, an in-depth interview was held with 10 CITs. The questions are about transportation Chiang Mai and travel difficulties CITs have faced.

Table 4.7 In-depth interview

Interviewee (live in)	1. How many times have been Chiang Mai 2. How long stay in Chiang Mai	Travel vehicles	Why	Problems
No.1 (ancient city)	1. First time 2. 7 days	Red car	Cheap	1. Red car does not have air-condition. 2. Expensive. Bargain every time. 3. Difficulties in communication with driver.
		Motorcycle	1. Convenient. 2. Recommend in the website.	
No.2 (ancient city)	1. First time 2. 7 days	Red car	1. Recommend in the website. 2. More safety, compared with motorbike and Tuktuk.	1. Difficulties in communication with driver. Driver cannot speak Chinese nor English. 2. Expensive. 3. spend long time to arrive at destination. Do not have the changeless route.
No.3 (Nimman road)	1. First time 2. 3 days	Red car	1. More safety, compared with motorbike. 2. many red cars. 3. seems convenient.	1. bargaining all the time. 2. take money and time to go to attractions where is far. 3. take money to go the attraction where is closed. Change the red car frequently in the ancient city.

Table 4.7 In-depth interview (Cont.)

Interviewee (live in)	1. How many times have been Chiang Mai 2. How long stay in Chiang Mai	Travel vehicles	Why	Problems
No.4 (ancient city)	1. second time (2015 & 2018) 2. 21 days	Red car	Convenient, can get on and get off everywhere	1. Dangerous to pedestrian. Ride motorbike on sidewalk, almost got hit by car. 2. it does not have any changes and development.
		Grab	1. Cheap 2. air- condition	
No.5 (ancient city)	1. First time 15 days	Grab	1. Convenient 2. Alipay 3. recommend in website	1. hard to take a bus 2. cannot find a bus station 3. red car is expensive.
		Red car	1. Recommend in website. 2. Many red cars. 3. Popular	
No.6 (Nimman road)	1. First time 2. 7 days	Grab	1. convenient 2. Cheap.	1. terrible traffic jam. 2. Grab car can stop near red car, so taking a long way to wait the Grab car.
No.7 (Nimman road)	1. First time 2. 14 days	Tuktuk	1. many Tuktuk and red car in street. 2.recommend in website 3. Thai style	1. traffic jam 2. difficulties in communication with red car drivers.
		Red car		
No.8 (ancient city)	1. second time (2016& 2018) 2. 7 days	Online charter	Convenient Air condition Leisure trip	Traffic jam

The in-depth interview was held in MAYA Lifestyle Shopping Center in April 2018. Almost interviewees spent one to three days in Chiang Mai province and then they visited to other provinces.

Table 4.8 Ranking of Travel Problem of Interview Conclusion

1.	Always bargain with red car drivers. Not standard ticket price.
2.	It is difficulty to communicate with red car drivers.
3.	It takes money to go the attraction where is closed. Change the red car frequently in the ancient city.
4.	It spends long time to arrive at destination. Do not have the changeless route.
5.	Traffic jam.
6.	It is dangerous to ride motorbike.
7.	It is hard to take a bus. Cannot find where is the bus station.
8.	Do not have air condition in red car.

Table 4.9 Conclusion of Vehicles

Vehicles	Positive	Negative
Motorcycle	<ul style="list-style-type: none"> <li>• Convenient</li> <li>• Cheap for rent</li> <li>• Convenient for parking</li> </ul>	<ul style="list-style-type: none"> <li>• Dangerous</li> <li>• Illegal</li> </ul>
Red car	<ul style="list-style-type: none"> <li>• Convenient to take</li> <li>• Chiang Mai style</li> </ul>	<ul style="list-style-type: none"> <li>• Expensive</li> <li>• Bargain</li> <li>• Traffic jam</li> <li>• Difficult to communicate with driver</li> <li>• Do not have a certain route</li> <li>• No air-condition</li> </ul>
Tuktuk	<ul style="list-style-type: none"> <li>• Chiang Mai style</li> </ul>	<ul style="list-style-type: none"> <li>• Experience</li> <li>• Dangerous</li> </ul>
Bus	<ul style="list-style-type: none"> <li>• Has air-condition</li> <li>• Safety</li> </ul>	<ul style="list-style-type: none"> <li>• Cannot find bus station</li> <li>• Waiting long time</li> </ul>

According to the in-depth interview from CITs, bargaining with red car drivers and communication is the serious problems they faced when they are travelling. They can cause the bad image to tourists and it bad for a tourism destination development. In addition, it is illegal and dangerous for foreign tourists to ride motorcycle because of the different transportation rule and transportation habits of local people.

It can describe the current situation in Chiang Mai through text mining analysis and in-depth interview analysis. The transit vehicles in Chiang Mai is motorcycle, red car and

Tuktuk. And some tourist would like to take Grab which has not been popular for CITs. These three main vehicles have their positive perspective and negative perspective for different tourists. However, there still a gap for tourism destination with safety, convenient and low cost. These three perspectives cannot be consolidated through the current tourism vehicles.

## 4.2 Results of Ideation

### 4.2.1 Results of Data Collection

In this stage, the techniques Octoparse and ICTCLAS2013 are used to collect data and analyze data, which collected from Mafengwo website.

Table 4.10 Data information

Items	Number of travel notes
Total pieces of travel notes	534
Travel notes in the research period	115
Usable travel notes	110

The total travel notes in Mafengwo travel notes part are 534 ended with the data collection time in April 2018. The travel notes are arranged by number of views that means there are some travel notes never or seldomly be viewed by viewers so that they are not showed in the website. It is the system of Mafengwo. There are 534 pieces of travel notes in the research period, but 110 pieces of travel notes can be used. In the 5 piece of travel notes in the research period time, independent tourist put pictures and

several sentence on it, and these pictures do not present any information, for example, a picture about a bed of a hotel, so these travel notes are not available.

