



**A DYNAMIC DECISION SUPPORT SYSTEM FOR  
TOUR PACKAGING: A CASE STUDY OF  
CHIANG RAI PROVINCE**

**WITAWAS YOSWONG**

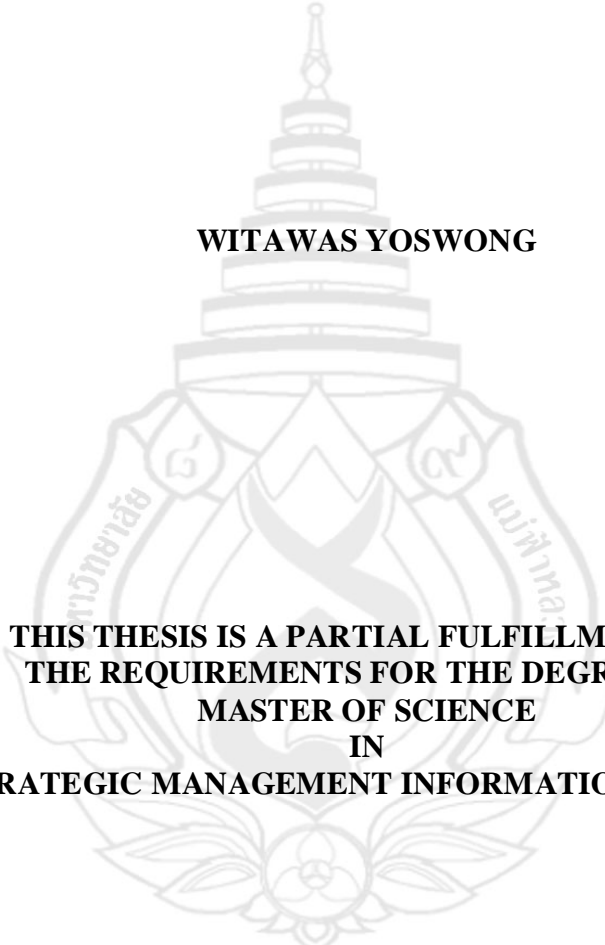
**MASTER OF SCIENCE  
IN  
STRATEGIC MANAGEMENT INFORMATION SYSTEM**

**SCHOOL OF INFORMATION TECHNOLOGY  
MAE FAH LUANG UNIVERSITY  
2011**

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**THIS THESIS IS A PARTIAL FULFILLMENT OF  
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THESIS COMMITTEE

.....*C. Lersinsap*.....CHAIRPERSON  
(Prof. Dr. Chidchanok Lersinsap)

.....*P. Temdee*.....ADVISOR  
(Asst. Prof. Dr. Punnarumol Temdee)

.....*Kosin Chamnongthai*.....CO-ADVISOR  
(Assoc. Prof. Dr. Kosin Chamnongthai)

.....*Y. Thongchai*.....EXAMINER  
(Asst. Prof. Gp. Capt. Dr. Thongchai Yooyatiwong)

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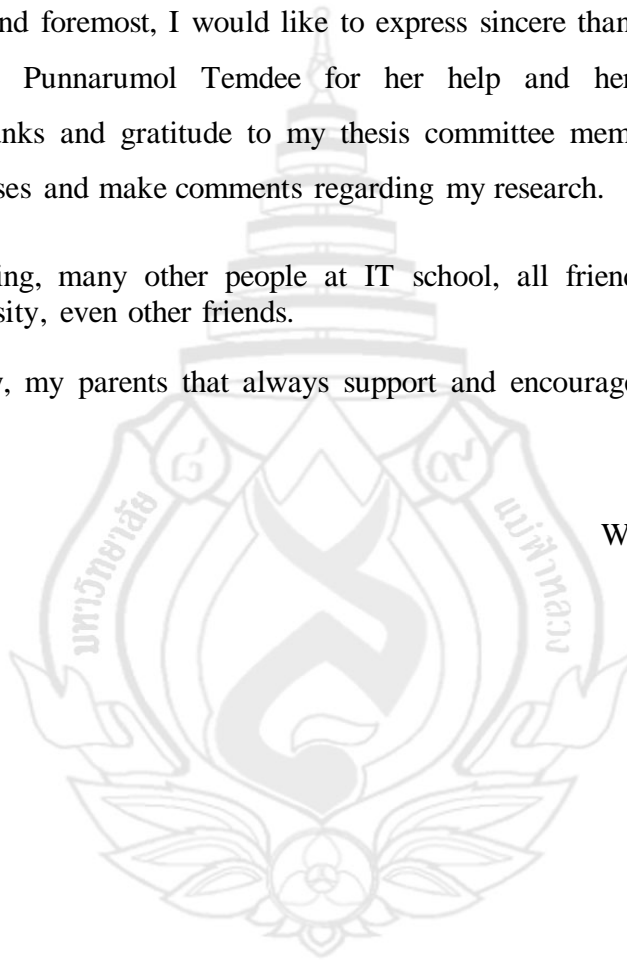
I would like to thank many people for their encouragement and guidance during my years as a graduate student in Mae Fah Luang University.

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WITAWAS YOSWONG



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<b>Author</b>	Witawas Yoswong
<b>Degree</b>	Master of Science (Strategic Management Information System)
<b>Advisor</b>	Asst. Prof. Dr. Punnarumol Temdee
<b>Co-Advisor</b>	Assoc. Prof. Dr. Kosin Chamnongthai

## **ABSTRACT**

This thesis proposes a dynamic decision support system for tour packaging to maximize the satisfaction of the tourists. The proposed system firstly models type of tourists by initially using decision rules and motivation parameters. The motivation parameter is tourist personal data including gender, marital status, age, occupation and revenue per month, which is used for categorizing which type of each tourist and providing more desirable tour package. Tour package used in this thesis are which is mostly divided into 6 types of tourist attractions including history, culture, nature, pleasure/exciting, relaxation/ health and eco/agro tourism. A package tour is arranged by the proposed system particularly for each tourist type. Nevertheless, satisfaction of tourists is usually changed by their motivations, the modeling module in the proposed system is thus designed to be dynamic. In thesis, the decision rules are adjusted in each interval of time by using the questionnaire for gathering satisfaction data and adjusting the rule bases for creating preferable tour packages. The result of study from the 160 tourist samples in Chiang Rai province shows that the proposed system provides higher satisfaction scores for 27.49% than the system using un-adjustable rules.

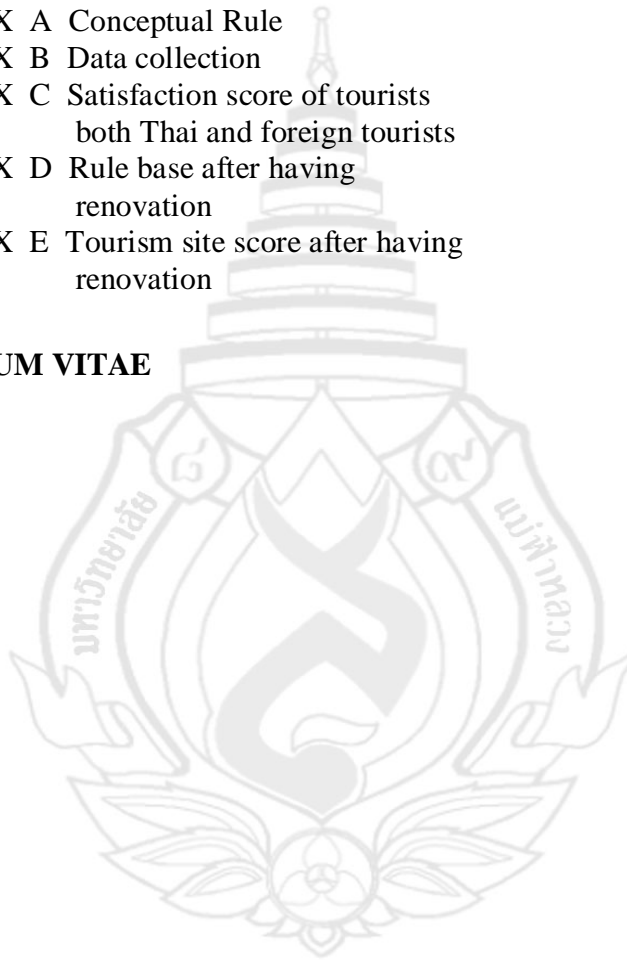
**Keywords:** Decision Support System/Tourist package/Decision rule

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# CHAPTER 1

## INTRODUCTION

### 1.1 Principle and Motivation

Tourism becomes a vital section of Thailand that provides a lot of profit and amount of national revenue. The report from Tourism Authority of Thailand (TAT) shows that tourists and revenue have been increasing each year. Since 2006 the number of tourists is increased from 1,332,518 to 1,741,246 in 2008 and revenue is increased from 9,374.20 million baht to 10,633.92 million baht. Until 2009 number of tourists is decreased to 1,680,248 and revenue is decreased to 9404.64 million baht because of politic problem in Thailand (Department of Tourism, 2012). In 2011, there has been a strategic plan to increase the Gross Domestic Product (GDP) and the national revenue from the tourism industry (Ministry of Tourism & Sports, 2012). Tourism industry can be promoted by making a plan or holding events to attract more tourists. Therefore, if the tour package can be arranged corresponding to the requirement of tourists, they will have more desirable tour package and the trip information would be helpful for them to travel within the limited time. Arranging tour package to satisfy tourists is thus suggested to increase more attraction and more convenience for the tourists. If they are satisfied with the tour package arrangement, they will enjoy the trips and willingly spend a lot of money.

In Chiang Rai province, there are many important factors to support the growth of tourism industry including many beautiful tourist attractions. Moreover, Chiang Rai also shares its long border with Myanmar and Laos as one of the Great Mae Khong Sub-region countries. Currently, Chiang Rai Provincial Administrative Organization has planned a strategy to strengthen the tourism industry by increasing more income regarding the government strategic plan (Ministry of Tourism & Sports, 2012). However, it has been found from the data of Chiang Rai Tourism Authority of Thailand (TAT) that tourists numbers and the income of Chiang-Rai have been slightly increasing recently (Ministry of Tourism & Sports, 2012). Therefore, in order to increase the number of tourists and especially the income from tourism. A decision support system for tourists packaging is worthy to be developed. This thesis thus purposes the decision support system to generate tour packages to satisfy the different types of tourists within specific period of time.

The tourist requirements are varied because of their different motivations and their behaviors. It can be said that these factors affect their decisions (Boonnanida Sodha, 2002). In order to provide satisfied tour packages, this thesis will focus on the factors affecting the decision making of the tourists to offer the most appropriate tour package for them. Nevertheless, creating the tour package to tourist appropriately is difficult to be done manually due to a large number of tourists and data involved. Currently, Information and Communication Technology (ICT) has been playing the main role to provide more effective offerings for online tour packaging.

This thesis utilizes the advantage of ICT to provide an effective way of creating tour packages by dealing with a large number of data in a short period of time. To maximize the satisfaction of tourists, tour package should be dynamically arranged. Dynamic tour package should be adjusted according to demand, motivation and situation. If created tour package can provide the most satisfaction for tourists, more income can be expected to be increased for Chiang Rai and national revenue.

## **1.2 Objective**

The objective of this thesis is to propose a decision support system for tour packaging to maximize the satisfaction of the tourists. Since each tourist has different characteristics and behaviors regarding their motivation, this thesis aims at developing a dynamic decision support system to provide the most appropriate tour package for each of them from decision rules. Decision rules have been generated from 5 motivation parameters or tourist characteristics including gender, marital status, age, occupation and revenue per month. If a tour package cannot be provided for tourist satisfaction, the tourist model can be improved by data collected from tourists to adjust the decision rule. The system is also automatically self-adjusted. The tour package to maximize the tourist satisfaction can be adjusted by calculating additional data.

## **1.3 Scope**

The proposed system supports for Thai tourists and foreigner. This system uses web application for implementation. The proposed system categorizes the tourist type and provides tour package from 5 input motivation parameters and 156 rules. The 160 tourists in Chiang Rai are sample. They were inquired 3 times at maximum for checking how they are satisfied with tour package.

## **CHAPTER 2**

### **LITERATURE REVIEW**

This Chapter reviews the previous studies of tour packaging created from tourist motivation and the theory related.

#### **2.1 Related Works**

The World Tourism Organization (2012) defines tourists as people who travel to and stay in places outside their usual environment for more than twenty-four (24) hours and not more than one consecutive year for leisure, business and other purposes not related to the exercise of an activity remunerated from within the place visited. Tourism is vital for many countries, due to the large intake of money for businesses with their goods, services and opportunities for employment. In Thailand, the government has much concern and encourages a tourism promotion in country development and economic plan as an income source to generate the national revenue.

##### **2.1.1 Tourist Behavior and Satisfaction**

Tourist behavior is a kind of actions that a person has done on purchasing, consuming or making a decision while they are traveling around. It becomes clear that tourist behavior is affected by many different factors (Boonnanida Sodha, 2002). There are some research that has investigated the tourist decision making and their behavior. For example, Joseph (1998) presented the tourists' cognitive decision making (TCDM) model with the purpose of identifying and understanding the cognitive process of trip decision making. Chalermchai Kamsean (2007) focused on indicating factors that affected the tourist behavior and their decision. The results showed that the most 5 motivation factors that affected tourist behavior are gender, age, marital status, occupation and revenue per month. If those affected factors meet their demand, they will be exactly satisfied. Tourist satisfaction is valuable equal to the amount of money they spent for buying the local product, souvenir or tour package. The satisfaction for tourism has arisen in all the processes offered from tourism to the tourists and they give feedback whether they are satisfied or not. The tourist who was satisfied with the trip spent more money while they were traveling according to a surveying study of Ruagrutai Phagkantorn & Surachet Chetmart, (2007). The results showed that the more enjoyable and satisfactory tourists feel, the

more money they were willing to pay. Moreover, tour satisfaction can make tourists purchase goods and products again when they revisit that place. Hsieh Ling-Feng & Wang Li-Hsin (2007) aimed at studying about the customer satisfaction in tourism industry in order to know their demand of purchasing the tour package in the future. They used a questionnaire for inquiring the specific information from the professional managers in tourism industry. The researchers used Analysis Hierarchy Process (AHP) to categorize a suitable model for tourism industry and Analytic Network Process (ANP) to increase the accuracy of results. The satisfaction of each tourist is different depended on their behavior. However, there are some tourists that have similar behavior and it can categorize them into a group. Tourists choose the most appropriate tour package from the factors that affected their decision making.

### **2.1.2 Decision Rule**

A decision rule is a guide for decision making which is designed to ensure that decisions are consistent and effective. The decision rule has two aspects. The first is a description of a hypothetical set of conditions. The second is the action to be taken in those conditions. For example, if tourist is a female and her age is between 40 to 60 years old, she will prefer to go to the historical site. The result is more precise if the rule bases used in diagram are certainly similar to the tourist decision.

There are some literatures related to tour packaging model by using decision rule. Orapin Santidhirakul (2008) presented a tour package with decision rule as support tools to categorize tourist types and planned appropriate tour package for them to choose. The research focused on both local tourists and visitors and used chi-square to test the satisfaction of tourists. Sakchai Thangprasert & Putsadee Siriseangprasert (2006) used the rule as a decision support system for data classification tools. From 95% of reliability of 550 sampling of mental health patients, this research used AJAX to create online website for gathering input data from users and categorize them with suitable 15 base models. Manon, Middelkoop & Aloys (2003) introduced a heuristic principle to choose a trip by rule base. The results indicated that this methodology can be applied successfully to better understand the tourist behavior. Moreover, the statistical properties of the decision table generated are satisfactory, especially when probabilistic rules are used. Same as Chen (2004), Rob & Norman (1998) and Franke (2002) that use decision rule to create and model for tourism section.

But if tour package are static, it may be suitable at that time when a tour package has been created but will not meet the demand of tourists in the future. Hence, the rule base used in this research might not be appropriate and up to date. If there is an error occurred in the decision node, the result may be wrong. In addition, the rule bases cannot change themselves. If there is an error in decision node, the result will be wrong. It is so because the decision tree analysis does not have a learning process and it cannot develop itself.

As the situation is changed, the motivation of tourist is accordingly changed. The satisfaction of tour package should be varied according to tourist satisfaction. Dynamic tour package that can be recreated following to the demand of tourists will give more satisfaction to them than the static tour package.

This thesis uses the decision tree analysis as a tool for creating a tour package that meets the need of each tourist type and providing a learning process to make rule bases change following to the satisfaction of tourist. The purposed method will be presented in Chapter3.

### **2.1.3 Decision Support System and their Application**

Decision Support Systems (DSS) are a specific class of computerized information systems that supports business and organizational decision-making activities. A properly-designed DSS is an interactive software-based system intended to help decision makers compile useful information from raw data, documents, personal knowledge, and/or business models to identify and solve problems and make decisions. DSS has many supported software and applications as decision tool for many decision activities including for tour packaging that created as web based application and varied software. Decision rule is used as main function to represent the most appropriate tour package after processing information from tourists. However, each tourist has different characteristics and behaviors regarding their motivation. If the rule base is not satisfactory for tourists, tour package is not satisfied either.

## **2.2 Proposed Method**

This thesis applies the decision rules as a decision support tool for generating an appropriate tour package for the tourist. Firstly, we identify a tourist type using motivation parameters or their 5 characteristics including gender, marital status, age, occupation and revenue per month used for model and decides type of that tourist from 6 main types including history, culture, nature, pleasure/exciting, relaxation/health and eco/agro. Then system provide appropriate tour package for each tourist type. If tour package that the system provides does not satisfy to tourists, system will provide questions that used to gather the information required for adjusting those rules for provide more appropriate package. The system collected information from tourists and adjust the most appropriate rule, decision rules are adjusted by the time the system is used by the users thus dynamic tour package. Details of proposed system are later discussed in Chapter 3.