#### 4.2.2 Results of Data Analysis

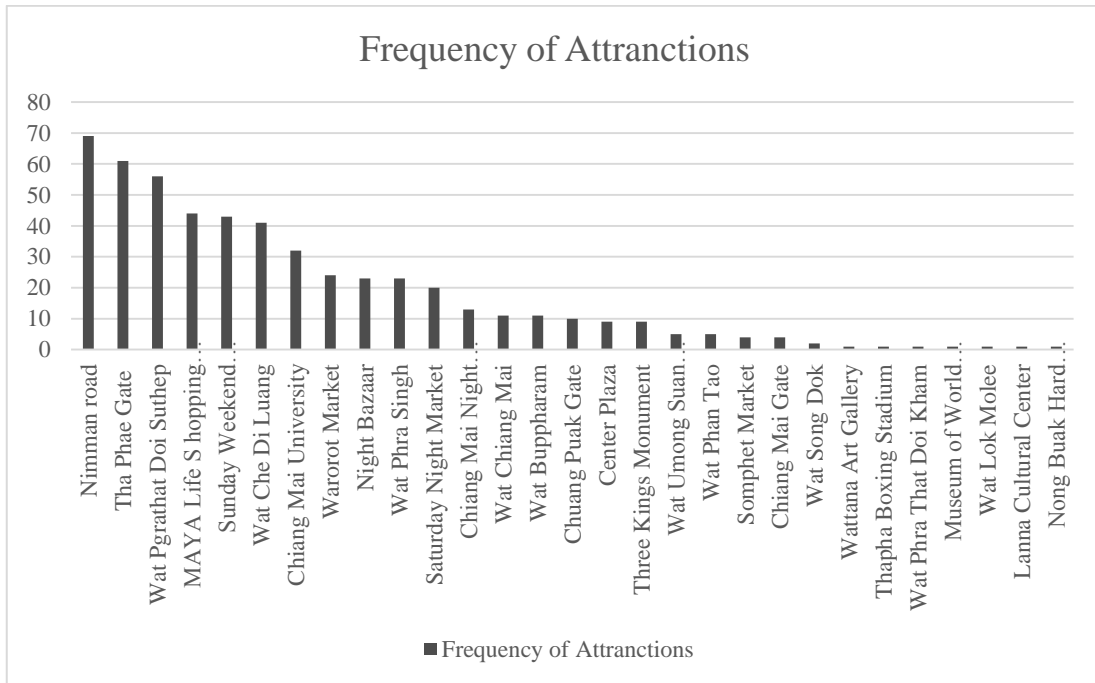


Figure 4.1 Frequency of Keys of Attractions

Table 4.11 Ranking of Hotels from travel notes

Rank	Hotel	English	Address
1.	清迈 M 酒店	Hotel M Chiang mai	2-6 Ratchadamnoen Road, Sripum, Muang
2.	尤兰纳精品酒店	Eurana Boutique Hotel	7/1 Moonmuang Rd, Soi 7, Sripum, Muang
3.	武里府画廊饭店	Buri Gallery House	102 Rachadamnoen Rd., Sripoom, Muang
4.	清迈城市 BP 酒店	BP Chiangmai City Hotel	154 Rachmanka Road, A. Muang Chiang Mai

Table 4.12 The reason choosing Hotel M Chiang Mai

Reasons	Percentage (%)
Delightful situation (in front of Tha Phae gate)	19
Good service (Chinese, friendly, shuttle service)	19
Clean	18
Feel comfortable	13
Equipment (fridge, elevator)	13
Food (drinking water, snakes, breakfast)	18

According to data analysis, the most popular hotel is Hotel M Chiang Mai almost because of the delightful situation and good service. It is in front of Tha Phae gate one of the famous ancient gate. CITs mentioned in their travel notes that the lobby of Hotel M Chiang Mai could speak Chinese and English very well, therefore they could communicate with each other so that they avoid some misunderstandings. In addition, they also mentioned Hotel M Chiang Mai was clean, and it made them feel more comfortable.

There were similar reasons for choosing the other three hotels, but the most important reason was that they were all in the ancient city and near with some attractions such as Wat Che Di Luang and Tha Phae gate.

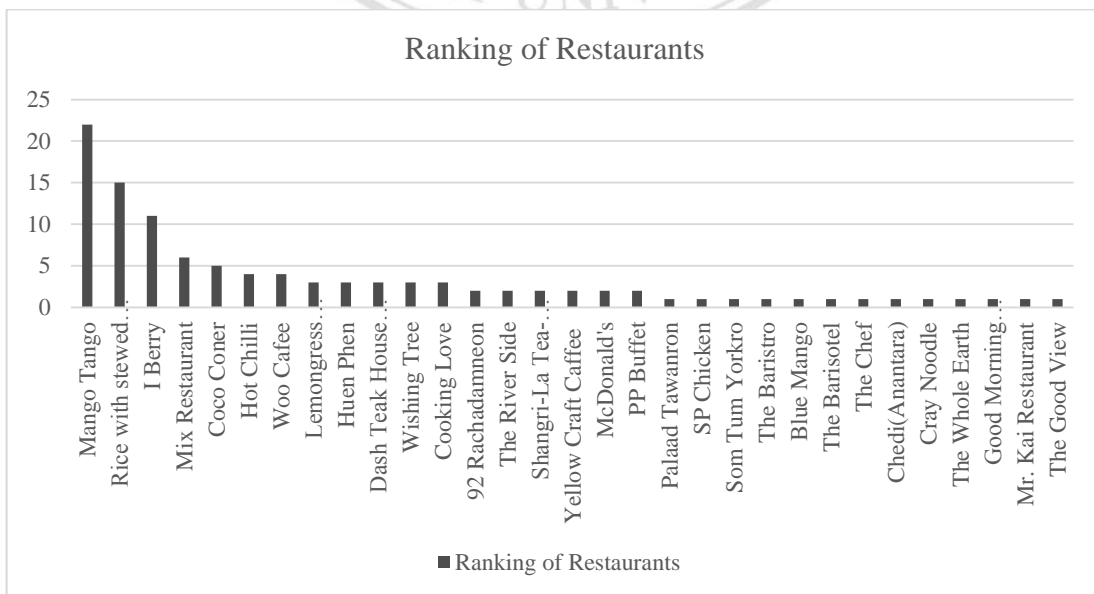


Figure 4.2 Ranking of Restaurants

According to 5A theory, it includes attractions, accommodations, amenities, access and awareness. After analyzing the data collected from travel notes, amenities are almost around the attractions. The tour bus route combined the attractions, accommodations and amenities.

There are multiple restaurants that CITs like to visit. The most popular is Mango Tango which could be an example to describe the reasons why CITs like these kinds of restaurants.

Table 4.13 The reasons for choosing Mango Tango

Reasons	Percentage (%)
Sticky rice is delicious	42
Easy to find	28
Inexpensive	14
Recommendation online	13
Good for taking pictures	3

There were 42% CITs thought that the sticky rice of Mango Tango was delicious and there were 28% CITs mentioned that Mango Tango was in the Nimman road and it was convenient to go to there.

In addition, an expert T was interviewed to acquire more selections about attractions which is full of Thai culture.

Table 4.14 Conclusion of Interview from Researcher

Opinions	1. Analyzed attractions also have long history, but it is already known by almost people even Thai. 2. A university may not be an attraction.
Suggestions	1. Can add some new attractions for tourists to learn more about Thai culture.
	Temples: Wat Ched Yot, Wat Ket Karam, Wat Prasat, Wat Muen Ngoen, Wat Puak Hong, Wat Puak Taem, Wat Duang Di,
	Museums: Chiang Mai arts and Cultural Center, Chiang Mai History Center, Lanna Folklife Museum
Reasons	1. Full of Thai history and cultural. 2. Museums can help tourists to make a better understanding culture and folklife of Thai local people.

Expert T suggested some new temples and museum for tour bus route design. These attractions are not so popular for CITs, although a few of tourists had visited.

There were 8 CITs been interviewed about the attractions and restaurant or food that they had visited and eat and the reason why they decided to travel to these attractions and this restaurant or food.