## **CHAPTER 3**

### **METHODOLOGY**

This thesis consists of two main phases including analysis and design phase and implementation phase. The more details are in the following subsections.

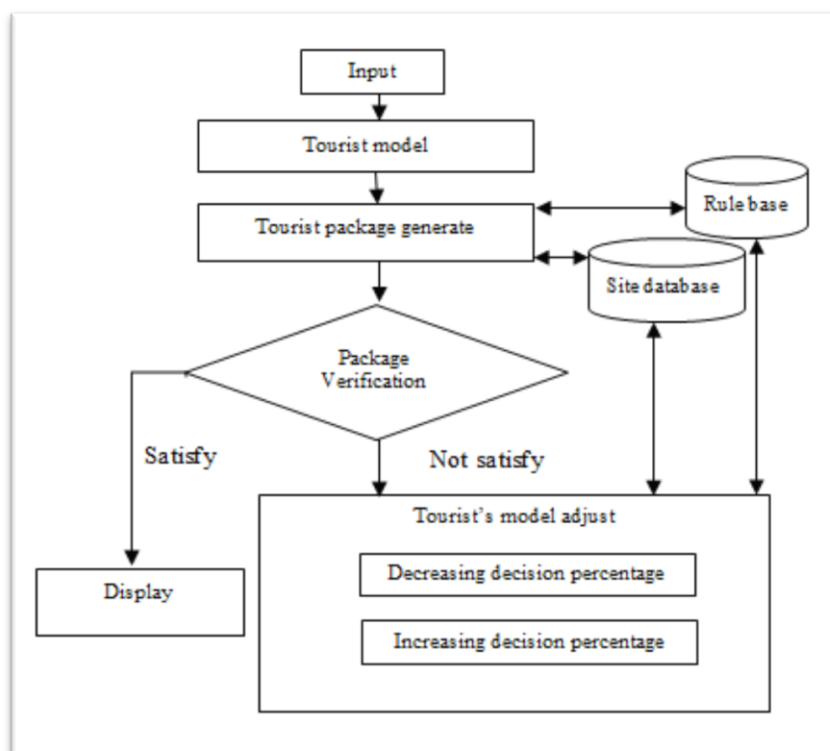
#### **3.1 Analysis and Design Phase**

This section describes the detail of analysis and design phase of the proposed dynamic decision support system for tour packaging.

##### **3.1.1 System Overview**

The overview of the system is shown in Figure 3.1. There are six processes presented including motivation parameter input, tourist modeling, tour package generation, package verification, tourist model adjustment and display

First, the tourist inputs 5 personal data as motivation parameters including gender, marital status age, occupation and revenue per month to the system, then the system will model the tourist type from prior knowledge and rules base of existing research (Orapin Santidhirakul, 2007). The package is generated according to the tourist type. Then, the system provides the package tour for the tourist in the second process. The third process is package verification. The system will check how much the tourist satisfies the generated tour package. If the tourist satisfies the generated tour package, the system will end up all processes and the existing rules will not be changed. However, if the tourist does not satisfy the tour package, tourist model adjusting is selected as renovating tool for adjusting the new rules. In this process, there are 2 sections of adjustment, including increasing and decreasing decision percentage and rearranging a list of tourism sites. In the first section, the system provides a questionnaire for the tourist in order to determine which tourism site in tour package should be decreased or increased according to the tourist's satisfaction. The decision percentage is developed in this section. In the later section, the system allows the tourist to rank the most 3 preferred sites and the other 3 that are not preferred from generated package. Then the system uses these answers and decision percentage to rearrange the lists of favorite tourism site. The most favorite site becomes the first one that is picked up for the next generated package. In this process the rule database can be adjusted by the time that the tourist interacts with the system. After that, the system will obtain more appropriate rules for matching the tourist's types with the favorite lists of tourism. More details of each process are explained later in this Chapter.



**Figure 3.1** The Process of A Dynamic Decision Support System for Tour Packaging

### 3.1.2 Input

This is the first process of the purposed system. The tourist registers and inputs their personal data as the motivation parameters (Orapin Santidhirakul, 2007) that affect the decision of tourists as shown in Table 3.1. Then, the system collects data of each tourist and inputs the parameters in database.

**Table 3.1** Motivation Parameters and Details

Motivation Parameter	Detail	Variable
Gender [s]	Male	s1
	Female	s2
Marital Status [st]	Single	st1
	Married	st2
Age [a]	< 20	a1
	20 – 40	a2
	41 – 60	a3
	>60	a4



**Table 3.1** (Continues)

<b>Motivation parameter</b>	<b>Detail</b>	<b>Variable</b>
Occupation [o]	Government service	o1
	Private company	o2
	Own business	o3
	Student	o4
	House wife	o5
	Executive	o6
	Other	o7
Revenue/Month [r]	< 10,000 Bath	r1
	10,000 – 30,000 Bath	r2
	> 30,000 Bath	r3

Firstly, tourists log in the system as a user. Then, they input their information in register page. Finally, the system collects the tourist data and uses this input motivation data to calculate and provide appropriate rules and suitable tour package in the other processes.

### 3.1.3 Tourist Model

This is the second process of the purposed system. The system classifies and determines which package is suitable for different type of tourist regarding to the system decision rule. From their characteristics or motivation parameters in Table 3.1, these 5 motivation parameters will be matched with selected decision rules from prior knowledge as in the research of Orapin Santidhirakul (2007). Rule bases are presented in 156 if-then rules that representing in Appendix A and outputs are decision of tourism types in Table 3.2. There are 156 if-then rules instead of 336 rules because conceptual rule base contains some impossible rules. For example; the first tourist sample who is more than 60 years old but he is still a student or the second tourist sample who is executive but his salary is less than 10,000 Baht and the third tourist who is still a student but his age is less than 20 years old and he has already married and also his salary is more than 30,000 Baht, etc.

**Table 3.2** Tourist Type and Tourism Type

<b>Tourists Type</b>	<b>Tourism Type</b>
tt1	History
tt2	Culture
tt3	Nature
tt4	Pleasure/Exciting
tt5	Relaxation/Health
tt6	Eco/Agro tourism

Conceptual rule base shows the result as 2 outputs that are presented in terms of decision1 and decision2. Decision1 is major site that tourists prefer and decision2 is a minor site. The system will generate the list of tourism site that matched with tourist type. It provides 60% tourism site of decision1 and 40% tourism site of decision2. Conceptual rule base is presented as the following

“If motivation parameter1 and motivation parameter2 and motivation parameter3 and motivation parameter4 and motivation parameter5 then (60% of class1) and (40% of class2)”

5 input motivation parameter of tourist and class 1-2 refer to result of tour package or tourism site. It is assumed that tourists prefer 60% for major site (class 1) and 40% for minor site (class2). So, from input in Table 3.1 and output in Table 3.2, the examples of if-then rule will provide as below:

“If (sex is s2) and (status is st1) and (age is a2) and (occupation is o6) and (revenue is r3) then (decision1 is tt1) and (decision2 is tt2)”

This example rule shows that if the tourist is a female, single, age between 20–40 years old. Her occupation is CEO and revenue is more than 30,000 Bath. Her major tour site is historical place and minor site is a culture one. That means this tourist prefers 60% of historical tourism site and 40% of culture tourism site.

#### **3.1.4 Providing Tour Package**

This process is used to provide the appropriate tour packages to the tourists by using motivation parameters. The system provides appropriately a tour package matched with a tourist type in the list of possible packages that are shown in figure 3.3 .The number of tourism sites which is equal to the decision percentage will be picked up and represented as the most 10 suitable sites ranking by the popularity of each tourist. The initial decision percentage is set prior to the survey process of assumption. The most favorite site is the first pick to choose for the package. For example, if the tour package has decision percentage for 60% of historical type and 40% of cultural type, then the generated package will contain 6 tourism sites from historical site and 4 sites from cultural sites respectively. There are 6 main tourism sites regarding to the tourists types as shown in Table 3.3 to Table 3.8.

**Table 3.3** Historical Tourism Site

Number	Place
1	Phraya Mang Rai the Great Monument อนุสรณ์พ่อขุนเม็งราย
2	Hall of Opium/Golden Triangle Park หอฝิ่น อุทยานสามเหลี่ยมทองคำ
3	Chiang Saen National Museum พิพิธภัณฑ์สถานแห่งชาติ/ เมืองโบราณ เชียงใหม่
4	Historical tour เมืองโบราณเชียงใหม่
5	Up-Khum Museum พิพิธภัณฑ์อุบคำ
6	Hill tribe museum พิพิธภัณฑ์และศูนย์ศึกษาชาวเขา
7	Phra That Wat Tham-Pha-Jom museum พิพิธภัณฑ์พระธาตุ วัดถ้ำผาจอม จ. เชียงราย
8	Wieng-ka-Lhong เมืองโบราณเวียงกาหลง
9	Phateep-Goldland museum พิพิธภัณฑ์พระ-ประทับโปสเตอร์แลนด์
10	Wieng-Phang-Kham เวียงปางคำ

**Table 3.4** Culture Tourism Site

Number	Place
1	Rong-Kun Temple วัดร่องขุน
2	Phra That Doi Tung (Doi Tung Shrine) พระธาตุคอกยดุง
3	Wat Phra Kaeo วัดพระแก้ว
4	Wat Phra Sing วัดพระสิงห์
5	Handicraft Center ศูนย์หัตถกรรมเชียงราย
6	Wat Chedi Luang วัดพระธาตุเจดีย์หลวง
7	Wat Phra That Chom Kitti วัดพระธาตุจอมกิติ
8	Wat Phra That Doi Wao วัดพระธาตุคอกยเว
9	Wat Phra Chao Lan Thong วัดพระเจ้าล้านทอง
10	Wat Phra That Pha Ngao วัดพระธาตุผาเงา

**Table 3.5** Natural Tourism Site

Number	Place
1	Doi Tung คอยตุง
2	Doi Mae Salong คอยแม่สลอง
3	Phu Chi Fa ภูชี้ฟ้า
4	The Golden Triangle Apex (Sop Ruak) สามเหลี่ยมทองคำ
5	Chiang Saen Lake ทะเลสาบเชียงแสน
6	Khun Kon Waterfall and Forest Park วนอุทยานน้ำตกขุนกรณ์
7	Doi Wawi คอยาวี
8	Pu Kaeng Waterfall น้ำตกปูแกง
9	Doi Pha Tang คอยผาตั้ง
10	Doi Hua Mae Kham คอยหัวแม่คำ

**Table 3.6** Pleasure/Exciting Tourism Site

Number	Place
1	Thai-Myanmar Market at Mae Sai ตลาดแม่สาย-ท่าขี้เหล็ก (ไทย-พม่า)
2	Buck Pier ท่าเรือบัค
3	Ban Pa Kluai Hilltribe Market หมู่บ้านชาวเขา
4	A Raft Ride along the Kok river การล่องแก่ง (ล่องแม่น้ำกก)
5	Bamboo rafting Had Pha-Khwang ล่องแพหาดผาขาว
6	Elephants –Riding - Karen Village จีช้างที่หมู่บ้านกระเหรี่ยง
7	Kayak Tha-torn – Chiang Rai ล่องเรือคายัค (ท่าตอน – เชียงราย)
8	Bird watching กิจกรรมดูนก เขตห้ามล่าสัตว์ป่าหนองบงคาย
9	Nang-Norn mountain forest trekking เส้นทางเดินป่าพิชิตยอดเขานางนอน
10	Doi Dang forest trekking เส้นทางเดินป่าพิชิตคอยดั่ง ต. นางแล

**Table 3.7** Relaxation/Health Tourism Site

Number	Place
1	Mae Fah Luang Botanical Garden สวนรุกขชาติแม่ฟ้าหลวง
2	Mae Fah Luang Park สวนแม่ฟ้าหลวง
3	Mae-Kha-Chan hot spring บ่อน้ำร้อนแม่ชะจาน
4	Royal princess Srinakarin park สวนสมเด็จพระศรีนครินทร์ฯ เชียงราย
5	Haad Chiang Rai หาดเชียงราย (พัทยาน้อย)
6	Huay-Mak-Leam hot spring บ่อน้ำร้อนห้วยหมากเลี่ยม
7	Tung and Come garden สวนตุงและโคม เชียงราย
8	Ex-Chaing Rai airport Park สวนสาธารณะสนามบินเก่า
9	Phong-Oha-Bath hot spring น้ำพุร้อนโป่งพระบาท
10	Koh-loy park สวนสาธารณะเกาะลอย

**Table 3.8** Eco/Agro Tourism Site

Number	Place
1	Doi Luang National Park อุทยานแห่งชาติดอยหลวง
2	Doi Tung Wildlife Reservation Station สวนสัตว์ดอยตุง
3	Khun Chae National Park อุทยานแห่งชาติขุนแจ
4	Mae-kok national park อุทยานแห่งชาติลำน้ำกก
5	Luang-Cave and Khun-Nam-Nang-Norn National park วนอุทยานถ้ำหลวง-ขุนน้ำนางนอน
6	Huay-Nam-Khun Royal project ศูนย์พัฒนาโครงการหลวงห้วยน้ำขุ่น
7	Agro-tourism Tambon Sri-Kham ท้องที่เวียงเกษตร ต. ศรีคำ อ. แม่จัน จ. เชียงราย
8	Eco-tourism Doi Pha-Mon ศูนย์ส่งเสริมการเกษตรที่สูงดอยผาหม่น ผาผึ้ง
9	Eco-tourism tambon Mae-Prik ท้องที่เวียงนิเวศตำบลแม่พริก
10	Farm truck tour ทัวร์รถไถ่นชมธรรมชาติ อ. เชียงแสน

### 3.1.5 Package Verification

This process is used for checking satisfaction of tourists for the generated tour. The system uses the satisfaction score for checking the satisfaction of tourists. In this process the system provides the questionnaire asking for the satisfaction of tourists and gathers the suggestion of the tourist to calculate and generate the appropriate rule. Satisfaction of tourist is gathered by questionnaire and it is used to rate the satisfaction.

The 6 answers are set to be an alternative for choosing as shown in Table 3.9, the score will be assigned regarding the chosen answer sentence. For example; if the answer is “It’s OK”, the system will assign 3 points for the generated tour package in display process. After obtaining the score, the process of tourist model adjust is required if the assigned score is less than 4.

**Table 3.9** Satisfaction Checking from Tourist and Score

Answer	Score
It’s the most suitable for me.	5
I like it quite a lot.	4
It’s OK.	3
It’s not too bad.	2
It’s not good enough.	1
It’s not serving my demand.	0

### 3.1.6 Tourist Model Adjustment

This process is to renovate rule base and tour package to be more appropriate for the tourists. The system provides more questions in order to determine which output should be adjusted. There are 2 sections in this process, the first is identifying which tourism type in tour package needs to be decreased or increased as a percentage and the second is arranging list and popularity of tourism site in each tourism type.

#### 3.1.6.1 Decrease and Increase Decision Percentage

After obtaining the adjusted data, the system will adjust the new rules. For example, the rule for history and culture tourism site is originally as following; “if (sex is s2) and (status is st1) and (age is a2) and (occupation is o6) and (revenue is r3) then (decision1 is tt1) and (decision2 is tt2)”

The result shows that tour package contains 60% of history tourism site and 40% of culture tourism site. If the tourist does not satisfy the package, the system will provide the process for decreasing and increasing the tourism type in percentage following their satisfaction that shown in Table 3.10.

**Table 3.10** Percentage of Decreasing and Increasing Tourism Site

How much	Percentage
All of them	100%
Almost	70%
Some	30%

In this thesis, percentage are set into 3 levels that are 100%, 70% and 30% for renovating and extending more percentage in future work.

Our assumption in this thesis is to provide a tour package that has major site is 60% and minor site is 40%. For example, if the tourists want to decrease culture site for 30% and increase pleasure and excite instead. That means culture tourism site should be decreased for 30% and increased pleasure and excite tourism site for 30%. The new decision must be as following:

Decision1 = history 60%  
(because tourists do not want to increase or decrease)  
Decision2 = culture that is decreased for 30% from 40  
=  $(40 * [70/100])$   
= 28%

In Decision2 tourists want to decrease for 30%. So new tour package will provide only 28% of culture tourism site.

Decision3 = pleasure/excite  
=  $(40 - 28)$   
= 12%

In Decision3, tour package provides for 12%.

Therefore, tour package finally contains 60% of history tourism site, 28% of culture tourism site and 12% of pleasure and excite tourism site. This rule replaces the old rule and gives more satisfaction for tourists. The new rule is finally adjusted as following:

“If (sex is s2) and (status is st1) and (age is a2) and (occupation is o6) and (revenue is r3) then (decision1 is tt1) and (decision2 is tt2) and (decision3 is tt3)”

#### 3.6.1.2 Re-Arrange List of Tourism Sites

In this section, the system rearranges a list of tourism site by the score from tourist. The conceptual score is from 10 – 1 point from 10 sites of each tourism type. The most favorite site is started from 10 points to 1 point respectively. In rearranging the lists of tourism sites, the system allows the tourist to rate the most 3 favorite sites that they prefer. The most favorite site will have 3 points, 2 points for the second and 1 point for the third. That is shown in Figure 3.12. Then the system allows the tourist to rate for their unfavorable places the least favorite site will be

deducted with 3 points, 2 points and 1 point respectively. Finally, system will arrange the new possible favorite lists of tourism site after assigning and deducting points rated by tourists.

The new tour package list will generate by new rule bases after decreasing and increasing percentage in tour package section. The new package is contained with tourism site that picked from favorite sites after rearrange list of tourism sites.

The most appropriate rule will be updated all the time and become the most suitable for each tourist type according to the frequency of usage. This means that more frequently using by tourists that share the same input parameter will yield more suitable rules for them. The rule will be adjusted to meet the demand of that tourist type as much as possible through their usage. Also the scores will be collected more and more to make the favorite site be updated all the time.