Table 4.15 Conclusion of Interview about attractions

<b>Reasons</b> <b>Attractions</b>	<b>Commented</b>	<b>Culture</b>	<b>Recommendation</b>	<b>Product</b>	<b>Walk</b>
Ancient city	*	*			*
Temples	*	*			
Chiangmai University			*		
Chiangmai Zoo			*		
Nimman Road			*	*	
MAYA shopping mall			*	*	
Sunday night walking street			*	*	*
Chiang Mai Night Safari Zoo			*		

Table 4.16 Conclusion of Restaurant /Food from interview

	Popular	Recommended online	Low price	Clean	Beautiful (adornment)	Chinese menu
Desert shops	*	*				
Thai food (ancient city)	*	*			*	
Japanese food		*	*		*	
MAYA restaurants				*		
Street food		*	*			
Nimman road restaurants	*	*			*	*

According to the in-depth interview with CITs, tourists visit attraction mainly depending on other's experiences. They acquire information and make travel plan from the website. There is not a channel for them to understand the tourism destination they plan to visit except other's experience s.

A brainstorming was held to gain more suggestions about attraction selection from transportation relatives.

Table 4.17 Conclusion of Brainstorming

Suggestions:	1. The places for a bus route are enough.
	2. It better to put each address of attractions. It is easier to create the route.
	3. A density figure is easier and cleaner to show the places where CITs like to visit.

This research focus on the attractions, accommodations and amenities in Chiang Mai city area. Some attractions are far away from the city area, these kinds of attractions are deleted in this research.

Combined the results from text analysis, in-depth interview with CITs and interview with experts, the attractions for travel route were decided. Additionally, the comments of each attractions were collected and analyzed to organize the reason why CITs liked to visit these attractions. However, there were 26 attractions in total, it would be too much attraction to explain each of them. Therefore, Wat Che Di Luang could be an example to show the reason why CITs liked.

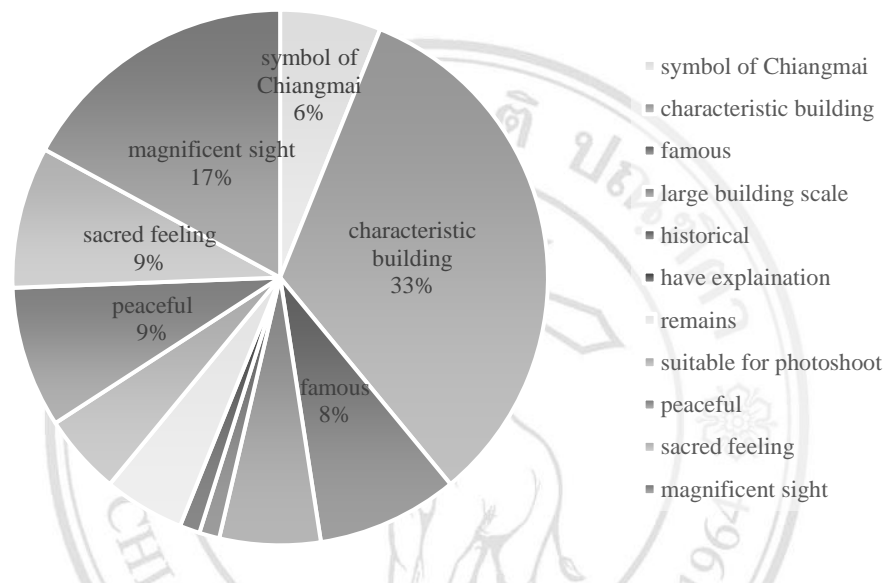


Figure 4.3 The reasons for selecting Wat Che Di Luang

According to data analysis of the comments about Wat Che Di Luang, 33% tourists like to visit Wat Che Di Luang because of its characteristic building. And 17% tourists mentioned that they like Wat Che Di Luang as the magnificent sight. There were multiple reasons from the tourists' comments, but they were not the main reasons. The total conclusion about the reason why selected these attractions are show in Table 4.14.

Therefore, combining the results of text mining from the travel note of CITs who have already traveled to Chiang Mai and interview from expert, the reasons of attraction selections are following:

Table 4.18 Reasons of Selected Attractions from CITs

	Reasons	Quiet	Architecture	Knowledge of History	Sacred	Easy to find	Beautiful	Leisure	Multiple recommend online	Cheap products	Various products	Famous	Friendly people
Temples	Wat ched yot	*	*	*									
	Wat ket karam	*			*								
	Wat prasat												
	Wat muen ngoen												
	Wat puak hong		*			*							
	Wat puak taem												
	Wat duang dee												
	Wat che di luang		*	*	*							*	
	Wat phra singh		*		*		*	*				*	
	Wat Chiang Man		*	*				*					
	Wat Phan Tao	*	*			*							
Shopping	Nimman Rad						*	*					
	MAYA shopping center							*	*	*			
	Sunday night walking street						*		*	*			
	Warorot market							*	*	*		*	
	Night bazaar								*	*	*		
	Saturday night market								*	*	*		
	Central plaza							*		*	*		
	Somphet market			*				*		*	*		
Old	Tha phae gate		*				*	*	*				
	Chang puak gate											*	
	Chiangmai gate			*		*							
Museums	Chiangmai arts and culture center		*	*		*							
	Chiangmai history center			*		*							
	Lanna folklife museum		*	*		*							
	Three kings' monument			*		*							

The data collected from the comments of each attractions and analyzed them to find out the reasons why CITs like to visit these attractions. According to the reasons, tourists travel to temples for Thai history and culture. And they like walking streets because of the various Thai products and the local Thai folklife. Additionally, there are also some new attractions for tourists. These new attractions optimize the new choice for tourists and they could have a better way to experience the culture and local life of Thai.

After analyzing the data collected under the guiding of 5A theory, some attractions are closed to each other, especially the attractions in the ancient city. From the DT perspective, customer needs are the main concept. And from the in-depth interview with CITs, they prefer to walk in the ancient city when they were travelling. CITs travel to ancient city for learning more culture and history of Chiang Mai.

Almost attractions are in the ancient city, and shopping areas are out of the ancient city. The route in the ancient city can connect with the history of the attractions. Route out of the ancient city can connect by the real situation of the transportation.

Table 4.19 Information of Selected Attractions

Attractions	Information
<b>Temples</b>	
Wat Ched Yot	It was built around Lanna period and restored in 1843. Large and small seven chedi were found when it was restored, and now open for visitors to study history and experience the elaborate ancient historical site.
Wat Ket Karam	Wat Ket Karam was built in 1428. Around the temple there is the Ket Kaew Chura Manee pagoda which is worshipped by the community and an old market of the Chinese community.
Wat Prasat	WatPrasat was built in the end of the 16 <sup>th</sup> century during the reign of King Narai the Great (during the late Ayutthaya period). Wat Prasat is worth a visit for authentic Lanna-architectural-style ordination hall and a sacred Buddha image enshrined in the hall.

Table 4.19 Information of Selected Attractions (Cont.)

Attractions	Information
<b>Temples</b>	
Wat Muen Ngoen Kong	It was built in 14 <sup>th</sup> century. It has several old Lanna-style buildings and a chedi, which is surrounded by smaller replica chedi's, which represent the various star signs according to the Chinese calendar. A building on the side contains a reclining Buddha image.
Wat Phuak Hong	Wat Phuak Hong was built 16 <sup>th</sup> or 17 <sup>th</sup> century. Literature calls out various architectural styles for this chedi and leaves it open to interpretation whether it is more Lanna-style or Yunnanese-influenced. The name, Wat Phuak Hong, means "The Monastery of the Flight of Swans".
Wat Puak Taem	The temple is assumed to have been built in 1483. The constructor of this temple can be presumed by its name. The word "PHAUK" means heads of the villages who were low-ranking nobelmen. "Phuak Taem" might be the one who was responsible for mural paintings and lacquer work.
Wat Duang Dee	Wat Puak Taem was built in built 19 <sup>th</sup> century. Wat Duang Di means "The Good Luck Monastery". The viharn, which shows certain central Thai influences such as the use of load-bearing walls, is remarkable for its highly decorated facade and the finely carved design over the main entrance.
Wat Che Di Luang	Wat Che Di Luang was buikt in 1391. A famous chedi was 144 feet wide and 282 feet tall. Unfortunately, the pagoda was heavily damaged in the 1545 earthquake.
Wat Phra Singh	Wat Phra Singh was builttain 1306. Chiang Man is the oldest temple in Chiang Mai, older even than the city.
Wat Chiang Man	Wat Chiang Man is Chiang Mai's oldest temple and holds some important Buddhist images including a famous crystal Buddha. Construction on the temple started in 1306.
Wat Phan Tao	Wat Phan Tao was built in 1846. It means "The Monastery of a Thousand Kilns". The building was originally constructed not as a monastery, but as a royal palace building.

Table 4.19 Information of Selected Attractions (Cont.)

Attractions	Information
<b>Shopping</b>	
Nimman Road	Nimman Road and the surrounding side streets are at the heart of the trendiest part of Chiang Mai. The place is alive with fashionable restaurants, cafés, bars, shops and boutique hotels.
MAYA Shopping Center	It is a world-class shopping mall and urban lifestyle hub in Nimmanhaemin district. The shops on offer at Maya in Chiang Mai are an interesting mix of Thai and international brands.
Sunday Weekend Walking Street	The Sunday Weekend Walking Street is easily the most popular shopping experience in Chiang Mai. A vibrant spectrum of art, crafts, music and food – with handmade quality goods and souvenirs that echo the spirit of Northern Thailand.
Warorot Market	Warorot Market is a great place to get a feel for the local way of life. It is a must-visit for food lovers as it offers a wide range of ready-to-eat meals, local snacks and all kinds of fresh produce.
Night Bazaar	The Night Bazaar is arguably Chiang Mai’s biggest attraction in its self, leading the modern legacy of the Yuannese trading caravans that would stop here along the ancient trade route between China and Myanmar.
Saturday Night Market	Saturday Night Market is a lively and fun night market that takes place in Chiang Mai just a short walk from the old city walls. It starts at the Chiang Mai gate.
Central Plaza Chiang Mai Airpoot	It is the place to go for international brands and is also a good stop off point for last-minute souvenirs. There are many shops for handicraft and souvenir.
Somphet Market	There’s not a lot here that your average visitor would want to purchase, but it’s an interesting place to wander around, and is excellent location for a morning coffee or fresh fruit juice, or for that matter, a late-night noodle soup when everything else is shut.

Table 4.19 Information of Selected Attractions (Cont.)

Attractions	Information
<b>Ancient gates</b>	
Tha Phae Gate	Tha Pae Gate is one of the most famous landmarks in Chiang Mai and is part of the crumbling city wall which once acted as a fortress for the ‘Old City. The gate area is an epicentre for tourism in Chiang Mai, boasting more hotels, bars, restaurants, cafes, massage parlours and shops than anywhere else in the city.
Chang puak gate	Chang Puak gate is one of the four main gates to the old walled city of Chiang Mai.
Chiang Mai Gate	Chiang Mai gate is one of the four gates of Chiang Mai ancient city. It is also the starts of Saturday night market.
<b>Museums</b>	
Chiang Mai arts and Cultural Center	The center is located inside the old provincial government hall in a restored building that dates back to the 1920s. There are many different exhibitions in the center including photos, old artefacts, maps, and an impressive audio visual display that depicts Chiang Mai’s history from the first settlers to the modern day city.
Chiang Mai History Center	Chiang Mai History Center presents the history of the city in a new and exciting way. There are different language options for those who cannot speak English or Thai, and the explanations are short and informative.
Lanna Folklife Museum	Lanna folklife museum is s a museum full of exhibitions about the lives, history and culture of the Lanna people of northern Thailand. The building has been renovated and now looks like a white colonial-style building, and despite the exterior the museum offers a lot of information about the city’s history in English, Thai and Chinese.

Table 4.19 Information of Selected Attractions (Cont.)

Attractions	Information
Three Kings Monument	Three Kings' -- King Mengrai, the founder of Chiang Mai; his contemporary and reportedly good friend King Ramkamhaeng of Sukothai; and King Ngam Muang of Payao. The square in front of the monument is a favourite promenade spot for local families after dark, with wandering vendors selling light-up 'helicopter' toys inspired by dipterocarp seeds.

The information about each attraction were collected to help complete the output of infographic. These attractions were selected for CITs have a better travel experience in Chiang Mai especially in the ancient city. Additionally, the information of the attractions helps CITs to have a better understanding of what they are traveling.

### 4.3 Prototype

Researcher observed the road situation and the attractions to make a better understanding of the way to connect attractions. The observation results are below:

1. The road around ancient city is one-way driving.
2. The attractions in ancient city are closed to each other.
3. Nimman road, MAYA shopping mall and Wat Ched Yot are closed to each other.
4. Rachadamnoen road is used to be walking street in every Sunday night.

These elements are the important impact factors for connecting the attraction as a tour bus route.

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Table 4.20 Bus station of tour bus around the ancient city

1.	Chiang Mai International Airport
2.	Suan Dok Gate
3.	Chiang Mai Gate
4.	Tha Phae Gate
5.	Chang puak gate
6.	Nimmanahaeminda Road
7.	Wat Ched Yot
8.	Warorot Market
9.	Wat Ket Karam
10.	Tha Phae Gate
11.	Central Plaza Chiang Mai Airport
12.	Chiang Mai International Airport

Table 4.21 The first tour bus route

A.	Chiang Mai International Airport
B.	Nimmanahaeminda Road
C.	Wat Ched Yot
D.	Wat Ket Karam
E.	Chiang Mai Gate
F.	Central Plaza Chiang Mai Airport
G.	Chiang Mai International Airport

Table 4.22 The second tour bus route

A.	Chiang Mai International Airport
B.	Suan Dok Gate
C.	Chang puak gate
D.	Warorot Market
E.	Tha Phae Gate
F.	Central Plaza Chiang Mai Airport
G.	Chiang Mai International Airport

Due to the road situation around the ancient city, the bus route was designed to two routes. The first route is around the city and the second route is followed the ancient gate of Chiang Mai.