## 3.2 Implement Phase

This section describes detail of web implementation and system requirements of a dynamic decision support system.

### 3.2.1 Web Implementation Phase

This section describes the detail of web implementation as following.

#### 3.2.1.1 Tourist Model Adjustment

The database is contained with data of motivation parameters of tourist, tourism site and its detail, rule base and satisfaction score of package and tourism site database. The database consists of ten tables including tb\_imgtours, tb\_newtourist, tb\_percenttourism, tb\_processtourist, tb\_register, tb\_restaurant, tb\_rule, tb\_satisfied, tb\_tourism and tb\_tourist.

1. tb\_imgtours is a table that contains an image of each tourism site for the tourist decision. The table composes of three attributes including id, picture and tourism id. The detail of image table is shown in Table 3.11.

**Table 3.11** The Detail of tb\_imgtours

Attribute Name	Type	Primary Key	Detail
id	int(4)	Yes	Id number of this table database
imgtour	varchar(255)	Yes	Image of tourism site
tourid	int(4)	Yes	tourist id

2. tb\_newtourist is a table that contains the scores of tourism site after the tourist has rated for ranking tourism site. The table composes of six attributes



including id, tourist id, score of tourism site, and new score of tourism site after being rated, tourism site id and user id. The detail of tb\_newtourist is shown in Table 3.12.

**Table 3.12** The Detail of tb\_newtourist

Attribute Name	Type	Primary Key	Detail
id	Int(11)	Yes	Id number of this table database
tourId	int(3)	Yes	Tourist id number
point	int(2)	Yes	Point before re-arranging tourism site
newpoint	int(2)	Yes	Point after re-arranging tourism site
tourismID	char(3)	Yes	Tourism site id number
iduser	int(4)	Yes	Tourist user login id number

3. tb\_percenttourism is a table that contains percentage of tourism type that is contained in package and matched with the rule base. The table composes of four attributes including id, tourismID, percentage of each tourism site that match with each rule base and id rule. The detail of tb\_percenttourism is shown in Table 3.13.

**Table 3.13** The Detail of tb\_percenttourism

Attribute Name	Type	Primary Key	Detail
id	int(8)	Yes	Id number of this table database
tourismID	char(3)	Yes	Tourism site id number
percent	int(3)	Yes	Percentage of each tourism site that match with each rule base
id_rule	int(8)	Yes	Rule base id number

4. tb\_register is a table that contains input or motivation parameters from tourist registration. The table composes of nine attributes including iduser, username, password, type, gender, marital, age, occupation and revenue. The detail of tb\_register is shown in Table 3.14.

**Table 3.14** The Detail of tb\_register

Attribute Name	Type	Primary Key	Detail
iduser	int(4)	Yes	User id number
username	varchar(40)	Yes	Username of each login
password	varchar(40)	Yes	Password of each login
type	int(1)	Yes	Tourist type
gender	char(3)	Yes	Gender of each tourist
marital	char(3)	Yes	Marital status of each tourist
age	char(3)	Yes	Age of each tourist
occupation	char(3)	Yes	Occupation of each tourist
revenue	char(3)	Yes	Revenue per month of each tourist

5. tb\_restaurant is a table that contains the detail of restaurant. The table composes of three attributes including id, restaurant and aumphurID. The detail of tb\_restaurant is shown in Table 3.15.

**Table 3.15** The Detail of tb\_restaurant

Attribute Name	Type	Primary Key	Detail
id	int(4)	Yes	Restaurant id number
restaurant	text	Yes	Restaurant name
aumphurID	int(1)	Yes	Amphoe id number

6. tb\_rule is a table that contains rule base that used for classifying tourist type and matching with appropriate tour package. The table composes of nine attributes including Id, sex, status, age, occupation, revenue, tourpackage, decision1 and decision2. The detail of tb\_rule is shown in Table 3.16.

**Table 3.16** The Detail of tb\_rule

Attribute Name	Type	Primary Key	Detail
Id	nt(11)	Yes	Rule id number
sex	char(2)	Yes	Sex of tourists
status	char(3)	Yes	Status of tourists
age	char(2)	Yes	Age of tourists
occupation	char(2)	Yes	Occupation of tourists
revenue	char(2)	Yes	Revenue per month of tourists
tourpackage	int(11)	Yes	Tour package number
Attribute Name	Type	Primary Key	Detail
decision1	char(3)	Yes	Major tourism site
decision2	char(3)	Yes	Minor tourism site

7. tb\_satisfied is a table that contains satisfaction score from the tourist in 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> time. The table composes of five attributes including id, iduser, Satisfied1, Satisfied2 and Satisfied3. The detail of tb\_satisfied is shown in Table 3.17.

**Table 3.17** The Detail of tb\_satisfied

Attribute Name	Type	Primary Key	Detail
id	int(4)	Yes	Id number of this table database
iduser	int(4)	Yes	User id number
Satisfied1	int(1)	Yes	Satisfaction score in 1 <sup>st</sup> time
Satisfied2	int(1)	Yes	Satisfaction score in 2 <sup>nd</sup> time
Satisfied3	int(1)	Yes	Satisfaction score in 3 <sup>rd</sup> time

8. tb\_tourist is a table that composes of seven attributes including touristid, tourname\_Th, tourname\_Eng, point, amphurID, tourismID and detail. The detail of tb\_tourist shown in Table 3.18.

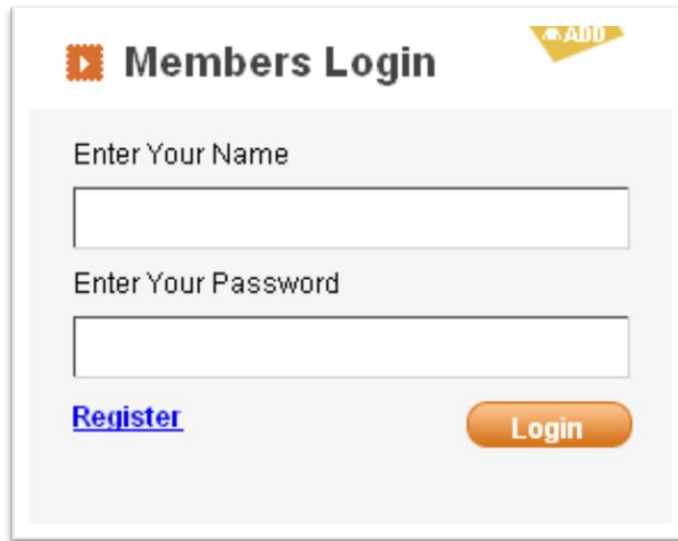
**Table 3.18** The Detail of tb\_tourist

Attribute Name	Type	Primary Key	Detail
tourid	int(3)	Yes	Id number of this table database
tourname_Th	varchar(255)	Yes	Name of tourism site in Thai
tourname_Eng	varchar(255)	Yes	Name of tourism site in English
point	int(2)	Yes	Favorite point of each tourism site
aumphurID	int(2)	Yes	Amphoe id number
tourismID	char(3)	Yes	Tourism site id number
detail	text	Yes	Detail of each tourism site

### 3.2.1.2 Web User Interface

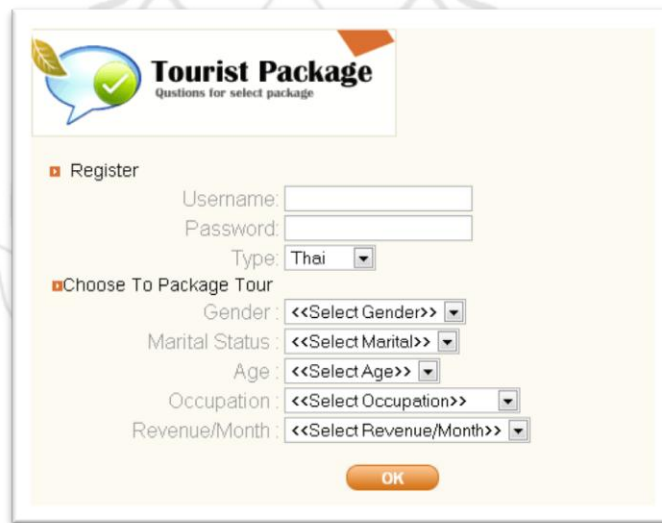
This section shows the user interface of the system. The detail is shown as following:

1. Register page is the page that the tourist can access by login that shown in figure 3.2. The tourist can register with “register” button from login section. Register page consists of some components shown in Figure 3.3. Firstly, it is the register section that contains username, password and the location where the tourist comes from. Secondly, it is the motivation parameters of the tourist contained input parameters as following: gender, marital status, age, occupation and revenue per month. Lastly, after the tourist completes their input data by clicking “OK button” for sending the registration data to the system. Then, the tourist can login and the system will generate appropriate tour packages following to their input parameters in the login section.



The image shows a web form titled "Members Login". At the top left is a small orange icon of a play button. To its right is the title "Members Login" in bold black text. At the top right is a yellow button with a black play icon and the text "ADD". Below the title are two text input fields. The first is labeled "Enter Your Name" and the second is labeled "Enter Your Password". Below the password field is a blue underlined link "Register" and an orange button labeled "Login".

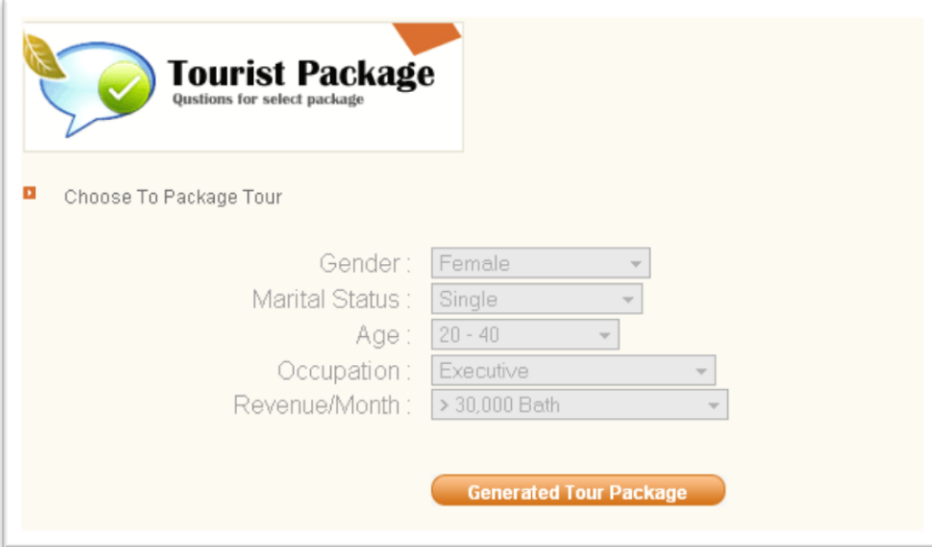
**Figure 3.2** Login Section



The image shows a web form titled "Tourist Package" with the subtitle "Questions for select package". At the top left is a logo with a green checkmark and a blue speech bubble. Below the title is a section labeled "Register" with a small orange icon. This section contains two text input fields for "Username:" and "Password:", and a dropdown menu for "Type:" with "Thai" selected. Below this is a section labeled "Choose To Package Tour" with a small orange icon. This section contains five dropdown menus: "Gender:" (with "<<Select Gender>>" selected), "Marital Status:" (with "<<Select Marital>>" selected), "Age:" (with "<<Select Age>>" selected), "Occupation:" (with "<<Select Occupation>>" selected), and "Revenue/Month:" (with "<<Select Revenue/Month>>" selected). At the bottom right of the form is an orange button labeled "OK".

**Figure 3.3** Register Page

2. First page after login or register page consists of the detail of input parameters and “Generated Tour Package” button for the tourist to get the most appropriate tour package. If the input parameter does not match with the rule, it means that the tourist input the wrong or unavailable data. The system will be alert to the tourists and ask them to input the correct data again like in figure 3.5.



**Figure 3.4** First Pages After Login

your input parameter does not match with system provide please change your in put your parameter correctly

**Figure 3.5** Alert for the Tourist if they wrong input parameter that does not match with rule base

3. Tour package page consists of some components shown in Figure 3.6. Firstly, it is the tour package that the system provides for the tourists. Tour package has 10 tourism sites that are the most suitable for the tourist. In this tour package, the tourist can select each tourism site to view its detail that shown in figure 3.7. Secondly, it is the tourism site percentage in tour package which describes how many tourism site of each type contained in tour package. Thirdly, it is satisfaction checking section that used to check the tourist satisfaction. If the tourist does not satisfy a tour package, the system will adjust the tour package and rule base for more favorable package for the tourist.



**Tourist Package**  
Questions for select package



**New Package Tourist For You**

→ Tourism:

No	Decision(Th)	Decision(Eng)
1	วัดพระแก้ว	Wat Phra Kaew
2	ศูนย์หัตถกรรมเชียงราย	Handicraft Center
3	วัดพระสิงห์	Wat Phra Sing
4	สวนแม่ฟ้าหลวง	Mae Fah Luang Park
5	อนุสรณ์พ่อขุนเม็งราย	Phraya Mang Rai the Great Monument
6	พระธาตุคอกยุง	Phra That Doi Tung (Doi Tung Shrine)
7	สวนรุกขชาติแม่ฟ้าหลวง	Mae Fah Luang Botanical Garden
8	คอกยุง	Doi Tung
9	สามเหลี่ยมทองคำ	The Golden Triangle Apex (Sop Ruak)
10	บ่อน้ำร้อนแชะจาม	Mae-Kha-Chan Hot spring

→ Compose:

No	Tourist	Percent
1	Culture	42 %
2	Relaxation/Health	28 %
3	Natural	18 %
4	Historical	12 %

Your're Satisfaction :

Figure 3.6 Tour Package Page

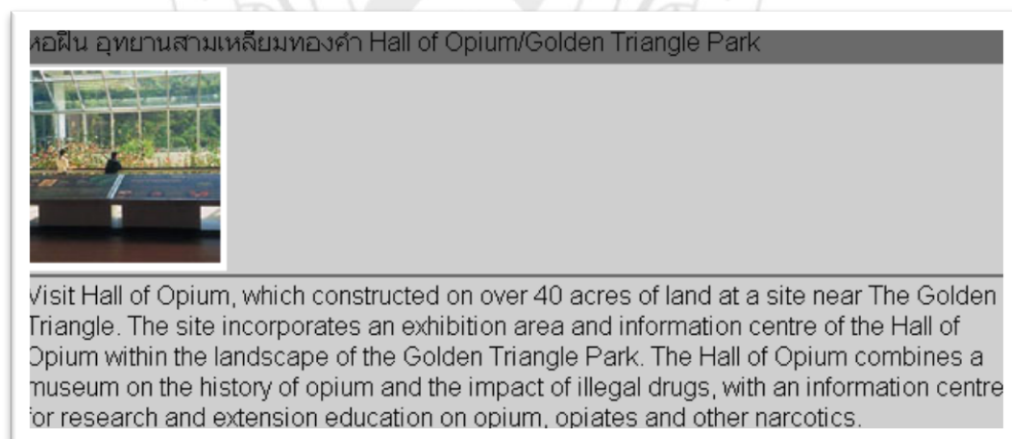


Figure 3.7 Example of Tourism Site Detail

4. Tour package adjustment page consists of some components shown in Figure 3.8. Firstly, it is a section for the tourist to choose tourism type to decrease in the package. Secondly, it is the section for the tourist to choose tourism type to increase in the package. Thirdly, it is the section to select percentage for decreasing and increasing in the package. Then click “submit” button to renovate rule and tour package or click “reset” button to reset if decrease or increase parameter is not correct.

**Tourist Package**  
Questions for select package

**Select Package Tourist For Decrease**

No	Tourist
1	<input type="radio"/> Historical
2	<input checked="" type="radio"/> Culture

**Select Package Tourist For Increase**

TourismType:

Select Percent:

**Submit** **Reset**

**Figure 3.8** Tour Package Adjustment Page

5. Tour package adjustment page consists of some components shown in Figure 3.9. Firstly, section for the tourist to choose tourism type to decrease in the package. Secondly, section for the tourist to choose tourism type to increase in the package. Thirdly, section to select percentage for decrease and increase in the package. Then “submit” button to renovate rule and tour package or use “reset” button to resetting if decrease or increase parameter is not correct.



**Tourist Package**  
Questions for select package

What are your the most favourite tourist attraction, state 3 places?

1. Historical

1 Select

2 Select

3 Phraya Mang Rai the Great Monument อุสุรณโพนเมืองราย

Hall of Opium/Golden Triangle Park หอฝิ่น อุทยานสามเหลี่ยมทองคำ

2.C Chiang Saen National Museum พิพิธภัณฑ์สถานแห่งชาติเชียงแสน เมืองโบราณเชียงแสน

1 Historical tour เมืองโบราณเชียงแสน

2 Up-Khum Museum พิพิธภัณฑ์อุบคำ

Hill tribe museum พิพิธภัณฑ์และศูนย์ศึกษาชาวเขา

3 Phra That Wat Tham-Pha-Jom museum พิพิธภัณฑ์พระธาตุ วัดถ้ำผาจอม จ.เชียงราย

3.F Wieng-ka-Lhong เมืองโบราณเวียงกาหลง

Wieng-Phang-Kham เวียงพางคำ

Phateep-Goldland museum พิพิธภัณฑ์พระ-ประทับโกลด์แลนด์

OK Reset

**Figure 3.9** Tourism Site Re-arranging Page

6. Report page consists of some components shown in Figure 3.10. This page consists of report and result lists as following; a report summarized following satisfaction, a report summarized following favorite tourism site, a report summarized following an revenue per month, a report summarized following gender, a report summarized following age, a report summarized following marital status and a report summarized following occupation. A report summarized following satisfaction score that shown in figure 3.11 consists of satisfaction score of the tourist in 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> time and the average satisfaction score gained from the tourist. A report summarized following favorite tourism site shows the scores of favorite tourism site of each tourism type from the scores in rearranging list of tourism site process that shown in figure 3.11.