Table 4.23 Reasons of bus stations selection

<b>Bus Stations</b>	<b>Stations</b>	<b>Reasons of Selection</b>
<b>1</b>	<b>Chiang Mai International Airport</b>	1. Steady passenger flow
		2. Almost tourists take airplane.
		3. Sufficient parking space
<b>2</b>	<b>Suan Dok Gate</b>	1. One of the gates of ancient city.
		2. Near Wat Phra Singh and Wat Phrasat
<b>3</b>	<b>Chiang Mai Gate</b>	1. One of the gates of ancient city.
		2. Near Wat Jedlin
		3. Saturday night market starts.
<b>4</b>	<b>Tha Phae Gate</b>	1. One of the gates of ancient city.
		2. One of the symbols of Chiang Mai
		3. Near some popular restaurants.
		4. Starts of Tha Phae road having many restaurants
<b>5</b>	<b>Chang puak gate</b>	1. One of the gates of ancient city.
		2. Near Somphet market
<b>6</b>	<b>Nimmanahaeminda Road</b>	1. A pupolar streets
		2. Steady passenger flow
		3. Various restaurants and coffee shops
<b>7</b>	<b>Wat Ched Yot</b>	1. A historical sightseeing
		2. Near MAYA shopping mall
<b>8</b>	<b>Warort Market</b>	1. Sufficient parking space
		2. Steady passenger flow
		3. Near the ancient city
		4. many sightseeings surround it
<b>9</b>	<b>Wat Ket Karam</b>	1. Besides the Ping river
		2. Historical sightseeing
<b>10</b>	<b>Tha Phae Gate</b>	1. Steady passenger flow
		2. many sightseeings surround it
<b>11</b>	<b>Central Plaza Chiang Mai Airport</b>	1. Near city area
		2. Steady passenger flow

The stations of tour bus are decided with the real situation of Chiang Mai city area transportation and the data analyzed from the travel notes of CITs. Start station is Chiang Mai International Airport which is not in the attraction selections, but airport is the place that every tourists will arrive at. These spots are connected with the real situation of the road.

Considering about the roads situation and tourists needs, tour bus route is created around the ancient city. In the ancient city, tourists can get off in the four stations and visit attractions and try various Thai food.

Table 4.24 Travel Route for Walking in Ancient City

1.	Suan Dok Gate
2.	Wat Phra Singh
3.	Wat Chiang Man
4.	Wat Chedi Luang
5.	Wat Muen Ngoen Kong
6.	Wat Puak Taem
7.	Wat Prasat
8.	Wat Phuak Hong
9.	Wat Phan Tao
10.	Wat Duang Di

The route in the ancient city is for walking. From data analysis and in-depth interview from CITs, tourists like walking in the ancient city to feel the history, culture and local Life of Chiang Mai. In addition, the attractions are close to each other. The attractions are connected with their history which means the built time the temples are built. Also, it is connected from the concept of DT which means the solution depending on customer needs. It is easier to help tourists feel the local life and culture of Chiang Mai. Tourists hang around in the ancient city, it is more convenient for independent tourists to visit and try various of Thai food.

There are three part in the route map. First part is a full introduction and pictures about the attractions. Second part is the tour bus route and introductions for every station and third part is the walking route and introductions for attractions in the ancient city. Every station has some introduction about the attractions to make tourists have a better understanding about the attractions in Chinese and English.



#### 4.4 Result of Testing

There were 14 CITs were interviewed to acquire feedback about the tour bus route.

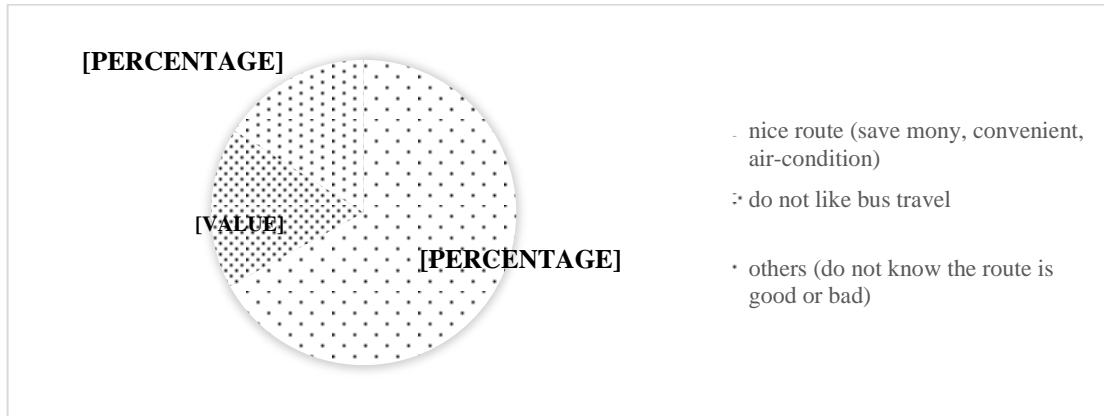


Figure 4.4 Feedback for tour bus route

The results showed that more than half of the interviewees like this travel route, and they mentioned that they would like to try the new travel route and new attractions because it can save money and it is convenience for travel around city. However, there 16% interviewees thought that they did not like bus travel and they preferred motorcycle. There were 17% interviewees mentioned that they had no idea about this travel route.

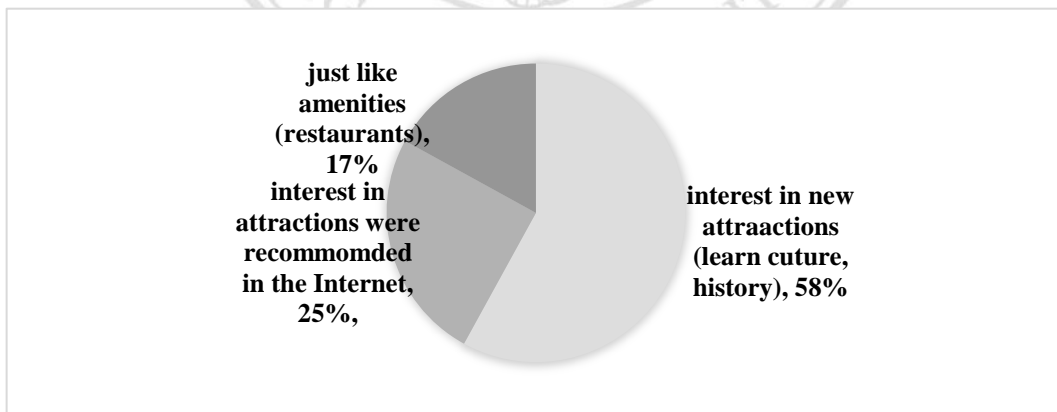


Figure 4.5 Feedback for attraction selection

The feedback of attraction selection shows that 58% interviewees were interested in the new attractions and would like to try because they would like to acquire more culture and history of Chiang Mai. And 17% interviewees just traveled for Thai food. However, there were 25% interviewees would like to travel the attractions recommended on the internet.

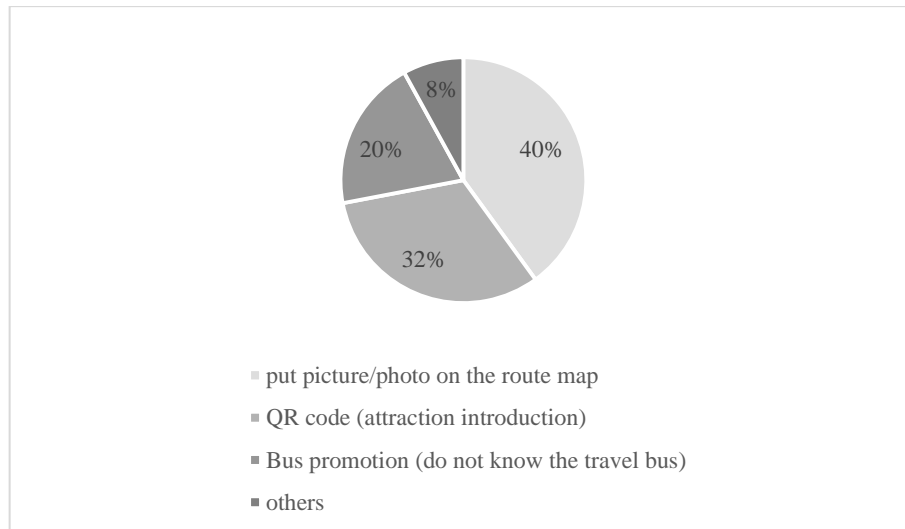


Figure 4.6 The suggestions for travel route

The results of the suggestions showed that 40% interviewees suggested the picture of each attractions could be put on the route map, which could be better to describe each attraction. 32% interviewees liked the QR code put on the route map so that they could get the information of each attraction easier and more convenient. In addition, 20% interviewees mentioned that if it possible, the public tour bus could be promoted to tourists, otherwise it could be seldom tourists know it.

## CHAPTER 5

### Conclusion and Discussion

#### 5.1 Research Summary

This research has investigated the current tourism vehicles and various attractions in Chiang Mai city conducted into the background of tourism industry in Chiang Mai. Moreover, this research focuses on CITs who is the main travel group in Chiang Mai and the number of CITs are increasing. The current travel transit vehicles cannot satisfy CITs due to the nonstandard transit car price, unsafe travel transit and high costs in transportation. The problem of this research is there is not a suitable and sustainable travel transit for CITs to experience the culture and scenery in Chiang Mai ancient city. The aim of this research is to design a travel route for tour bus in Chiang Mai city to make the trip more convenient, lower costs and safer for tourists, especially for CITs. With the guiding of 5A theory, this research investigated the popular places for CITs in the ancient city and around the ancient city. From the knowledge management perspective, this research mainly applies DT process to design the tour bus route for tour bus and tourists. The travel route focuses on the current popular places for CITs and the attractions which are full of history and culture but seldom tourists visit. The purpose of the tour bus route is to help tourists travel round Chiang Mai city more convenient, safer and lower costs, and have a clear guide for travelling and experience local culture and life.

The results of data analysis indicated that why CITs travel to Chiang Mai. They travel for the leisure life, low costs and cheap air ticket. CITs prefer to experience the culture of Chiang Mai by a convenient, safe and low cost's vehicle. In addition, findings show that a public tour bus can reach the needs of CITs which are convenient, safety and low costs when they are raveling. And the route of the bus can satisfy CITs, provide a new choice for CITs to systematically experience the culture of Chiang Mai. Additionally, it can reduce the traffic pressure in the peak hours. Moreover, tour bus system is a nature-friendly and sustainable transit vehicle to a tourism destination.

## 5.2 Discussion

The discussion section will be discussed for two parts:

1. It is vital for designing a route to select places as the spot of the route. Especially for a new researcher who do not have any experience in designing a route, a process of designing a route is disordered. DT provide a systematic process to design a route. There are five steps of DT which consist of empathy, identify, ideation, prototype and testing. These five steps are used to create a systematic process to understand the problems and the needs of customer, brainstorm the solutions to the problem and get the feedback from customer about the solution. The five steps can be reached with the supporting of multiple methods. In the step ideation, brainstorming can be used to ideate the solutions to the problem. However, there are various methods can be utilized to create solutions. In this study, in-depth interview and text mining are used to support ideation. Data collected and analyzed by text mining to analyze the key words of the route spots, and in-depth interview with CITs who were travelling in Chiang Mai to reconfirm the problems and key words. Due to acquire more knowledge for design the route, an expert was in-depth interviewed. Then, a route model was created with the critical knowledge in prototype step. And, the feedbacks from CITs in the step of testing via in-depth interview. With the help of DT, the research process was created and analyzed data systematically. The popular attractions were analyzed and selected in the ideation step. These attractions could be new choices for tourists to have a better experience in Chiang Mai.

DT provides a systematic process to solve a problem, and it can be repeated to add more elements to consummate the solution until a better solution is created to solve the problem.

2. Text mining is used to extract unstructured travel notes from websites in this research. Generally, it aims to extract the unknown information from unstructured information. With the rapid growth of textual information, the demand for powerful text mining systems is growing. Text mining is the process of exploring and analyzing a mounts of unstructured text data aided by software that can identify concepts, patterns, topics, keywords and other attributes in the data. The text mining software can be

utilized to extract information from different type of websites. The information could be business documents, customer emails, media records and other sources of text-based data. Other text mining uses including screening job candidates based on words in the resumes, blocking spam emails, classifying website content and other fields.

Text mining can be used to explore and analyze multiple information in websites. It saves time and make the exploring work easier. Using text mining to gain insight information can help organization detect problems and address them of their stakeholders. Text mining also can help to predict the performances of the stakeholder to take action for a better service.

### **5.3 Research Limitation**

However, it should be noted that the research has several limitations. The limitations are started as below:

#### **1. Limitation of Research Population**

This research investigates the popular attractions for CITs' perspective. Data collect from Mafengwo in 1st June to 31st October in 2017. And the in-depth interview was held in Jun 2018.

There were 20 tourists were interviewed, and 8 tourists provided the useful information. The in-depth interview was held in Nimman road in June which is one of the peak seasons for Chinese tourists travel outside. However, there were 20 CITs had the willing to do the in-depth interview to share their travel experiences and travel problems. The data of in-depth interview from CITs to reconfirm the results of data analysis has some limitations.

In the stage of testing, there were 14 CITs had willing to be interviewed about the tour bus route. And there were 12 CITs shared some useful experiences and suggestions.

#### **2. Limitation of paper vison of travel route**

The output of this research is a travel rout for tour bus in Chiang Mai city area. However, the travel rout still has its limitations in two aspects. First, it does not have enough time to make the pictures of each attractions in the travel rout. It has three languages to introduce, but there are not put pictures of each attractions to make tourists

have a big concept of the attractions. Second, the paper route cannot make sound to introduce these attractions.

#### **5.4 Future Work**

This research is a trail from the perspective of knowledge management to create a travel route for travel bus. This research has made the original results. Researcher believe that on this basis, future work can be extended in the following aspects:

1. The sound media be used in the attraction introduction

As mentioned in “the limitation of research”, the travel route has its disadvantage. Technology has been used in nowadays travelling. The QR code (Quick Response code) is used in many fields especially in museums. It is used to connect the introduction visions via visitor’s smartphone. In the future, this travel route can be created a QR code about the introductions so that tourists can scan it with their smartphone and listen or read the introduction about the attractions.

2. The travel attractions can be extended

This research investigates the attractions mainly around the ancient city area because ancient city is the most popular place where CITs like to visit. According to the data analysis, CITs also like to visit other attractions outside Chiang Mai city area. In the future work, the route could be extended including the attractions outside the city. It can serve more tourists and make a better travel image of tourists.