- A report summarizes follow an Satisfaction Score
- A report summarizes follow an Favorite Tourism site
- A report summarizes follow an Revenue/Month
- A report summarizes follow an Gender
- A report summarizes follow an Age
- A report summarizes follow an Marital Status
- A report summarizes follow an Occupation

**Figure 3.10** Report Page




**Tourist Package**  
Questions for select package

▣ Your summarizes to separate follow an Satisfied Reports
Thai ▾

User	1 <sup>th</sup> Time	2 <sup>nd</sup> Time	3 <sup>rd</sup> Time	Average
1	3	4	5	4
2	4	4	5	4.33
3	3	3	4	3.33
4	5	5	5	5
5	4	5	5	4.67
6	3	4	4	3.67
7	4	4	4	4
8	4	5	4	4.33
9	4	-	-	1.33
<b>Average</b>	<b>3.78</b>	<b>3.78</b>	<b>4</b>	

OK

**Figure 3.11** A Report Summarized Following Satisfaction Score




**Tourist Package**  
Questions for select package

Point of the tourist...

Pleasure/Exciting

No	Decision(Th)	Decision(Eng)	Score
1	<a href="#">การล่องแพ่ง (ล่องแพ่งน้ำกก)</a>	A Raft Ride along the Kok river	11
2	<a href="#">ล่องเรือคายัค(ท่าตอน - เชียงราย)</a>	Kayak Tha-torn - Chiang-rai	11
3	<a href="#">ตลาดแม่สาย-ท่าขี้เหล็ก(ไทย-พม่า)</a>	Thai-Myanmar Market at Mae Sai	10
4	<a href="#">ขี่ช้างเที่ยว? หมู่บ้านกระเหรี่ยง</a>	Elephants -Riding - Karen Village	10
5	<a href="#">ท่าเรือบัว</a>	Buck Pier	4
6	<a href="#">กิจกรรมดูนก เขตห้ามล่าสัตว์ป่าหนองคาย</a>	Bird watching	4
7	<a href="#">ล่องแพหนาดผาขาว</a>	Bamboo rafting Had Pha-Khwang	3
8	<a href="#">เส้นทางเดินป่า..หิซดอยดงนางนอน</a>	Nang-Norn mountain forest trekking	2
9	<a href="#">เส้นทางเดินป่า..หิซดอยดง อ.นางแล</a>	Doi Dang forest trekking	1
10	<a href="#">หมู่บ้านชาวเขา</a>	Ban Pa Kluai Hilltribe Market	0

Figure 3.12 A Report Summarized Following Favorite Tourism Site



**Tourist Package**  
Questions for select package

Your summarizes to separate follow an Revenue/Mount Reports

Details	Thai	Asia	Europe	Sum
< 10,000 Bath	3	0	0	3
10,000 - 30,000 Bath	2	0	0	2
> 30,000 Bath	4	0	0	4
Summary	3	2	4	9

OK

Figure 3.13 A Report Summarized Following Revenue per Month

### 3.3 Analysis and Design Phase

This thesis proposes the minimum requirements for hardware as following.

3.3.1 CPU: Intel (R) Core(TM) 2 1.66 GHz

3.3.2 Ram: 1.50 GB

3.3.3 Hard disk: 80 GB

3.3.4 Monitor: ATI Radeon X2300

3.3.5 Peripheral: Keyboard, mouse USB



## CHAPTER 4

### RESULTS AND DISCUSSION

#### 4.1 Case Study

The case study of this thesis focuses on tourists in Chiang Rai province for both Thai and foreign tourists. The experiment is performed by using satisfaction score from tourists in verifying a checking process. The number of sample size is determining from Robert & Daryle (1970) research and based on Taro Yamane sample size equation as below.

$$n = \frac{N}{(1+Nd^2)} \quad (1)$$

*n* = sample size

*N* = population size or number of tourists in Chiang Rai(1,680,248)

*d* = error of sampling (8% in this case or 0.08)

Sample size of the experiment should be  $n = 1680248 / 1 + (1680248 * 0.08^2)$   
= 156.23

Therefore, sample size should be at least 157 tourists to be surveyed, this research proposed 160 tourists in 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> time of satisfaction verified by a checking process. From the statistics of tourist who has visited Chiang Rai (Department of Tourism, 2012), there are 70.21% of Thai tourists and 29.79 are foreign. Thus, the sampling of survey was 160 tourists that are 113 Thai, 27 Asian and 20 Europe tourists. The measurement was analyzed from motivation parameters and satisfaction of each tourist. The comparison of satisfaction score is done 3 times with tourist satisfaction checking score. This research proposed the satisfaction of Thai tourist, Asian tourist and Europe tourist and results shown in Appendix D.

#### 4.2 Tourist Statistic

From the sample of 160 tourists, there are various motivations as shown in Table 4.1.

**Table 4.1** Statistics of Tourists Classified by Gender

<b>Motivation parameter</b>	<b>Detail</b>	<b>Thai</b>	<b>Asian</b>	<b>Europe</b>	<b>summary</b>
Gender [s]	Male	48	16	12	76
	Female	65	9	8	84
<b>Summary</b>		<b>113</b>	<b>27</b>	<b>20</b>	<b>160</b>

Table 4.1 shows the statistics of tourists classified by gender. The results show that among the foreign tourists or Thai, there are more female than male. The female tourists are 65 persons while male are 48 persons, but in a group of foreign tourists there are more male than female. There are 9 female Asian tourists while male are only 16 persons. Among Europe tourists, there are 12 male and 8 female.

**Table 4.2** Statistics of Tourists Classified by Marital Status

<b>motivation parameter</b>	<b>Detail</b>	<b>Thai</b>	<b>Asian</b>	<b>Europe</b>	<b>Summary</b>
Marital Status [st]	Single	76	19	8	103
	Married	47	8	12	47
<b>Summary</b>		<b>113</b>	<b>27</b>	<b>20</b>	<b>160</b>

Table 4.2 shows the statistics of tourists classified by marital status. The results show that there are more single than married persons both in the Thai tourists and foreign tourists. The number of married person is 47 while the single is 76. The numbers of married persons among Asian tourists are 19 while 8 are single. 8 persons of Europe tourists are married while 12 are single.

**Table 4.3** Statistics of Tourists Classified by Age

<b>motivation parameter</b>	<b>Detail</b>	<b>Thai</b>	<b>Asian</b>	<b>Europe</b>	<b>Summary</b>
Age [a]	< 20	18	2	2	22
	20 – 40	62	5	3	70
	41 – 60	27	12	10	59
	>60	6	8	5	19
<b>Summary</b>		<b>113</b>	<b>27</b>	<b>20</b>	<b>160</b>

Table 4.3 shows the statistics of tourists classified by age. The results show that in the group of foreign tourists, there are 62 persons of age between 20-40 years old, 27 persons between 41-60 years old, 18 persons below 20 years old and 6 persons over 60 years old. The results also show that tourists who are between 41 – 60 years old are the most visited Chiang Rai. In Asian group there are 12 persons of 41 - 60 years old, 8 persons over 60 years old, 2 persons below 20 years old and 5 persons between 20 – 40 years old. Among Europe tourists there are 10 persons of 41 -60 years old, 5 persons over 60 years old, 2 persons below 20 years old and 3 persons between 20 – 40 years old.

**Table 4.4** Statistics of Tourists that Classified by Occupation

<b>motivation parameter</b>	<b>Detail</b>	<b>Thai</b>	<b>Asian</b>	<b>Europe</b>	<b>summary</b>
Occupation [o]	Government service	30	0	0	30
	Private company	55	6	2	63
	Own business	10	3	4	17
	Student	15	3	3	21
	House wife	6	12	9	27
	Executive	4	2	2	8
	Others	3	1	0	4
<b>Summary</b>		<b>113</b>	<b>27</b>	<b>20</b>	<b>160</b>

Table 4.4 shows the statistics of tourists classified by occupation. The results show that for foreign tourists there are 55 persons working in private company, 30 persons working for government service, 15 students, 10 persons running their own business, 6 persons working as housewife, 4 persons working as an executive and the least number is 3 persons for other jobs. For Asian tourists, the most number is 12 housewives, 6 persons working for private company, 3 persons running their own business, 3 students, 2 persons working as an executive and 1 person working in a government service and others. In Europe tourists, there are 9 persons working as housewives, 4 persons running own business, 3 students, 2 persons working for private company and for executive role and none for government service and others.

**Table 4.5** Revenue per Month

<b>motivation parameter</b>	<b>Detail</b>	<b>Thai</b>	<b>Asian</b>	<b>Europe</b>	<b>summary</b>
Revenue/ Month [r]	10,000 Baht	28	4	3	35
	10,000 – 30,000 Baht	72	8	5	85
	> 30,000 Baht	13	15	12	40
<b>Summary</b>		<b>113</b>	<b>27</b>	<b>20</b>	<b>160</b>

Table 4.6 shows the statistics of tourists classified by revenue per month. The results show that for foreign tourists, there are 72 persons earned 10,000 – 30,000 baht per month, 28 persons earned <10,000 baht per month, and the least are 13 persons earned > 30,000 baht. In a group of foreign tourists, persons who earned >30,000 Baht per month are the most. There are 15 Asian tourists earned > 30,000 baht per month, 8 earned 10,000 – 30,000 baht per month, and the least are 4 who earned <10,000 baht per month. There are 12 Europe tourists earned > 30,000 baht per month, 5 persons earned 10,000 – 30,000 baht per month, and the least are 3 persons earned <10,000 baht per month.

### 4.3 Results and Discussion

The results show that satisfaction score is increasing from the first time to the third time. At the first time of satisfaction checking, an average score is at 3.71, it means that the package provided is acceptable and should be developed more. In the second time, after renovating rule bases, the satisfaction score is increased to 4.24. Some tourist are satisfied with tour package and with the score of 5 points but there are some gained the same point in the first time of checking. For the third time, an average score is at 4.73. It means that the tour package list is more acceptable and satisfied and the rule bases renovated perform better than the old one as shown in Table 4.6.

**Table 4.6** Satisfaction Score gained from tourists in the first, second and third time of tour package

	<b>Time 1</b>	<b>Time 2</b>	<b>Time3</b>
Average score	3.71	4.24	4.73

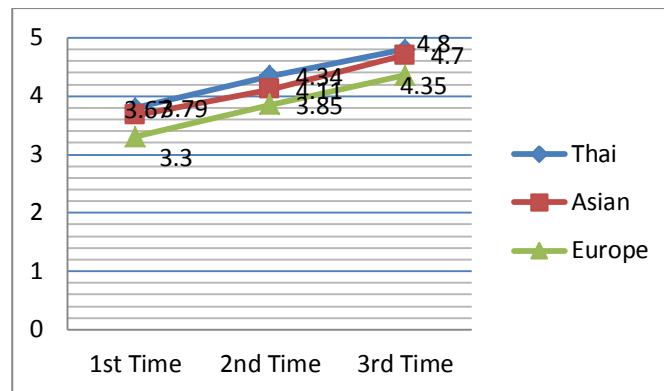


From 160 tourists that are sampling in this thesis, user 1- 113 are Thai tourists. The others are foreign tourists, users 114 – 140 are Asian tourists and users 141 – 160 are Europe tourists. Results show that the satisfaction score is increasing from 1<sup>st</sup> time – 3<sup>rd</sup> time of usage in both Thai and foreign tourist shown in Table 4.7. Nevertheless, the satisfaction score of Thai tourists are quite higher than both Asian and Europe tourists. The satisfaction score from 113 Thai tourists shows that 1<sup>st</sup> time of satisfaction check, an average score is at 3.79. This means that the satisfaction score is increasing to 4.34 in the 2<sup>nd</sup> time. In the 3<sup>rd</sup> time, an average score is at 4.80. While the results of 27 tourists from Asian show that 1<sup>st</sup> time of satisfaction check, an average score is at 3.67. This means that the satisfaction score is increasing to 4.11 in the 2<sup>nd</sup> time. In the 3<sup>rd</sup> time, an average score is at 4.70. The 20 tourists from Europe show that 1<sup>st</sup> time satisfaction score is at 3.30. This means that, the satisfaction score is increasing to 3.85 in the 2<sup>nd</sup> time and 4.35 in the 3<sup>rd</sup> time.

**Table 4.7** Satisfaction Score gained form tourists in the 1, 2 and 3 time of tour package provided for Thai and foreign tourists

<b>Tourist Group</b>	<b>Time 1</b>	<b>Time 2</b>	<b>Time3</b>
Thai	3.79	4.34	4.80
Asian	3.67	4.11	4.70
Europe	3.30	3.85	4.35

Table 4.6 and Table 4.7 show that the average satisfaction score is increasing from 1<sup>st</sup> time to 3<sup>rd</sup> time of usage. It shows how satisfied the tourists feel after the rule bases have renovated itself. The results show that satisfaction score is increasing from 1<sup>st</sup> time to 3<sup>rd</sup> time. At 1<sup>st</sup> time satisfaction check, an average score is at 3.71. That means the package provided is acceptable and should be developed more. In the second time, after renovating rule bases, the satisfaction score is increasing to 4.24. Some tourists are satisfied with tour package with the score of 5 points but some gained the same point in the first time. In the third time, an average score is at 4.73. It means that tour package list is more acceptable and satisfied and rule bases renovated is better than the old one. However, there is quite difference between foreign or Thai tourists and foreign tourists, the satisfaction score shows that the score of Thai tourists is higher than foreign tourists in Table 4.7. It is so because the multi-cultures of tourists that can affect their decision and behavior. Hence, a suitable tour package for Thai tourists may not be appropriate for foreign tourists or Asian and Europe tourists. We can compare the difference between those satisfaction scores as in Figure 4.1.



**Figure 4.1** Satisfaction score gained from tourists in the 1st, 2nd and 3rd time of using tour package compared between Thai, Asian and Europe tourists

In this thesis there are some error occurred in the results. In case that satisfaction score of some tourist in the first time and the second time or the second time and the third time are equal. That means their satisfaction on tour package does not change. It is because a range of score is not delicate enough. In fact, the score should be increased or decreased to show the difference and the scale of satisfaction score should be improved more. In case that some tourists are not satisfied with tour package provided after renovating from the same tourist type. We suggest that it should be from one of is a minority in that tourist type and their decision are different from the others in the group. Therefore, if many tourists input their motivation parameter, tour package will satisfy most tourists in that type but will not satisfy the minority tourists in that group. In additional, it might be the 5 input parameters that are not delicate enough to use for categorizing type or behavior of tourists. So there are some missing factors that affected the decision of that tourist and made difference in their action or decision. Moreover, results from satisfaction of foreign tourists are higher than foreign tourists. It means that our rules bases meet the demand and suitable for Thai tourist than Asian and Europe tourist. The difference in cultures is one factor that has an effect on different tourist decision and satisfaction.

#### 4.4 Rule and List of Tourism Site Adjustment

There are 46 rule bases that have been changed from conceptual rule bases that shown in Appendix D and the favorite score of tourism site that shown in Appendix E.

## **CHAPTER 5**

### **CONCLUSION**

#### **5.1 Conclusion**

This thesis proposes a dynamic decision support system for tourists by using decision rule and adjustable process to develop rule bases to generate tour packages that maximize the satisfaction for tourists. Every time the system is used by the users and provides unsatisfied tourist packages, the system will ask the questions required for adjusting the rules and tour packages. Therefore, the rules and tour packages have been updated consistently according to the motivation of tourists until the appropriate packages are arranged. The experiment that has been carried out with 160 tourists in Chiang Rai province evidently demonstrated that the proposed system yields higher satisfaction scores than a system using traditional un-adjustable rules. The rules used in this paper are rules represented in the form decision tree analysis model. Conceptual rule bases have 156 if-then rules derived from 5 input motivation parameters and are represented in 6 output tourism types. It is because the satisfaction of the tourists always changes by their motivations and situation, the decision rules are thus designed accordingly to be dynamic. Therefore, rule base will be updated each time tourists use the system. The tour package that system provided will generate the most appropriate package at that time.

This thesis measures the satisfaction of tourists through questionnaire in the system. The score of satisfaction is 5- 0 point obtained from the answers. If the score is 5, it means that a tour package provided is suitable for tourists and should not be adjusted. But if the score is 4 – 0, it means that a tour package is not appropriated for them and should be renovated. The new rule bases will be changed through questionnaire to renovate the percentage of tourism type that is contained in tour package and rearrange a list of favorite tourism site.

The result of satisfaction score has shown in the 1<sup>st</sup> time that the tourists use system and compare with the 2<sup>nd</sup> time and the 3<sup>rd</sup> time. Moreover, the results are compared the satisfaction score between tourists from Thai and foreigner from Asia and Europe. The results show that the satisfaction score from Thai, Asian and Europe tourists are quite different. The score of Thai tourists are higher than Asian tourists. Europe tourists are the least. The overall satisfaction score in the 3<sup>rd</sup> time is 4.73 that

increasing from 3.71 in the 1<sup>st</sup> time. It means that the tour package provided from system after renovating rule bases yields more tourist satisfaction.

## 5.2 Future Work

The tour package that our system provided is not contained with time sequence and recommended restaurants, guesthouses or hotels for tourists. We should develop the system for more intelligent by using Artificial Intelligent technique to give more information about the suitable duration for traveling to each tourism site. Also the system should provide the data on distance and time of traveling. Moreover, hotels and guesthouses should be included in tour package and provided by the dynamic rule bases. The result of this thesis shows that there are quite difference between Thai and foreign tourists, the adjustable rules should be added for more appropriate and favorable for both Asian and Europe tourists. In addition, the suggestion of thesis is to focus more on the importance of input parameters and factors that affect the decision and behavior of tourists.