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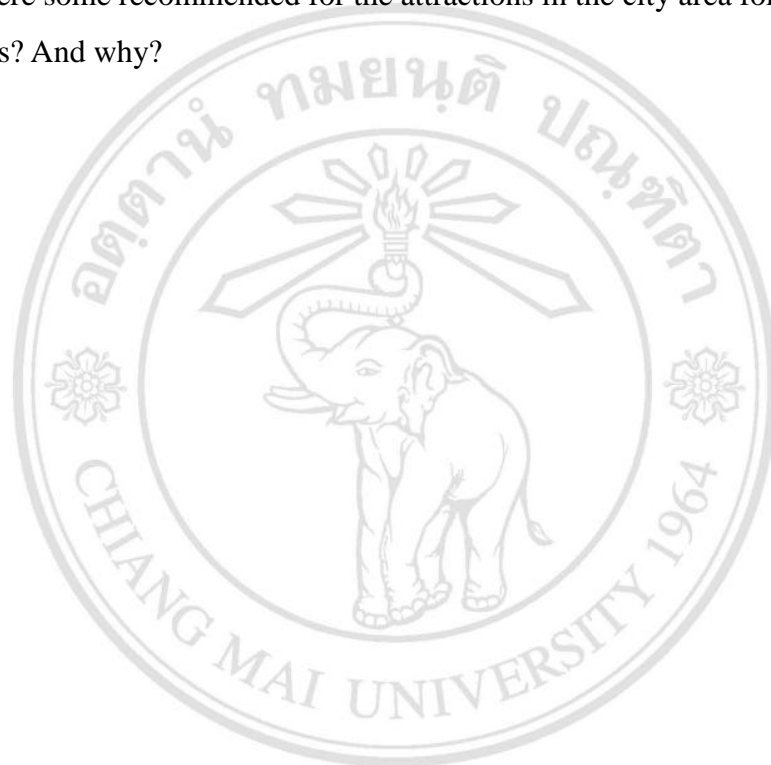
## REFERENCES

- [1] Chasanidou , D., Gasparini , A. A., & Lee, E. (2015). Design Thinking Methods and Tools for Innovation. *Springer International Publishing Switzerland, LNCS 9186*,, pp. 12–23. doi:10.1007/978-3-319-20886-2\_2.
- [2] Coedes, George, & Vella, W. (n.d.). The Indianized States of south-east Asia.
- [3] Connell, S. E. (2013). Exploring Operational Practices and Aechetypes of Design Thinking. *ProQuest LLC*.
- [4] Council, W. T. (2017). *Travel and Tourism Economy Impact, WTTC, 2017*. The Harlequin Building, 65 Southwark Street, London SE1 0HR, United Kingdom.
- [5] Dorst, K. (2011, 7). The core of ‘design thinking’ and its. *ELSEVIER Design Studies* , pp. 521-532.
- [6] Filemon. A. URIARTE, J. (2008). *Introduction to Knowledge Management*. ASEAN Foundation, Jakarta, Indonesia.
- [7] GhaliaThaana. (2016). Essays on Tourism and its Determinants. Department of Economics and Finance.
- [8] Hussein Hashimi, Alaaeldin Hafez, & Hassan Mathkour. (2015, January 16). Selection criteria for text mining approaches. *Computers in Human Behavior*, pp. 729–733.
- [9] Luangsa-Art, N. (2016). Guideline in Developing A Tourism Route: A Case Study of Tambon Bangkok Khwaek,Samitsongkhrrm Province. *Full Paper Proceeding*, 2, pp. 42-46.
- [10] Maurício, V., Ysmar, V., Isabel, A. K., Brenda, L., & Beatriz, R. (2011). *Design Thinking business innovation*. MJV Tecnologia ltda.
- [11] MEI, Q. (2009). *CONTEXTUAL TEXT MINING*.

- [12] Morrison, A. M. (2014, April). *The 10 As of Successful Tourism Destinations*. Retrieved from ResearchGate: <https://www.researchgate.net/publication/261360325>
- [13] Owen-Jackson, G. (2002). *Teaching Design and Technology in Secondary Schools*. London: Routledge Falmer.
- [14] Seidel, V.P, Fixson, & S.K. (2013). Adopting design thinking in novice multidisciplinary teams: the. *J. Prod. Innov. Manage*, 1, pp. 19–33.
- [15] Shelley Goldman, Zandile Kabayadondo, Adam Royalty, Maureen P. Carroll, & Bernard Roth. (2014). Student Teams in Search of Design Thinking. *Design Thinking Research, Understanding Innovation*. doi:10.1007/978-3-319-01303-9\_2.
- [16] Sriboonlue, U. (2008). The Influence of Psychological Distance on Perception of Thailand: A Comparison of Asian, European and North American Tourists.
- [17] Tim, B., & Kätz, B. (2009). *Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation*. New York: Harper Business.
- [18] Trybula, W. J. (1999). *Text Mining and Knowledge Discernment: An Exploratory Investigation*.
- [19] Visser, W. (2006). *The cognitive artifacts of designing*. Lawrence Erlbaum Associates.
- [20] Xiang, Y. (2013, May 30). The Characteristics of Independent Chinese Outbound Tourists. *Tourism Planning & Development*. doi:10.1080/21568316.2013.783740
- [21] Yahua Zhang, & Yiqian Peng. (2014, August 20). Understanding travel motivations of Chinese tourists visiting Cairns, Australia. *Journal of Hospitality and Tourism Management*, pp. 44-53.

**APPENDIX A**  
**Interview Expert**

1. How do you think the attractions that I have analyzed, would you like to give me some suggestions?
  
2. Are there some recommended for the attractions in the city area for foreign tourists? And why?



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## Interview-Chinese independent tourists

1. How long have you been Chiang Mai?
2. Where do you live in?
3. Why do you choose there?
4. Where did you visit?
5. Why do you want to visit these attractions?
6. Have you tried some food? Do you remember the name of the restaurants? What are they?
7. Why did you choose these restaurants?
8. What kind of transit vehicles do you take these days?
9. Why do you want to take it?
10. Are there any problems you faced?



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## 采访中国自由行游客

1. 请问您到清迈多久了？
2. 请问您住在哪里呢？
3. 为什么您要选择住在这里呢？
4. 您到清迈来去了哪些地方呢？
5. 请问您为什么会想去这些地方呢？
6. 请问您去吃了什么美食嘛？或者一些让您印象深刻的美食。  
请问您记得这些餐厅的名字吗？
7. 为什么您会选择这些餐厅呢？
8. 请问这几天您乘坐什么交通工具出行的呢？
9. 请问您为什么会选择这种交通工具呢？
10. 请问您在旅游的过程中有没有遇到过什么困难吗？

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## In-depth interview- feedback