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## APPENDICES



## APPENDIX A

### CONCEPTUAL RULE

Rule	sex	status	age	occupation	revenue	tour package	Decision 1	Decision 2
1	s1	st1	a1	o4	r1	18	Pleasure/Exciting	Natural
2	s1	st1	a1	o4	r2	18	Pleasure/Exciting	Natural
3	s2	st1	a1	o4	r1	24	Relaxation/Health	Pleasure/Exciting
4	s2	st1	a1	o4	r2	23	Relaxation/Health	Natural
5	s1	st1	a2	o1	r1	17	Pleasure/Exciting	Culture
6	s1	st1	a2	o1	r2	8	Culture	Pleasure/Exciting
7	s1	st1	a2	o1	r3	1	Historical	Culture
8	s1	st2	a2	o1	r1	8	Culture	Pleasure/Exciting
9	s1	st2	a2	o1	r2	6	Culture	Historical
10	s1	st2	a2	o1	r3	1	Historical	Culture
11	s2	st1	a2	o1	r1	7	Culture	Natural
12	s2	st1	a2	o1	r2	1	Historical	Culture
13	s2	st1	a2	o1	r3	1	Historical	Culture
14	s2	st2	a2	o1	r1	7	Culture	Natural
15	s2	st2	a2	o1	r2	9	Culture	Relaxation/Health
16	s2	st2	a2	o1	r3	4	Historical	Relaxation/Health
17	s1	st1	a2	o2	r1	18	Pleasure/Exciting	Natural
18	s1	st1	a2	o2	r2	8	Culture	Pleasure/Exciting
19	s1	st1	a2	o2	r3	1	Historical	Culture
20	s1	st2	a2	o2	r1	8	Culture	Pleasure/Exciting
21	s1	st2	a2	o2	r2	6	Culture	Historical
22	s1	st2	a2	o2	r3	1	Historical	Culture
23	s2	st1	a2	o2	r1	7	Culture	Natural
24	s2	st1	a2	o2	r2	9	Culture	Relaxation/Health
25	s2	st1	a2	o2	r3	1	Historical	Culture
26	s2	st2	a2	o2	r1	9	Culture	Relaxation/Health
27	s2	st2	a2	o2	r2	9	Culture	Relaxation/Health
28	s2	st2	a2	o2	r3	21	Relaxation/Health	Historical
29	s1	st1	a2	o3	r1	18	Pleasure/Exciting	Natural
30	s1	st1	a2	o3	r2	13	Natural	Pleasure/Exciting
31	s1	st1	a2	o3	r3	24	Relaxation/Health	Pleasure/Exciting
32	s1	st2	a2	o3	r1	12	Natural	Culture
33	s1	st2	a2	o3	r2	14	Natural	Relaxation/Health

Rule	sex	status	age	occupation	revenue	tour package	Decision 1	Decision 2
34	s1	st2	a2	o3	r3	22	Relaxation/Health	Culture
35	s2	st1	a2	o3	r1	18	Pleasure/Exciting	Natural
36	s2	st1	a2	o3	r2	9	Culture	Relaxation/Health
37	s2	st1	a2	o3	r3	22	Relaxation/Health	Culture
38	s2	st2	a2	o3	r1	9	Culture	Relaxation/Health
39	s2	st2	a2	o3	r2	22	Relaxation/Health	Culture
40	s2	st2	a2	o3	r3	22	Relaxation/Health	Culture
41	s1	st1	a2	o4	r1	18	Pleasure/Exciting	Natural
42	s1	st1	a2	o4	r2	22	Pleasure/Exciting	Culture
43	s1	st2	a2	o4	r1	12	Natural	Culture
45	s2	st1	a2	o4	r1	24	Relaxation/Health	Pleasure/Exciting
46	s2	st1	a2	o4	r2	24	Relaxation/Health	Pleasure/Exciting
49	s1	st1	a2	o5	r1	18	Pleasure/Exciting	Natural
50	s1	st1	a2	o5	r2	17	Pleasure/Exciting	Culture
51	s1	st2	a2	o5	r1	13	Natural	Pleasure/Exciting
52	s1	st2	a2	o5	r2	7	Culture	Natural
53	s2	st1	a2	o5	r1	13	Natural	Pleasure/Exciting
54	s2	st1	a2	o5	r2	7	Culture	Natural
55	s2	st2	a2	o5	r1	12	Natural	Culture
56	s2	st2	a2	o5	r2	8	Culture	Pleasure/Exciting
57	s1	st1	a2	o6	r3	1	Historical	Culture
58	s1	st2	a2	o6	r3	1	Historical	Culture
59	s2	st1	a2	o6	r3	1	Historical	Culture
60	s2	st2	a2	o6	r3	1	Historical	Culture
61	s1	st1	a2	o7	r1	18	Pleasure/Exciting	Natural
62	s1	st1	a2	o7	r2	18	Pleasure/Exciting	Natural
63	s1	st1	a2	o7	r3	13	Natural	Pleasure/Exciting
64	s1	st2	a2	o7	r1	18	Pleasure/Exciting	Natural
65	s1	st2	a2	o7	r2	13	Natural	Pleasure/Exciting
66	s1	st2	a2	o7	r3	7	Culture	Natural
67	s2	st1	a2	o7	r1	18	Pleasure/Exciting	Natural
68	s2	st1	a2	o7	r2	18	Pleasure/Exciting	Natural
69	s2	st1	a2	o7	r3	13	Natural	Pleasure/Exciting
70	s2	st2	a2	o7	r1	18	Pleasure/Exciting	Natural
71	s2	st2	a2	o7	r2	7	Natural	Culture
72	s2	st2	a2	o7	r3	7	Natural	Culture
73	s1	st1	a3	o1	r1	17	Pleasure/Exciting	Culture
74	s1	st1	a3	o1	r2	6	Culture	Historical
75	s1	st1	a3	o1	r3	1	Historical	Culture
76	s1	st2	a3	o1	r1	7	Culture	Natural
77	s1	st2	a3	o1	r2	6	Culture	Historical
78	s1	st2	a3	o1	r3	1	Historical	Culture

Rule	sex	status	age	occupation	revenue	tour package	Decision 1	Decision 2
79	s2	st1	a3	o1	r1	17	Pleasure/Exciting	Culture
80	s2	st1	a3	o1	r2	9	Culture	Relaxation/Health
81	s2	st1	a3	o1	r3	21	Relaxation/Health	Historical
82	s2	st2	a3	o1	r1	19	Pleasure/Exciting	Relaxation/Health
83	s2	st2	a3	o1	r2	9	Culture	Relaxation/Health
84	s2	st2	a3	o1	r3	21	Relaxation/Health	Historical
85	s1	st1	a3	o2	r1	18	Pleasure/Exciting	Natural
86	s1	st1	a3	o2	r2	8	Culture	Pleasure/Exciting
87	s1	st1	a3	o2	r3	1	Historical	Culture
88	s1	st2	a3	o2	r1	18	Pleasure/Exciting	Natural
89	s1	st2	a3	o2	r2	8	Culture	Pleasure/Exciting
90	s1	st2	a3	o2	r3	1	Historical	Culture
91	s2	st1	a3	o2	r1	17	Pleasure/Exciting	Culture
92	s2	st1	a3	o2	r2	9	Culture	Relaxation/Health
93	s2	st1	a3	o2	r3	21	Relaxation/Health	Historical
94	s2	st2	a3	o2	r1	19	Pleasure/Exciting	Relaxation/Health
95	s2	st2	a3	o2	r2	9	Culture	Relaxation/Health
96	s2	st2	a3	o2	r3	21	Relaxation/Health	Historical
97	s1	st1	a3	o3	r1	18	Pleasure/Exciting	Natural
98	s1	st1	a3	o3	r2	14	Natural	Relaxation/Health
99	s1	st1	a3	o3	r3	23	Relaxation/Health	Natural
100	s1	st2	a3	o3	r1	19	Pleasure/Exciting	Relaxation/Health
101	s1	st2	a3	o3	r2	14	Natural	Relaxation/Health
102	s1	st2	a3	o3	r3	23	Relaxation/Health	Natural
103	s2	st1	a3	o3	r1	13	Natural	Pleasure/Exciting
104	s2	st1	a3	o3	r2	14	Natural	Relaxation/Health
105	s2	st1	a3	o3	r3	23	Relaxation/Health	Natural
106	s2	st2	a3	o3	r1	14	Natural	Relaxation/Health
107	s2	st2	a3	o3	r2	14	Natural	Relaxation/Health
108	s2	st2	a3	o3	r3	23	Relaxation/Health	Natural
109	s1	st1	a3	o5	r1	18	Pleasure/Exciting	Natural
110	s1	st1	a3	o5	r2	12	Natural	Culture
111	s1	st2	a3	o5	r1	15	Natural	Agro tourism
112	s1	st2	a3	o5	r2	12	Natural	Culture
113	s2	st1	a3	o5	r1	15	Natural	Agro tourism
114	s2	st1	a3	o5	r2	12	Natural	Culture
115	s2	st2	a3	o5	r1	15	Natural	Agro tourism
116	s2	st2	a3	o5	r2	12	Natural	Culture
117	s1	st1	a3	o6	r3	9	Culture	Relaxation/Health
118	s1	st2	a3	o6	r3	21	Relaxation/Health	Historical
119	s2	st1	a3	o6	r3	4	Historical	Relaxation/Health
120	s2	st2	a3	o6	r3	21	Relaxation/Health	Historical

Rule	sex	status	age	occupation	revenue	tour package	Decision 1	Decision 2
121	s1	st1	a3	o7	r1	18	Pleasure/Exciting	Natural
122	s1	st1	a3	o7	r2	7	Culture	Natural
123	s1	st1	a3	o7	r3	9	Culture	Relaxation/Health
124	s1	st2	a3	o7	r1	12	Natural	Culture
125	s1	st2	a3	o7	r2	9	Culture	Relaxation/Health
126	s1	st2	a3	o7	r3	22	Relaxation/Health	Culture
127	s2	st1	a3	o7	r1	14	Natural	Culture
128	s2	st1	a3	o7	r2	9	Culture	Relaxation/Health
129	s2	st1	a3	o7	r3	9	Culture	Relaxation/Health
130	s2	st2	a3	o7	r1	14	Natural	Relaxation/Health
131	s2	st2	a3	o7	r2	9	Culture	Relaxation/Health
132	s2	st2	a3	o7	r3	22	Relaxation/Health	Culture
133	s1	st1	a4	o3	r1	9	Culture	Relaxation/Health
134	s1	st1	a4	o3	r2	22	Relaxation/Health	Culture
135	s1	st1	a4	o3	r3	21	Relaxation/Health	Historical
136	s1	st2	a4	o3	r1	9	Culture	Relaxation/Health
137	s1	st2	a4	o3	r2	22	Relaxation/Health	Culture
138	s1	st2	a4	o3	r3	22	Relaxation/Health	Culture
139	s2	st1	a4	o3	r1	9	Culture	Relaxation/Health
140	s2	st1	a4	o3	r2	22	Relaxation/Health	Culture
141	s2	st1	a4	o3	r3	22	Relaxation/Health	Culture
143	s2	st2	a4	o3	r2	22	Relaxation/Health	Culture
144	s2	st2	a4	o3	r3	22	Relaxation/Health	Culture
145	s1	st1	a4	o5	r1	1	Historical	Culture
146	s1	st1	a4	o5	r2	4	Historical	Relaxation/Health
147	s1	st2	a4	o5	r1	1	Historical	Culture
148	s1	st2	a4	o5	r2	21	Relaxation/Health	Historical
149	s2	st1	a4	o5	r1	22	Relaxation/Health	Culture
150	s2	st1	a4	o5	r2	21	Relaxation/Health	Historical
151	s2	st2	a4	o5	r1	22	Relaxation/Health	Culture
152	s2	st2	a4	o5	r2	21	Relaxation/Health	Historical
153	s1	st1	a4	o6	r3	1	Historical	Culture
154	s1	st2	a4	o6	r3	21	Relaxation/Health	Historical
155	s2	st1	a4	o6	r3	22	Relaxation/Health	Culture
156	s2	st2	a4	o6	r3	22	Relaxation/Health	Culture

## APPENDIX B

### DATA COLLECTION

**Table B1** User 1(Decision - Rule: 27)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(60)	Relaxation/Health(40)	-	-
2	Culture(42)	Relaxation/Health(40)	Natural(18)	-
3	Culture(42)	Relaxation/Health(28)	Natural(18)	Historical(12)

**Table B2** User 2(Decision - Rule: 11)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(60)	Natural(40)	-	-
2	Culture(60)	Natural(28)	Historical(12)	-
3	Culture(42)	Natural(28)	Historical(30)	-

**Table B3** User 3(Decision - Rule: 143)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(60)	Culture(40)	-	-
2	Historical(60)	Culture(28)	Relaxation/Health(18)	-
3	Historical(42)	Culture(28)	Relaxation/Health(18)	Agro tourism(12)

**Table B4** User 4(Decision - Rule: 42)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(60)	Culture(40)	-	-
2	-	-	-	-
3	-	-	-	-

**Table B5** User 5(Decision - Rule: 40)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(60)	Culture(40)	-	-
2	Relaxation/Health(42)	Culture(40)	Natural(18)	-
3	-	-	-	-

**Table B6** User 6(Decision - Rule: 2)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(60)	Natural(40)	-	-
2	Pleasure/Exciting(60)	Natural(28)	Relaxation/Health(12)	-
3	Pleasure/Exciting(42)	Natural(28)	Relaxation/Health(30)	-

**Table B7** User 7(Decision - Rule: 117)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(60)	Natural(40)	-	-
2	Pleasure/Exciting(60)	Natural(28)	Culture(12)	-
3	Pleasure/Exciting(42)	Natural(28)	Culture(30)	-

**Table B8** User 8(Decision - Rule: 74)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(60)	Culture(40)	-	-
2	Historical(42)	Culture(58)	-	-
3	Historical(30)	Culture(58)	Relaxation/Health(12)	-

**Table B9** User 9(Decision - Rule: 149)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(60)	Culture(40)	-	-
2	-	-	-	-
3	-	-	-	-

**Table B10** User 10(Decision - Rule: 70)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(60)	Historical(40)	-	-
2	Culture(42)	Historical(40)	Pleasure/Exciting(18)	-
3	Culture(42)	Historical(28)	Pleasure/Exciting(18)	Natural(12)

**Table B11** User 11(Decision - Rule: 25)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(60)	Culture (40)	-	-
2	Historical (42)	Culture (58)	-	-
3	-	-	-	-

**Table B12** User 12(Decision - Rule: 12)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(60)	Culture (40)	-	-
2	Historical(42)	Culture(40)	Relaxation/Health(18)	-
3	Historical(42)	Culture(28)	Relaxation/Health(30)	-

**Table B13** User 13(Decision - Rule: 85)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(60)	Pleasure/Exciting(40)	-	-
2	-	-	-	-
3	-	-	-	-

**Table B14** User 14(Decision - Rule: 21)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(60)	Historical(40)	-	-
2	Culture(42)	Historical(40)	Relaxation/Health(18)	-
3	Culture(42)	Historical(28)	Relaxation/Health(18)	Natural(12)

**Table B15** User 15(Decision - Rule: 99)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Natural(60)	Pleasure/Exciting(40)	-	-
2	Natural(60)	Pleasure/Exciting(28)	Historical(12)	-
3	-	-	-	-

**Table B16** User 16(Decision - Rule: 3)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(60)	Pleasure/Exciting(40)	-	-
2	Relaxation/Health(42)	Pleasure/Exciting(40)	Natural(18)	-
3	-	-	-	-

**Table B17** User 17(Decision - Rule: 145)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(60)	Culture(40)	-	-
2	Relaxation/Health(60)	Culture(28)	Agro tourism(12)	-
3	Relaxation/Health(42)	Culture(28)	Agro tourism(30)	-

**Table B18** User 18(Decision - Rule: 64)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(60)	Natural(40)	-	-
2	Pleasure/Exciting(60)	Natural(28)	Agro tourism(12)	-
3	Pleasure/Exciting(68)	Natural(20)	Agro tourism(12)	-

**Table B19** User 19(Decision - Rule: 34)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(60)	Culture(40)	-	-
2	Relaxation/Health(42)	Culture(40)	Historical(18)	-
3	-	-	-	-



**Table B20** User 20(Decision - Rule: 26)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(60)	Relaxation/Health(40)	-	-
2	Culture(42)	Relaxation/Health(40)	Pleasure/Exciting(18)	-
3	Culture(42)	Relaxation/Health(28)	Pleasure/Exciting(18)	Historical(12)

**Table B2** User 21(Decision - Rule: 115)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(60)	Relaxation/Health(40)	-	-
2	Historical(42)	Relaxation/Health(58)	-	-
3	Historical(42)	Relaxation/Health(41)	Culture(17)	-

**Table B22** User 22(Decision - Rule: 93)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(60)	Natural(40)	-	-
2	Pleasure/Exciting(42)	Natural(40)	Agro tourism(18)	-
3	-	-	-	-

**Table B23** User 23(Decision - Rule: 1)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(60)	Natural(40)	-	-
2	Pleasure/Exciting(72)	Natural(28)	-	-
3	Pleasure/Exciting(72)	Natural(20)	Agro tourism(8)	-

**Table B24** User 24(Decision - Rule: 70)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(42)	Historical(28)	Pleasure/Exciting(18)	Natural(12)
2	Culture(30)	Historical(40)	Pleasure/Exciting(18)	Natural(12)
3	Culture(30)	Historical(40)	Pleasure/Exciting(13)	Natural(17)

**Table B25** User 25(Decision - Rule: 112)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Natural(60)	Culture(40)	-	-
2	-	-	-	-
3	-	-	-	-

**Table B26** User 26(Decision - Rule: 37)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(60)	Culture(40)	-	-
2	Relaxation/Health(42)	Culture(40)	Natural(18)	-
3	Relaxation/Health(42)	Culture(28)	Natural(18)	Historical(12)

**Table B27** User 27(Decision - Rule: 18)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(60)	Pleasure/Exciting(40)	-	-
2	Culture(42)	Pleasure/Exciting(40)	Relaxation/Health(18)	-
3	Culture(42)	Pleasure/Exciting(28)	Relaxation/Health(18)	Natural(12)

**Table B28** User 28(Decision - Rule: 140)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(60)	Culture(40)	-	-
2	Relaxation/Health(60)	Culture(28)	Natural(12)	-
3	-	-	-	-

**Table B29** User 29(Decision - Rule: 24)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(60)	Relaxation/Health(40)	-	-
2	Culture(60)	Relaxation/Health(28)	Pleasure/Exciting(12)	-
3	Culture(42)	Relaxation/Health(28)	Pleasure/Exciting(12)	Natural(18)

**Table B30** User 30(Decision - Rule: 85)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(60)	Pleasure/Exciting(40)	-	-
2	Culture(42)	Pleasure/Exciting(40)	Natural(18)	-
3	Culture(42)	Pleasure/Exciting(28)	Natural(30)	-

**Table B31** User 31(Decision - Rule: 6)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(60)	Pleasure/Exciting(40)	-	-
2	-	-	-	-
3	-	-	-	-

**Table B32** User 32(Decision - Rule: 12)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(42)	Culture(28)	Relaxation/Health(30)	-
2	Historical(42)	Culture(28)	Relaxation/Health(21)	Natural(9)
3	Historical(42)	Culture(34)	Relaxation/Health(15)	Natural(9)

**Table B33** User 33(Decision - Rule: 2)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(42)	Natural(28)	Relaxation/Health(30)	-
2	Pleasure/Exciting(30)	Natural(28)	Relaxation/Health(30)	Agro tourism(12)
3	Pleasure/Exciting(30)	Natural(31)	Relaxation/Health(30)	Agro tourism(9)

**Table B34** User 34(Decision - Rule: 17)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(60)	Natural(40)	-	-
2	Pleasure/Exciting(42)	Natural(40)	Agro tourism(18)	-
3	-	-	-	-

**Table B35** User 35(Decision - Rule: 27)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(42)	Relaxation/Health(28)	Natural(18)	Historical(12)
2	Culture(30)	Relaxation/Health(28)	Natural(30)	Historical(12)
3	Culture(30)	Relaxation/Health(28)	Natural(30)	-

**Table B36** User 36(Decision - Rule: 2)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(42)	Natural(28)	Relaxation/Health(30)	-
2	Pleasure/Exciting(30)	Natural(28)	Relaxation/Health(30)	Agro tourism(12)
3	Pleasure/Exciting(42)	Natural(28)	Relaxation/Health(21)	Agro tourism(9)

**Table B37** User 37(Decision - Rule: 3)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(42)	Pleasure/Exciting(40)	Natural(18)	-
2	Relaxation/Health(30)	Pleasure/Exciting(28)	Natural(18)	Agro tourism(12)
3	Relaxation/Health(47)	Pleasure/Exciting(28)	Natural(13)	Agro tourism(12)

**Table B38** User 38(Decision - Rule: 13)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(60)	Culture(40)	-	-
2	Historical(72)	Culture(28)	-	-
3	Historical(50)	Culture(28)	Relaxation/Health(12)	-

**Table B39** User 39(Decision - Rule: 23)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(60)	Natural(40)	-	-
2	Culture(42)	Natural(40)	Relaxation/Health(18)	-
3	Culture(42)	Natural(28)	Relaxation/Health(18)	Natural(12)

**Table B40** User 40(Decision - Rule: 123)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Natural(60)	Culture(40)	-	-
2	Natural(42)	Culture(58)	-	-
3	Natural(30)	Culture(58)	Historical(12)	-

**Table B41** User 41(Decision - Rule: 116)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(60)	Historical(40)	-	-
2	Relaxation/Health(42)	Historical(40)	Natural(18)	-
3	-	-	-	-

**Table B42** User 42(Decision - Rule: 74)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(30)	Culture(58)	Relaxation/Health(12)	-
2	Historical(30)	Culture(41)	Relaxation/Health(29)	-
3	Historical(30)	Culture(30)	Relaxation/Health(29)	Natural(11)

**Table B43** User 43(Decision - Rule: 112)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Natural(60)	Culture(40)	-	-
2	Natural(42)	Culture(40)	Pleasure/Exciting(18)	-
3	-	-	-	-

**Table B44** User 44(Decision - Rule: 21)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(42)	Historical(28)	Relaxation/Health(18)	Natural(12)
2	Culture(30)	Historical(40)	Relaxation/Health(18)	Natural(12)
3	Culture(30)	Historical(40)	Relaxation/Health(21)	Natural(9)

**Table B45** User 45(Decision - Rule: 11)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(42)	Natural(28)	Historical(30)	-
2	Culture(42)	Natural(28)	Historical(21)	Relaxation/Health(9)
3	Culture(30)	Natural(28)	Historical(21)	Relaxation/Health(21)

**Table B46** User 46(Decision - Rule: 1)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(72)	Natural(20)	Agro tourism(8)	-
2	Pleasure/Exciting(50)	Natural(20)	Agro tourism(8)	Relaxation/Health(22)
3	-	-	-	-

**Table B47** User 47(Decision - Rule: 24)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(42)	Relaxation/Health(28)	Pleasure/Exciting(12)	Natural(18)
2	-	-	-	-
3	-	-	-	-

**Table B48** User 48(Decision - Rule: 23)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(42)	Natural(28)	Relaxation/Health(18)	Natural(12)
2	Culture(47)	Natural(28)	Relaxation/Health(13)	Natural(12)
3	-	-	-	-

**Table B49** User 49(Decision - Rule: 64)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(68)	Natural(20)	Agro tourism(12)	-
2	Pleasure/Exciting(48)	Natural(40)	Agro tourism(12)	-
3	Pleasure/Exciting(48)	Natural(40)	Agro tourism(9)	Relaxation/Health(3)

**Table B50** User 50(Decision - Rule: 26)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(42)	Relaxation/Health(28)	Pleasure/Exciting(18)	Historical(12)
2	Culture(42)	Relaxation/Health(33)	Pleasure/Exciting(13)	Historical(12)
3	Culture(45)	Relaxation/Health(33)	Pleasure/Exciting(13)	Historical(9)

**Table B51** User 51(Decision - Rule: 37)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(42)	Culture(28)	Natural(18)	Historical(12)
2	Relaxation/Health(42)	Culture(28)	Natural(21)	Historical(9)
3	Relaxation/Health(50)	Culture(20)	Natural(21)	Historical(9)

**Table B52** User 52(Decision - Rule: 28)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(60)	Historical(40)	-	-
2	Relaxation/Health(42)	Historical(40)	Culture(18)	-
3	Relaxation/Health(42)	Historical(28)	Culture(18)	Pleasure/Exciting(12)

**Table B53** User 53(Decision - Rule: 17)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(42)	Natural(40)	Agro tourism(18)	-
2	Pleasure/Exciting(42)	Natural(28)	Agro tourism(18)	Relaxation/Health(12)
3	Pleasure/Exciting(47)	Natural(28)	Agro tourism(13)	Relaxation/Health(12)

**Table B54** User 54(Decision - Rule: 119)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(60)	Relaxation/Health(40)	-	-
2	Culture(42)	Relaxation/Health(40)	Agro tourism(18)	-
3	Culture(42)	Relaxation/Health(28)	Agro tourism(18)	Natural(12)

**Table B55** User 55(Decision - Rule: 18)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(42)	Pleasure/Exciting(28)	Relaxation/Health(18)	Natural(12)
2	Culture(42)	Pleasure/Exciting(33)	Relaxation/Health(13)	Natural(12)
3	Culture(54)	Pleasure/Exciting(33)	Relaxation/Health(13)	-

**Table B56** User 56(Decision - Rule: 34)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(42)	Culture(40)	Historical(18)	-
2	Relaxation/Health(42)	Culture(28)	Historical(18)	Natural(12)
3	Relaxation/Health(42)	Culture(28)	Historical(13)	Natural(17)

**Table B57** User 57(Decision - Rule: 137)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(60)	Culture(40)	-	-
2	-	-	-	-
3	-	-	-	-

**Table B58** User 58(Decision - Rule: 25)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(42)	Culture(58)	-	-
2	Historical(42)	Culture(40)	Relaxation/Health(18)	-
3	Historical(30)	Culture(40)	Relaxation/Health (30)	-

**Table B59** User 59(Decision - Rule: 137)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Natural(30)	Culture(40)	Natural(12)	-
2	Natural(42)	Culture(28)	Natural(12)	-
3	Natural(42)	Culture(28)	Natural(9)	Relaxation/Health(3)



**Table B60** User 60(Decision - Rule: 6)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(60)	Pleasure/Exciting(40)	-	-
2	Culture(42)	Pleasure/Exciting(40)	Historical(18)	-
3	Culture(42)	Pleasure/Exciting(28)	Historical(18)	Natural(12)

**Table B61** User 61(Decision - Rule: 24)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(42)	Relaxation/Health(28)	Pleasure/Exciting(12)	Natural(18)
2	Culture(42)	Relaxation/Health(33)	Pleasure/Exciting(12)	Natural(13)
3	-	-	-	-

**Table B62** User 62(Decision - Rule: 17)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(47)	Natural(28)	Agro tourism(13)	Relaxation/Health(12)
2	Pleasure/Exciting(47)	Natural(28)	Agro tourism(16)	Relaxation/Health(9)
3	-	-	-	-

**Table B63** User 63(Decision - Rule: 116)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(42)	Historical(40)	Natural(18)	-
2	-	-	-	-
3	-	-	-	-

**Table B64** User 64(Decision - Rule: 40)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(42)	Culture(40)	Natural(18)	-
2	Relaxation/Health(42)	Culture(28)	Natural(30)	-
3	Relaxation/Health(30)	Culture(28)	Natural(30)	Historical(12)

**Table B65** User 65(Decision - Rule: 13)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(50)	Culture(28)	Relaxation/Health(12)	-
2	Historical(35)	Culture(28)	Relaxation/Health(12)	Natural(15)
3	-	-	-	-

**Table B66** User 66(Decision - Rule: 2)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(42)	Natural(28)	Relaxation/Health(21)	Agro tourism(9)
2	Pleasure/Exciting(30)	Natural(28)	Relaxation/Health(21)	Agro tourism(21)
3	Pleasure/Exciting(30)	Natural(34)	Relaxation/Health(15)	Agro tourism(21)

**Table B67** User 67(Decision - Rule: 115)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(42)	Relaxation/Health(41)	Culture(17)	-
2	Historical(42)	Relaxation/Health(30)	Culture(28)	-
3	Historical(30)	Relaxation/Health(30)	Culture(28)	Agro tourism(12)

**Table B68** User 68(Decision - Rule: 85)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(42)	Pleasure/Exciting(28)	Natural(30)	-
2	Culture(42)	Pleasure/Exciting(28)	Natural(21)	Relaxation/Health(9)
3	Culture(30)	Pleasure/Exciting(40)	Natural(21)	Relaxation/Health(9)

**Table B69** User 69(Decision - Rule: 42)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(60)	Culture(40)	-	-
2	Pleasure/Exciting(42)	Culture(40)	Agro tourism(18)	-
3	Pleasure/Exciting(42)	Culture(28)	Agro tourism(30)	-

**Table B70** User 70(Decision - Rule: 64)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(48)	Natural(40)	Agro tourism(9)	Relaxation/Health(3)
2	Pleasure/Exciting(48)	Natural(28)	Agro tourism(9)	Relaxation/Health(15)
3	Pleasure/Exciting(57)	Natural(28)	Relaxation/Health(15)	-

**Table B71** User 71(Decision - Rule: 4)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(60)	Natural(40)	-	-
2	Relaxation/Health(42)	Natural(40)	Pleasure/Exciting(18)	-
3	-	-	-	-

**Table B72** User 72(Decision - Rule: 18)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(54)	Pleasure/Exciting(33)	Relaxation/Health(13)	-
2	-	-	-	-
3	-	-	-	-

**Table B73** User 73(Decision - Rule: 119)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(42)	Relaxation/Health(28)	Agro tourism(18)	Natural(12)
2	Culture(42)	Relaxation/Health(33)	Agro tourism(13)	Natural(12)
3	Culture(45)	Relaxation/Health(33)	Agro tourism(13)	Natural(9)

**Table B74** User 74(Decision - Rule: 1)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(50)	Natural(20)	Agro tourism(8)	Relaxation/Health(22)
2	Pleasure/Exciting(50)	Natural(26)	Agro tourism(8)	Relaxation/Health(16)
3	Pleasure/Exciting(35)	Natural(41)	Agro tourism(8)	Relaxation/Health(16)

**Table B75** User 75(Decision - Rule: 70)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(30)	Historical(40)	Pleasure/Exciting(13)	Natural(17)
2	Culture(42)	Historical(28)	Pleasure/Exciting(13)	Natural(17)
3	Culture(42)	Historical(28)	Pleasure/Exciting(9)	Natural(21)

**Table B76** User 76(Decision - Rule: 143)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(42)	Culture(28)	Relaxation/Health(18)	Agro tourism(12)
2	Historical(30)	Culture(28)	Relaxation/Health(30)	Agro tourism(12)
3	Historical(30)	Culture(40)	Relaxation/Health(18)	Agro tourism(12)

**Table B77** User 77(Decision - Rule: 24)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(42)	Relaxation/Health(33)	Pleasure/Exciting(12)	Natural(13)
2	Culture(46)	Relaxation/Health(33)	Pleasure/Exciting(12)	Natural(9)
3	-	-	-	-

**Table B78** User 78(Decision - Rule: 23)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(47)	Natural(28)	Relaxation/Health(13)	Natural(12)
2	Culture(47)	Natural(31)	Relaxation/Health(13)	Natural(9)
3	-	-	-	-

**Table B79** User 79(Decision - Rule: 4)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(42)	Natural(40)	Pleasure/Exciting(18)	-
2	-	-	-	-
3	-	-	-	-

**Table B80** User 80(Decision - Rule: 26)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(45)	Relaxation/Health(33)	Pleasure/Exciting(13)	Historical(9)
2	Culture(45)	Relaxation/Health(37)	Pleasure/Exciting(9)	Historical(9)
3	-	-	-	-

**Table B81** User 81(Decision - Rule: 93)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(42)	Natural(40)	Agro tourism(18)	-
2	Pleasure/Exciting(42)	Natural(28)	Agro tourism(18)	Relaxation/Health(12)
3	Pleasure/Exciting(30)	Natural(28)	Agro tourism(30)	Relaxation/Health(12)

**Table B82** User 82(Decision - Rule: 37)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(50)	Culture(20)	Natural(21)	Historical(9)
2	Relaxation/Health(50)	Culture(29)	Natural(21)	-
3	-	-	-	-

**Table B83** User 83(Decision - Rule: 21)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(30)	Historical(40)	Relaxation/Health(21)	Natural(9)
2	Culture(36)	Historical(40)	Relaxation/Health(15)	Natural(9)
3	Culture(48)	Historical(28)	Relaxation/Health(15)	Natural(9)

**Table B84** User 84(Decision - Rule: 117)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(42)	Natural(28)	Culture(30)	-
2	Pleasure/Exciting(42)	Natural(28)	Culture(21)	Relaxation/Health(9)
3	Pleasure/Exciting(42)	Natural(20)	Culture(21)	Relaxation/Health(17)

**Table B85** User 85(Decision - Rule: 6)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(42)	Pleasure/Exciting(28)	Historical(18)	Natural(12)
2	Culture(42)	Pleasure/Exciting(31)	Historical(18)	Natural(9)
3	-	-	-	-

**Table B86** User 86(Decision - Rule: 140)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(60)	Culture(28)	Natural(12)	-
2	Relaxation/Health(42)	Culture(28)	Natural(12)	Agro tourism(18)
3	Relaxation/Health(42)	Culture(28)	Natural(9)	Agro tourism(21)

**Table B87** User 87(Decision - Rule: 116)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(42)	Historical(40)	Natural(18)	-
2	-	-	-	-
3	-	-	-	-

**Table B88** User 88(Decision - Rule: 112)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Natural(42)	Culture(40)	Pleasure/Exciting(18)	-
2	Natural(42)	Culture(28)	Pleasure/Exciting(18)	Agro tourism(12)
3	-	-	-	-

**Table B89** User 89(Decision - Rule: 145)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(42)	Culture(28)	Agro tourism(30)	-
2	Relaxation/Health(42)	Culture(28)	Agro tourism(21)	Natural(9)
3	Relaxation/Health(42)	Culture(34)	Agro tourism(15)	Natural(9)

**Table B90** User 90(Decision - Rule: 12)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(42)	Culture(34)	Relaxation/Health(15)	Natural(9)
2	Historical(30)	Culture(34)	Relaxation/Health(27)	Natural(9)
3	Historical(30)	Culture(43)	Relaxation/Health(27)	-

**Table B91** User 91(Decision - Rule: 24)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(46)	Relaxation/Health(33)	Pleasure/Exciting(12)	Natural(9)
2	-	-	-	-
3	-	-	-	-

**Table B92** User 92(Decision - Rule: 149)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(60)	Culture(40)	-	-
2	Historical(60)	Culture(28)	Relaxation/Health(12)	-
3	-	-	-	-

**Table B93** User 93(Decision - Rule: 23)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(47)	Natural(31)	Relaxation/Health(13)	Natural(9)
2	Culture(47)	Natural(40)	Relaxation/Health(13)	-
3	Culture(47)	Natural(35)	Relaxation/Health(9)	-