1. The travel route in the ancient city, how do you think about it? Would you like to give me some suggestions?

2. How about the attractions selected for you?

3. Do you have any suggestions?



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## 反馈采访

1. 请问您觉得这个观光车的路线适不适合你们在清迈市区的旅游计划呢？

2. 请问您对于这些景点的选择有什么意见和建议吗？

3. 在古城里面有一段路是走路观光，请问您有什么意见和建议吗？

4. 在古城外的这一段观光路线，请问您有什么意见和建议吗？

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NLPIR分词

 分词

 用户词典

 关键词提取

 指纹提取

尤兰纳这糟糕的酒店。塔佩门是清迈古城所遗留下来的唯一遗迹，古城于1296年所建成。清迈古城建成时，用红色的砖块相砌而成的围墙足足高达两米，非常气派。可惜由于经历风雨和岁月的沧桑，雄壮的清迈古城只留下那道大门作为影子被后人所记住。这座拥有历史风貌的城门，广场上的白鸽，经过的行人都会不由自主的将目光聚集在城门前广场上。晚上游客品尝完美食之后可以来这里漫步栖息，非常有情调。清曼寺是清迈的第一座寺庙，清迈建城时，曼格莱王在此扎营，监督整个工程的进行，并在此盖了清曼寺，曼格莱王还曾经说过老了之后要住在这里。清曼寺中最好的建筑就是由15口大象承载的塔，特别漂亮~接着去了契迪龙寺。泰国大部分寺庙都是前面一个差不多设计的前殿，金光闪闪，供奉着一尊巨大的佛像，供信徒和游客瞻仰膜拜。殿后才是类似标

黑名单  导入 输出词

清迈/ns/52.52/142#没有/v/45.00/79#塔佩门/nrf/41.20/10#契迪龙寺/n\_new/38.87/7#素贴山/n\_new/37.72/12#可以/v/35.08/62#酒店/n/32.49/78#宁曼路/nr/31.92/12#清迈大学/n\_new/30.58/29#帕辛寺/n\_new/29.83/8#清曼寺/n\_new/29.64/9#泰国/nsf/28.24/64#马杀鸡/n\_new/27.48/9#丛林飞跃/n\_new/27.24/15#周日夜市/n\_new/27.22/16#泰式/n\_new/26.96/20#郑王庙/n\_new/24.23/5#看到/v/22.47/33#古城/n/22.43/44#寺庙/n/22.01/39#游客/n/21.50/24#蒲屏行宫/n\_new/21.11/4#榴莲/n/19.70/25#宽

关键词	词性	权重
清迈	ns	52.52/142
没有	v	45.00/79
塔佩门	nrf	41.20/10
契迪龙寺	n_new	38.87/7
素贴山	n_new	37.72/12
可以	v	35.08/62
酒店	n	32.49/78
宁曼路	nr	31.92/12




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# APPENDIX B

# Experience

## Chiang Mai



### Bus Stations

1. Chiang Mai International Airplane
2. Suan Dok Gate
3. Chiang Mai Gate
4. Tha Phae Gate
5. Chang Puak Gate
6. Nimmanahaeminda Road
7. Wat Ched Yot
8. Warorot Market
9. Wat Ket Karam
10. Central Plaza Chiang Mai Airport
11. Chiang Mai International Airport

---

### Attraction Information

#### Chiang Mai International Airport

There are several kinds of transportation services provided for passengers, including limousine and car rental services.

#### Suan Dok Gate

one of the ancient gates of Chiang Mai

Wat Suan Dok, built in late 14th century, houses several structures of historical significance.

#### Chiang Mai Gate

start of Saturday night market

Chiang Mai gate is one of the old gate. Various restaurants and coffee shops around it.

#### Chang Puak Gate

the famous Peng Fei rice park station

Chang Puak gate is one of the four main gates to the old walled city of Chiang Mai.

#### Tha Phae Gate

Tha Phae Gate is one of the most famous landmarks in Chiang Mai and is part of the crumbling city wall which once acted as a fortress for the 'Old City'.

#### Wat Ched Yot

now open for visitors to study history and experience the elaborate ancient historical site.

#### Nimmanahaeminda Road

The place is alive with fashionable restaurants, cafés, bars, shops and boutique hotels.

#### Warorot Market

It is a must-visit for food lovers as it offers a wide range of ready-to-eat meals, local snacks and all kinds of fresh produce.


#### Wat Ket Karam

Wat Ket Karam was built in 1428. Around the temple there is the Ket Kaew Chura Manee pagoda which is worshipped by the community and an old market of the Chinese community.

#### Central Plaza Chiang Mai Airport

It is the place to go for international brands and is also a good stop off point for last-minute souvenirs.

- ✓ No smoking in the public
- ✓ Keep quiet in Buddhist area
- ✓ Take off your shoes before going into main hall of temple
- ✓ Take care your goods
- ✓ Not rent car or motorcycle without international driver license
- ✓ Be care for your dress when you are visiting a temple



- 🏠 Thai style hotel or hostel in ancient city
- 🍽️ Thai restaurants, Chinese restaurants, Western restaurants, Coffee shops
- 🧘‍♀️ various traditional Thai massage

[www.scrsigorden.com](http://www.scrsigorden.com)  
[www.google.co.th/img/hp7th-en416-wr/](http://www.google.co.th/img/hp7th-en416-wr/)

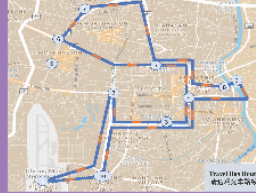
# Experience

Chiang Mai



## Bus Stations

1. Chiang Mai International Airplane
2. Suan Dok Gate
3. Chiang Mai Gate
4. The Phae Gate
5. Chang Puak Gate
6. Nimmanaheminda Road
7. Wat Ched Yot
8. Warorot Market
9. Wat Ket Karam
10. Central Plaza Chiang Mai Airport
11. Chiang Mai International Airport



## Attraction Information



### Chiang Mai International Airport

There are several kinds of transportation services provided for passengers, including limousine and car rental services.

### Chiang Mai Gate



part of Saturday night market

Chiang Mai gate is one of the old gate. Various restaurants and coffee shops around it.

### The Phae Gate



The Phae Gate is one of the most famous landmarks in Chiang Mai and is part of the crumbling city wall which once acted as a fortress for the 'Old City'.

### Nimmanaheminda Road



The place is alive with fashionable restaurants, cafés, bars, shops and boutique hotels.

### Warorot Market



It is a must-visit for food lovers as it offers a wide range of ready-to-eat meals, local snacks and all kinds of fresh produce.

### Central Plaza Chiang Mai Airport



It is the place to go for international brands and is also a good stop off point for last-minute souvenirs.



Thai style hotel or hostel in ancient city



Thai restaurants, Chinese restaurants  
Western restaurants, Coffee shops



various traditional Thai massage

Always books can be checked in when you  
have a reservation in advance  
Some reservations can be booked in the internet

### Suan Dok Gate



Wat Suan Dok, built in late 14th century, houses several structures of historical significance.

### Chang Puak Gate



the famous peng peng rice park stairs

Chang Puak gate is one of the four main gates to the old walled city of Chiang Mai.

### Wat Ched Yot



now open for visitors to study history and experience the elaborate ancient historical site.

### Wat Ket Karam



Wat Ket Karam was built in 1428. Around the temple there is the Ket Kaw Chura Manee pagoda which is worshipped by the community and an old market of the Chinese community.

- ✓ No smoking in the public
  - ✓ Keep quiet in Buddhist area
  - ✓ Take off your shoes before going into main hall of temple
  - ✓ Take care your goods
  - ✓ Not rent car or motorcycle without international driver license
- Be care for your dress when you are visiting a temple



www.scratgordenchoei.edu  
www.google.co.th/img/hp/thai-wedding/1

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