**Table B94** User 94(Decision - Rule: 123)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Natural(30)	Culture(58)	Historical(12)	-
2	Natural(30)	Culture(58)	Historical(9)	Relaxation/Health(3)
3	-	-	-	-

**Table B95** User 95(Decision - Rule: 34)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(42)	Culture(28)	Historical(13)	Natural(17)
2	Relaxation/Health(30)	Culture(40)	Historical(13)	Natural(17)
3	-	-	-	-

**Table B96** User 96(Decision - Rule: 137)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(60)	Culture(40)	-	-
2	Relaxation/Health(42)	Culture(40)	Agro tourism(18)	-
3	Relaxation/Health(42)	Culture(28)	Agro tourism(18)	Pleasure/Exciting(12)

**Table B97** User 97(Decision - Rule: 17)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(47)	Natural(28)	Agro tourism(16)	Relaxation/Health(9)
2	Pleasure/Exciting(47)	Natural(33)	Agro tourism(11)	Relaxation/Health(9)
3	-	-	-	-

**Table B98** User 98(Decision - Rule: 99)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Natural(60)	Pleasure/Exciting(28)	Historical(12)	-
2	Natural(42)	Pleasure/Exciting(28)	Historical(30)	-
3	Natural(42)	Pleasure/Exciting(20)	Historical(30)	Relaxation/Health (8)

**Table B99** User 99(Decision - Rule: 13)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(35)	Culture(28)	Relaxation/Health(12)	Natural(15)
2	Historical(35)	Culture(32)	Relaxation/Health(12)	Natural(11)
3	-	-	-	-



**Table B100** User 100(Decision - Rule: 27)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(35)	Natural(41)	Agro tourism(8)	Relaxation/Health(16)
2	Pleasure/Exciting(40)	Natural(41)	Agro tourism(8)	Relaxation/Health(11)
3	-	-	-	-

**Table B101** User 101(Decision - Rule: 2)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(30)	Natural(34)	Relaxation/Health(15)	Agro tourism(21)
2	Pleasure/Exciting(45)	Natural(34)	Agro tourism(21)	-
3	Pleasure/Exciting(45)	Natural(40)	Agro tourism(15)	-

**Table B102** User 102(Decision - Rule: 37)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(50)	Culture(29)	Natural(21)	-
2	Relaxation/Health(50)	Culture(35)	Natural(15)	-
3	-	-	-	-

**Table B103** User 103(Decision - Rule: 145)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(42)	Culture(34)	Agro tourism(15)	Natural(9)
2	Relaxation/Health(30)	Culture(34)	Agro tourism(27)	Natural(9)
3	Relaxation/Health(30)	Culture(43)	Agro tourism(27)	-

**Table B104** User 104(Decision - Rule: 137)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(42)	Culture(28)	Agro tourism(18)	Pleasure/Exciting(12)
2	-	-	-	-
3	-	-	-	-

**Table B105** User 105(Decision - Rule: 18)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(54)	Pleasure/Exciting(33)	Relaxation/Health(13)	-
2	Culture(64)	Pleasure/Exciting(23)	Relaxation/Health(13)	-
3	-	-	-	-

**Table B106** User 106(Decision - Rule: 123)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Natural(30)	Culture(58)	Historical(9)	Relaxation/Health(3)
2	Natural(47)	Culture(41)	Historical(9)	Relaxation/Health(3)
3	Natural(50)	Culture(41)	Historical(9)	-

**Table B107** User 107(Decision - Rule: 36)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(42)	Relaxation/Health(41)	Historical(29)	-
2	Culture(30)	Relaxation/Health(53)	Historical(29)	-
3	-	-	-	-

**Table B108** User 108(Decision - Rule: 6)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(42)	Pleasure/Exciting(31)	Historical(18)	Natural(9)
2	-	-	-	-
3	-	-	-	-

**Table B109** User 109(Decision - Rule: 12)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(30)	Culture(43)	Relaxation/Health(27)	-
2	Historical(38)	Culture(43)	Relaxation/Health(19)	-
3	Historical(38)	Culture(30)	Relaxation/Health(19)	Natural(13)

**Table B110** User 110(Decision - Rule: 28)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(42)	Historical(28)	Culture(18)	Pleasure/Exciting(12)
2	Relaxation/Health(42)	Historical(33)	Culture(13)	Pleasure/Exciting(12)
3	Relaxation/Health(45)	Historical(33)	Culture(13)	Pleasure/Exciting(9)

**Table B111** User 111(Decision - Rule: 11)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(30)	Natural(28)	Historical(21)	Relaxation/Health(21)
2	-	-	-	-
3	-	-	-	-

**Table B112** User 112(Decision - Rule: 6)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(42)	Pleasure/Exciting(31)	Historical(18)	Natural(9)
2	Culture(42)	Pleasure/Exciting(40)	Historical(18)	-
3	Culture(47)	Pleasure/Exciting(40)	Historical(13)	-

**Table B113** User 113(Decision - Rule: 24)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(46)	Relaxation/Health(33)	Pleasure/Exciting(12)	Natural(9)
2	Culture(46)	Relaxation/Health(36)	Pleasure/Exciting(9)	Natural(9)
3	-	-	-	-

**Table B114** User 114(Decision - Rule: 3)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(47)	Pleasure/Exciting(28)	Natural(13)	Agro tourism(12)
2	Relaxation/Health(47)	Pleasure/Exciting(32)	Natural(9)	Agro tourism(12)
3	Relaxation/Health(47)	Pleasure/Exciting(40)	Natural(13)	-

**Table B115** User 115(Decision - Rule: 34)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(42)	Culture(28)	Historical(13)	Natural(17)
2	-	-	-	-
3	-	-	-	-

**Table B116** User 1116(Decision - Rule: 70)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(42)	Historical(28)	Pleasure/Exciting(9)	Natural(21)
2	Culture(42)	Historical(34)	Pleasure/Exciting(9)	Natural(15)
3	Culture(51)	Historical(34)	Natural(15)	-

**Table B117** User 117(Decision - Rule: 27)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(30)	Relaxation/Health(28)	Natural(30)	-
2	Culture(39)	Relaxation/Health(28)	Natural(21)	-
3	Culture(39)	Relaxation/Health(20)	Natural(21)	Historical(8)

**Table B118** User 118(Decision - Rule: 17)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(47)	Natural(33)	Agro tourism(11)	Relaxation/Health(9)
2	-	-	-	-
3	-	-	-	-

**Table B119** User 119(Decision - Rule: 93)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(30)	Natural(28)	Agro tourism(30)	Relaxation/Health(12)
2	Pleasure/Exciting(30)	Natural(37)	Agro tourism(21)	Relaxation/Health(12)
3	-	-	-	-

**Table B120** User 120(Decision - Rule: 12)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(38)	Culture(30)	Relaxation/Health(27)	Natural(13)
2	Historical(46)	Culture(30)	Relaxation/Health(19)	Natural(13)
3	Historical(46)	Culture(34)	Relaxation/Health(19)	Natural(9)

**Table B121** User 121(Decision - Rule: 8)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(30)	Relaxation/Health(30)	Culture(28)	Agro tourism(12)
2	Historical(38)	Relaxation/Health(30)	Culture(20)	Agro tourism(12)
3	Historical(38)	Relaxation/Health(33)	Culture(20)	Agro tourism(9)

**Table B122** User 122(Decision - Rule: 140)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(42)	Culture(28)	Natural(9)	Agro tourism(21)
2	Relaxation/Health(42)	Culture(34)	Natural(9)	Agro tourism(15)
3	Relaxation/Health(42)	Culture(43)	Agro tourism(15)	-

**Table B123** User 123(Decision - Rule: 6)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(47)	Pleasure/Exciting(40)	Historical(13)	-
2	Culture(33)	Pleasure/Exciting(40)	Historical(13)	Natural(14)
3	Culture(33)	Pleasure/Exciting(44)	Historical(9)	Natural(14)

**Table B124** User 124(Decision - Rule: 11)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(30)	Natural(28)	Historical(21)	Relaxation/Health(21)
2	Culture(40)	Natural(24)	Historical(21)	Relaxation/Health(15)
3	Culture(40)	Natural(24)	Historical(15)	Relaxation/Health(21)

**Table B125** User 125(Decision - Rule: 26)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(45)	Relaxation/Health(37)	Pleasure/Exciting(9)	Historical(9)
2	-	-	-	-
3	-	-	-	-

**Table B126** User 126(Decision - Rule: 134)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(60)	Culture(40)	-	-
2	Relaxation/Health(42)	Culture(40)	Historical(18)	-
3	Relaxation/Health(42)	Culture(28)	Historical(18)	Natural(12)

**Table B127** User 127(Decision - Rule: 3)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(47)	Pleasure/Exciting(40)	Natural(13)	-
2	Relaxation/Health(47)	Pleasure/Exciting(28)	Natural(13)	Agro tourism(12)
3	Relaxation/Health(33)	Pleasure/Exciting(28)	Natural(27)	Agro tourism(12)

**Table B128** User 128(Decision - Rule: 86)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(60)	Culture(40)	-	-
2	Historical(42)	Culture(40)	Relaxation/Health(18)	-
3	Historical(42)	Culture(28)	Relaxation/Health(18)	Natural(12)

**Table B129** User 129(Decision - Rule: 116)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(42)	Historical(40)	Natural(18)	-
2	Relaxation/Health(42)	Historical(28)	Natural(18)	Culture(12)
3	Relaxation/Health(42)	Historical(33)	Natural(13)	Culture(12)

**Table B130** User 130(Decision - Rule: 46)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(60)	Culture(40)	-	-
2	Pleasure/Exciting(42)	Culture(40)	Natural(18)	-
3	Pleasure/Exciting(42)	Culture(28)	Natural(18)	Agro tourism(12)

**Table B131** User 131(Decision - Rule: 131)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(60)	Historical(40)	-	-
2	Relaxation/Health(42)	Historical(40)	Culture(18)	-
3	Relaxation/Health(42)	Historical(28)	Culture(30)	-

**Table B132** User 132(Decision - Rule: 142)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(60)	Relaxation/Health(40)	-	-
2	Historical(60)	Relaxation/Health(28)	Culture(12)	-
3	Historical(60)	Relaxation/Health(28)	Culture(9)	Natural(3)

**Table B133** User 133(Decision - Rule: 46)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(42)	Culture(28)	Natural(18)	Agro tourism(12)
2	Pleasure/Exciting(42)	Culture(33)	Natural(13)	Agro tourism(12)
3	Pleasure/Exciting(45)	Culture(33)	Natural(13)	Agro tourism(9)

**Table B134** User 134(Decision - Rule: 131)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(42)	Historical(28)	Culture(30)	-
2	-	-	-	-
3	-	-	-	-

**Table B135** User 135(Decision - Rule: 3)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(33)	Pleasure/Exciting(28)	Natural(27)	Agro tourism(12)
2	Relaxation/Health(36)	Pleasure/Exciting(28)	Natural(27)	Agro tourism(9)
3	Relaxation/Health(36)	Pleasure/Exciting(37)	Natural(27)	-

**Table B136** User 136(Decision - Rule: 104)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(60)	Natural(40)	-	-
2	Relaxation/Health(42)	Natural(40)	Historical(18)	-
3	Relaxation/Health(42)	Natural(28)	Historical(18)	Pleasure/Exciting(12)

**Table B137** User 137(Decision - Rule: 116)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(42)	Historical(33)	Natural(13)	Culture(12)
2	Relaxation/Health(42)	Historical(36)	Natural(13)	Culture(9)
3	Relaxation/Health(46)	Historical(33)	Natural(9)	Culture(12)

**Table B138** User 138(Decision - Rule: 142)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(60)	Relaxation/Health(28)	Culture(9)	Natural(3)
2	Historical(60)	Relaxation/Health(31)	Culture(9)	-
3	Historical(42)	Relaxation/Health(49)	Culture(9)	-

**Table B139** User 139(Decision - Rule: 134)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(42)	Culture(28)	Historical(18)	Natural(12)
2	Relaxation/Health(42)	Culture(33)	Historical(13)	Natural(12)
3	Relaxation/Health(45)	Culture(33)	Historical(13)	Natural(9)



**Table B140** User 140(Decision - Rule: 86)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(42)	Culture(28)	Relaxation/Health(18)	Natural(12)
2	Historical(30)	Culture(40)	Relaxation/Health(18)	Natural(12)
3	Historical(35)	Culture(40)	Relaxation/Health(13)	Natural(12)

**Table B141** User 141(Decision - Rule: 46)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(45)	Culture(33)	Natural(13)	Agro tourism(9)
2	Pleasure/Exciting(45)	Culture(37)	Natural(9)	Agro tourism(9)
3	Pleasure/Exciting(45)	Culture(42)	Natural(13)	-

**Table B142** User 142(Decision - Rule: 131)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(42)	Historical(28)	Culture(30)	-
2	Relaxation/Health(42)	Historical(28)	Culture(21)	Natural(9)
3	Relaxation/Health(30)	Historical(40)	Culture(21)	Natural(9)

**Table B143** User 143(Decision - Rule: 134)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(45)	Culture(33)	Historical(13)	Natural(9)
2	Relaxation/Health(49)	Culture(33)	Historical(9)	Natural(9)
3	Relaxation/Health(49)	Culture(42)	Historical(9)	-

**Table B144** User 144(Decision - Rule: 83)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(60)	Culture(40)	-	-
2	Historical(42)	Culture(40)	Natural(18)	-
3	Historical(42)	Culture(28)	Natural(18)	Relaxation/Health(12)

**Table B145** User 145(Decision - Rule: 24)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(46)	Relaxation/Health(36)	Pleasure/Exciting(9)	Natural(9)
2	Culture(46)	Relaxation/Health(25)	Pleasure/Exciting(20)	Natural(9)
3	Culture(55)	Relaxation/Health(25)	Pleasure/Exciting(20)	-

**Table B146** User 146(Decision - Rule: 2)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(45)	Natural(40)	Agro tourism(15)	-
2	Pleasure/Exciting(45)	Natural(28)	Agro tourism(15)	Relaxation/Health(12)
3	Pleasure/Exciting(32)	Natural(28)	Agro tourism(28)	Relaxation/Health(12)

**Table B147** User 147(Decision - Rule: 147)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(60)	Culture(40)	-	-
2	Relaxation/Health(42)	Culture(40)	Historical(18)	-
3	Relaxation/Health(42)	Culture(28)	Historical(30)	-

**Table B148** User 148(Decision - Rule: 134)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(49)	Culture(42)	Historical(9)	-
2	Relaxation/Health(35)	Culture(42)	Historical(9)	Natural(14)
3	Relaxation/Health(44)	Culture(42)	Natural(14)	-

**Table B149** User 149(Decision - Rule: 2)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(32)	Natural(28)	Agro tourism(28)	Relaxation/Health(12)
2	Pleasure/Exciting(35)	Natural(28)	Agro tourism(28)	Relaxation/Health(9)
3	Pleasure/Exciting(35)	Natural(36)	Agro tourism(20)	Relaxation/Health(9)

**Table 1501** User 150(Decision - Rule: 149)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(60)	Culture(28)	Relaxation/Health(12)	-
2	Historical(42)	Culture(28)	Relaxation/Health(12)	Natural(18)
3	Historical(42)	Culture(33)	Relaxation/Health(12)	Natural(13)

**Table 151** User 151(Decision - Rule: 24)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(55)	Relaxation/Health(25)	Pleasure/Exciting(20)	-
2	Culture(55)	Relaxation/Health(25)	Pleasure/Exciting(14)	Natural(6)
3	Culture(39)	Relaxation/Health(41)	Pleasure/Exciting(14)	Natural(6)

**Table B152** User 152(Decision - Rule: 147)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(42)	Culture(28)	Historical(30)	-
2	Relaxation/Health(42)	Culture(28)	Historical(21)	Natural(9)
3	Relaxation/Health(42)	Culture(34)	Historical(15)	Natural(9)

**Table B153** ser 153(Decision - Rule: 83)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(42)	Culture(28)	Natural(18)	Relaxation/Health(12)
2	Historical(42)	Culture(33)	Natural(13)	Relaxation/Health(12)
3	Historical(45)	Culture(33)	Natural(13)	Relaxation/Health(9)

**Table B154** User 154(Decision - Rule: 2)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(35)	Natural(36)	Agro tourism(20)	Relaxation/Health(9)
2	Pleasure/Exciting(41)	Natural(36)	Agro tourism(14)	Relaxation/Health(9)
3	Pleasure/Exciting(50)	Natural(36)	Agro tourism(14)	-

**Table B155** User 155(Decision - Rule: 134)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(44)	Culture(42)	Natural(14)	-
2	Relaxation/Health(44)	Culture(30)	Natural(14)	Historical(12)
3	Relaxation/Health(44)	Culture(30)	Natural(17)	Historical(9)

**Table B156** User 156(Decision - Rule: 83)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(45)	Culture(33)	Natural(13)	Relaxation/Health(9)
2	Historical(45)	Culture(42)	Natural(13)	-
3	Historical(49)	Culture(42)	Natural(9)	-

**Table B157** User 157(Decision - Rule: 2)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(50)	Natural(36)	Agro tourism(14)	-
2	Pleasure/Exciting(50)	Natural(25)	Agro tourism(14)	Culture tourism(11)
3	-	-	-	-

**Table B158** User 158(Decision - Rule: 147)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Relaxation/Health(42)	Culture(34)	Historical(15)	Natural(9)
2	Relaxation/Health(42)	Culture(28)	Historical(21)	Natural(9)
3	Relaxation/Health(42)	Culture(28)	Historical(30)	-

**Table B159** User 159(Decision - Rule: 24)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Culture(39)	Relaxation/Health(41)	Pleasure/Exciting(14)	Natural(6)
2	Culture(55)	Relaxation/Health(25)	Pleasure/Exciting(14)	Natural(6)
3	Culture(55)	Relaxation/Health(25)	Pleasure/Exciting(20)	-

**Table B160** User 160(Decision - Rule: 83)

Time	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Historical(49)	Culture(42)	Natural(9)	-
2	Historical(45)	Culture(42)	Natural(13)	-
3	Historical(45)	Culture(33)	Natural(13)	Relaxation/Health(9)



## APPENDIX C

### SATISFACTION SCORE OF TOURISTS BOTH THAI AND FOREIGN TOURISTS

**Table C1** Satisfaction of Tourists

user	1 <sup>st</sup> time	2 <sup>nd</sup> time	3 <sup>rd</sup> time	
1	3	4	5	4.00
2	4	4	5	4.33
3	3	3	4	3.33
4	5	5	5	5.00
5	4	5	5	4.67
6	3	4	4	3.67
7	4	4	4	4.00
8	3	3	4	3.33
9	5	5	5	5.00
10	3	4	5	4.00
11	4	5	5	4.67
12	4	4	4	4.00
13	5	5	5	5.00
14	3	4	5	4.00
15	4	5	5	4.67
16	3	5	5	4.33
17	4	4	5	4.33
18	3	3	4	3.33
19	4	5	5	4.67
20	3	3	4	3.33
21	4	4	5	4.33
22	4	5	5	4.67
23	4	4	5	4.33
24	4	4	4	4.00
25	5	5	5	5.00
26	3	3	4	3.33
27	4	4	5	4.33

**Table C1** (Continues)

<b>user</b>	<b>1<sup>st</sup> time</b>	<b>2<sup>nd</sup> time</b>	<b>3<sup>rd</sup> time</b>	
28	4	5	5	4.67
29	3	4	4	3.67
30	4	4	5	4.33
31	5	5	5	5.00
32	3	4	5	4.00
33	3	3	5	3.67
34	3	5	5	4.33
35	4	4	4	4.00
36	5	5	5	5.00
37	4	5	5	4.67
38	4	4	5	4.33
39	4	4	4	4.00
40	3	4	5	4.00
41	4	5	5	4.67
42	4	4	4	4.00
43	3	5	5	4.33
44	4	4	5	4.33
45	3	4	5	4.00
46	4	5	5	4.67
47	5	5	5	5.00
48	4	5	5	4.67
49	4	4	5	4.33
50	3	4	4	3.67
51	3	3	5	3.67
52	4	4	4	4.00
53	4	4	5	4.33
54	3	3	5	3.67
55	4	4	5	4.33
56	4	4	5	4.33
57	5	5	5	5.00
58	4	4	5	4.33
59	3	4	4	3.67
60	4	4	5	4.33
61	4	5	5	4.67
62	3	5	5	4.33
63	5	5	5	5.00
64	4	4	5	4.33
65	4	5	5	4.67
66	4	4	5	4.33

**Table C1** (Continues)

<b>user</b>	<b>1<sup>st</sup> time</b>	<b>2<sup>nd</sup> time</b>	<b>3<sup>rd</sup> time</b>	
67	3	4	4	3.67
68	4	4	5	4.33
69	3	3	4	3.33
70	4	4	5	4.33
71	4	5	5	4.67
72	5	5	5	5.00
73	4	4	5	4.33
74	4	4	4	4.00
75	3	4	5	4.00
76	3	4	5	4.00
77	3	5	5	4.33
78	4	5	5	4.67
79	5	5	5	5.00
80	4	5	5	4.67
81	3	4	4	3.67
82	4	5	5	4.67
83	4	4	5	4.33
84	3	3	5	3.67
85	3	5	5	4.33
86	4	4	5	4.33
87	5	5	5	5.00
88	4	5	5	4.67
89	3	4	5	4.00
90	3	4	4	3.67
91	5	5	5	5.00
92	4	5	5	4.67
93	4	4	5	4.33
94	4	5	5	4.67
95	4	5	5	4.67
96	3	4	5	4.00
97	3	5	5	4.33
98	4	4	5	4.33
99	4	5	5	4.67
100	4	5	5	4.67
101	4	3	5	4.00
102	3	5	5	4.33
103	3	4	5	4.00
104	5	5	5	5.00
105	3	5	5	4.33



**Table C1** (Continues)

<b>user</b>	<b>1<sup>st</sup> time</b>	<b>2<sup>nd</sup> time</b>	<b>3<sup>rd</sup> time</b>	
106	3	4	4	3.67
107	4	5	5	4.67
108	5	5	5	5.00
109	4	4	5	4.33
110	3	4	4	3.67
111	4	5	5	4.67
112	4	4	5	4.33
113	4	5	5	4.67
114	3	4	5	4.00
115	5	5	5	5.00
116	4	4	5	4.33
117	4	4	5	4.33
118	5	5	5	5.00
119	3	5	5	4.33
120	4	5	5	4.67
121	3	4	4	3.67
122	4	4	4	4.00
123	3	4	5	4.00
124	4	4	5	4.33
125	5	5	5	5.00
126	3	4	4	3.67
127	3	3	4	3.33
128	4	4	5	4.33
129	3	4	5	4.00
130	3	3	4	3.33
131	4	4	5	4.33
132	3	4	5	4.00
133	3	3	4	3.33
134	5	5	5	5.00
135	4	4	5	4.33
136	3	4	5	4.00
137	3	4	4	3.67
138	4	4	5	4.33
139	4	4	5	4.33
140	3	4	4	3.67
141	3	4	4	3.67
142	3	4	5	4.00
143	3	4	4	3.67
144	3	4	4	3.67

**Table C1** (Continues)

<b>user</b>	<b>1<sup>st</sup> time</b>	<b>2<sup>nd</sup> time</b>	<b>3<sup>rd</sup> time</b>	
145	3	4	4	3.67
146	3	4	5	4.00
147	4	4	4	4.00
148	4	4	3	3.67
149	3	3	4	3.33
150	3	4	5	4.00
151	3	4	5	4.00
152	3	3	4	3.33
153	3	3	4	3.33
154	4	3	4	3.67
155	3	4	5	4.00
156	4	4	5	4.33
157	4	5	5	4.67
158	3	4	4	3.67
159	4	4	5	4.33
160	3	4	4	3.67
<b>Average</b>	<b>3.71</b>	<b>4.24</b>	<b>4.73</b>	<b>4.22</b>

**Table C2** Satisfaction Score Classified by Region

<b>user</b>	<b>1<sup>st</sup> time</b>	<b>2<sup>nd</sup> time</b>	<b>3<sup>rd</sup> time</b>	
Thai 1-113	3.79	4.34	4.80	4.31
Foreign(Asia) 114-140	3.67	4.11	4.70	4.16
Foreign(Europe)141-160	3.30	3.85	4.35	3.83
<b>Average</b>	<b>3.71</b>	<b>4.24</b>	<b>4.73</b>	<b>4.22</b>

## APPENDIX D

### RULE BASE AFTER HAVING RENOVATION

Rule	Decision1(percentage)	Decision2(percentage)	Decision3(percentage)	Decision4(percentage)
1	Pleasure/Exciting(40)	Natural(41)	Agro tourism(8)	Relaxation/Health(11)
2	Pleasure/Exciting(50)	Natural(25)	Agro tourism(14)	Culture tourism(11)
3	Relaxation/Health(36)	Pleasure/Exciting(37)	Natural(27)	-
4	Relaxation/Health(42)	Natural(40)	Pleasure/Exciting(18)	-
6	Culture(33)	Pleasure/Exciting(44)	Historical(9)	Natural(14)
11	Culture(40)	Natural(24)	Historical(15)	Relaxation/Health(21)
12	Historical(38)	Culture(30)	Relaxation/Health(19)	Natural(13)
13	Historical(35)	Culture(32)	Relaxation/Health(12)	Natural(11)
17	Pleasure/Exciting(47)	Natural(33)	Agro tourism(11)	Relaxation/Health(9)
18	Culture(64)	Pleasure/Exciting(23)	Relaxation/Health(13)	-
21	Culture(48)	Historical(28)	Relaxation/Health(15)	Natural(9)
23	Culture(47)	Natural(35)	Relaxation/Health(9)	-
24	Culture(55)	Relaxation/Health(25)	Pleasure/Exciting(20)	-
25	Historical(30)	Culture(40)	Relaxation/Health(30)	-
26	Culture(45)	Relaxation/Health(37)	Pleasure/Exciting(9)	Historical(9)
27	Culture(39)	Relaxation/Health(20)	Natural(21)	Historical(8)
28	Relaxation/Health(45)	Historical(33)	Culture(13)	Pleasure/Exciting(9)
34	Relaxation/Health(30)	Culture(40)	Historical(13)	Natural(17)
37	Relaxation/Health(50)	Culture(35)	Natural(15)	-
40	Relaxation/Health(30)	Culture(28)	Natural(30)	Historical(12)
42	Pleasure/Exciting(42)	Culture(28)	Agro tourism(30)	-
46	Pleasure/Exciting(45)	Culture(42)	Natural(13)	-
64	Pleasure/Exciting(57)	Natural(28)	Relaxation/Health(15)	-
70	Culture(51)	Historical(34)	Natural(15)	-
74	Historical(30)	Culture(30)	Relaxation/Health(29)	Natural(11)
83	Historical(45)	Culture(33)	Natural(13)	Relaxation/Health(9)
85	Culture(30)	Pleasure/Exciting(40)	Natural(21)	Relaxation/Health(9)
86	Historical(35)	Culture(40)	Relaxation/Health(13)	Natural(12)
93	Pleasure/Exciting(30)	Natural(37)	Agro tourism(21)	Relaxation/Health(12)
99	Natural(42)	Pleasure/Exciting(20)	Historical(30)	Relaxation/Health(8)
104	Relaxation/Health(42)	Natural(28)	Historical(18)	Pleasure/Exciting(12)
112	Natural(42)	Culture(28)	Pleasure/Exciting(18)	Agro tourism(12)
115	Historical(38)	Relaxation/Health(33)	Culture(20)	Agro tourism(9)
116	Relaxation/Health(42)	Historical(33)	Natural(9)	Culture(12)
117	Pleasure/Exciting(42)	Natural(20)	Culture(21)	Relaxation/Health(17)
119	Culture(45)	Relaxation/Health(33)	Agro tourism(13)	Natural(9)
123	Natural(50)	Culture(41)	Historical(9)	-
131	Relaxation/Health(30)	Historical(40)	Culture(21)	Natural(9)
134	Relaxation/Health(44)	Culture(30)	Natural(17)	Historical(9)
137	Relaxation/Health(42)	Culture(28)	Agro tourism(18)	Pleasure/Exciting(12)
140	Relaxation/Health(42)	Culture(28)	Agro tourism(18)	-
142	Historical(42)	Relaxation/Health(43)	Culture(15)	-
143	Historical(30)	Culture(40)	Relaxation/Health(18)	Agro tourism(12)
145	Relaxation/Health(30)	Culture(43)	Agro tourism(27)	-
147	Relaxation/Health(42)	Culture(28)	Historical(30)	-
149	Historical(42)	Culture(33)	Relaxation/Health(12)	Natural(13)

## APPENDIX E

### TOURISM SITE SCORE AFTER HAVING RENOVATED

**Table E1 History**

Number	Place	Score
1	Phraya Mang Rai the Great Monument อนุสรณ์พ่อขุนเม็งราย	542
2	Hall of Opium/Golden Triangle Park หอฝิ่น อุทยานสามเหลี่ยมทองคำ	398
3	Chiang Saen National Museum พิพิธภัณฑ์สถานแห่งชาติเชียงแสน เมืองโบราณเชียงแสน	252
4	Historical tour เมืองโบราณเชียงแสน	174
5	Up-Khum Museum พิพิธภัณฑ์อุบคำ	114
6	Hill tribe museum พิพิธภัณฑ์และศูนย์ศึกษาชาวเขา	84
7	Phra That Wat Tham-Pha-Jom museum พิพิธภัณฑ์พระธาตุ วัดถ้ำผาจอม จ.เชียงราย	57
8	Wieng-ka-Lhong เมืองโบราณเวียงกาหลง	43
9	Phateep-Goldland museum พิพิธภัณฑ์พระประทีปโกลด์แลนด์	15
10	Wieng-Phang-Kham เวียงพางคำ	9

**Table E2 Culture**

Number	Place	Score
1	Rong-Kun Temple วัดร่องขุน	634
2	Phra That Doi Tung (Doi Tung Shrine) พระธาตุคอกยุง	485
3	Wat Phra Kaeo วัดพระแก้ว	316
4	Wat Phra sing วัดพระสิงห์	261
5	Handicraft Center ศูนย์หัตถกรรมเชียงราย	145
6	Wat Chedi Luang วัดพระธาตุเจดีย์หลวง	82
7	Wat Phra That Chom Kitti วัดพระธาตุจอมกิติ	42
8	Wat Phra That Doi Wao วัดพระธาตุคอกยว	28
9	Wat Phra Chao Lan Thong วัดพระเจ้าล้านทอง	12
10	Wat Phra That Pha Ngao วัดพระธาตุผาง	6

**Table E3 Natural**

Number	Place	Score
1	Doi Tung คอยดุง	498
2	Doi Mae Salong คอยแม่สลอง	312
3	PhuChi Fa กุ๊ซึฟ้า	267
4	The Golden Triangle Apex (Sop Ruak) สามเหลี่ยมทองคำ	189
5	Chiang Saen Lake ทะเลสาบเชียงแสน	85
6	Khun Kon Waterfall and Forest Park วนอุทยานน้ำตกขุนกรณ์	64
7	Doi Wawí คอยวาวี	35
8	Pu Kaeng Waterfall น้ำตกปูแกง	28
9	Doi Pha Tang คอยผาตั้ง	16
10	Doi Hua Mae Kham คอยหัวแม่คำ	4

**Table E4 Pleasure/Exciting**

Number	Place	Score
1	Thai-Myanmar Market at Mae Sai ตลาดแม่สาย-ท่าพี่เหล็ก(ไทย-พม่า)	687
2	Buck Pier ท่าเรือบัค	397
3	Ban Pa Kluai Hilltribe Market หมู่บ้านชาวเขา	324
4	A Raft Ride along the Kok river การล่องแก่ง (ล่องแม่น้ำกก)	238
5	Bamboo rafting Had Pha-Khwang ล่องแพหาดผาขาว	129
6	Elephants –Riding - Karen Village ช้างที่หมู่บ้านกระเหรี่ยง	79
7	Kayak Tha-torn – Chiang-rai ล่องเรือคายัค(ท่าดอน – เชียงราย)	56
8	Bird watching กิจกรรมดูนก เขตห้ามล่าสัตว์ป่าหนองบงคาย	43
9	Nang-Norn mountain forest trekking เส้นทางเดินป่าพิชิตยอดเขานางนอน	25
10	Doi Dang forest trekking เส้นทางเดินป่าพิชิตคอยดุง อ.นางแล	13

**Table E5 Relaxation/Health**

Number	Place	Score
1	Mae Fah Luang Botanical Garden สวนรุกขชาติแม่ฟ้าหลวง	495
2	Mae Fah Luang Park สวนแม่ฟ้าหลวง	412
3	Mae-Kha-Chan hot spring บ่อน้ำร้อนแม่ชะจาน	384
4	Royal princess Srinakarin park สวนสมเด็จพระศรีนครินทร์ฯ เชียงราย	254
5	Haad Chiang-Rai หาดเชียงราย(พิทยาน้อย )	243
6	Huay-Mak-Leam hot spring บ่อน้ำร้อนห้วยหมากเลี่ยม	153
7	Tung and Come garden สวนดุงและโคม เชียงราย	87
8	Ex-Chaing-Rai airport Park สวนสาธารณะสนามบินเก่า	54
9	Phong-Oha-Bath hot spring น้ำพุร้อนโป่งพระบาท	23
10	Koh-loi park สวนสาธารณะเกาะลอย	19

**Table E5** Eco/Agro tourism

Number	Place	Score
1	Doi Luang National Park อุทยานแห่งชาติดอยหลวง	385
2	Doi Tung Wildlife Reservation Station สวนสัตว์ดอยตุง	257
3	Khun Chae National Park อุทยานแห่งชาติขุนแจ	167
4	Mae-kok national park อุทยานแห่งชาติลำน้ำกก	98
5	Luang-cave and Khun-Nam-Nang-Norn National park วนอุทยานถ้ำหลวง-ขุนน้ำนางนอน	56
6	Huay-Nam-Khun Royal project ศูนย์พัฒนาโครงการหลวงห้วยน้ำปูน	43
7	Agro-tourism Tambon Sri-Kham ท้องเที่ยวเชิงเกษตร ด.ศรีคำ อ.แม่จัน จ.เชียงราย	28
8	Eco-tourism Doi Pha-Mon ศูนย์ส่งเสริมการเกษตรที่สูงดอยผาหม่น ผาตั้ง	15
9	Eco-tourism tambon Mae-Prik ท้องเที่ยวเชิงนิเวศตำบลแม่พริก	9
10	Farm truck tour ทัวร์รถอู่เดินชมธรรมชาติ อ.เชียงแสน	4



# **CURRICULUM VITAE**



## CURRICULUM VITAE

**NAME** Mr. Witawas Yoswong

**DATE OF BIRTH** 23 March 1982

**ADDRESS** 29/5 Moo 10, Tambol Rob-Wiang, Muang  
District, Chiang Rai, Thailand  
57000

**EDUCATIONAL BACKGROUND**

2004 Bachelor of Science Agriculture Economics  
Major of Agriculture Economics  
Chiang Mai University

**WORK EXPERIENCE**

2009-Present Business Development Officers  
Bank for Agriculture and Agricultural  
Cooperatives  
Chiang Khong District, Chiang Rai

2005-2007 Information System Officers  
ADS Computer Survey and Computer  
Chiang Mai

