CHAPTER 3

Methodology

This research is an experimental study aiming to investigate persuasive messages that influence the acceptance of the nuclear power plants and the interaction between before and after the persuasive messages. This chapter presents the sampling, forms of experiment, variables, tools, statistics for data analysis, and theories including relevant research that the researcher used as a framework in the study called "Public Decision Making on Nuclear Power Plant Policy in Thailand Under Asymmetric Information".

3.1 Data Collection

In this study, the researchers collected the data from the questionnaire by online survey, which was the following:

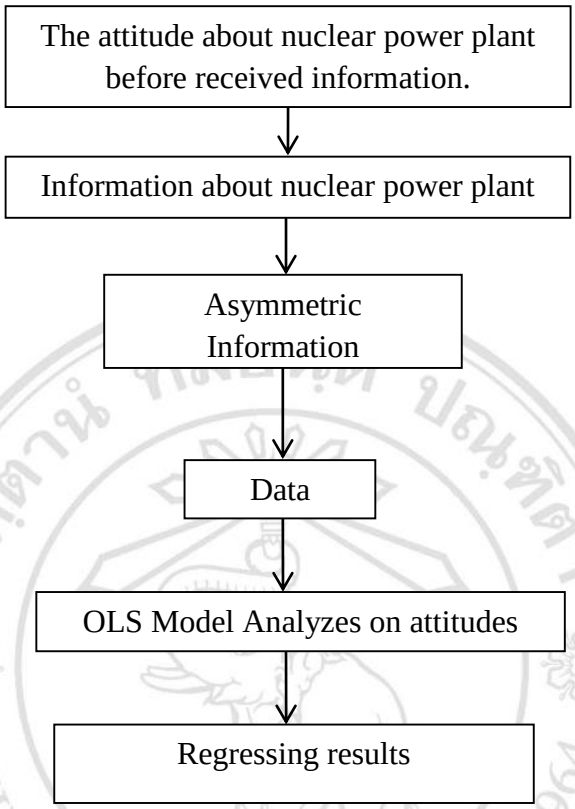
3.1.1 To study an overview of the respondents. The data of the collected information are as follows:

1) Facebook account name
2) Sex
3) Email Address
4) Age
5) Education

3.1.2 To study the knowledge and understanding on nuclear power plant.

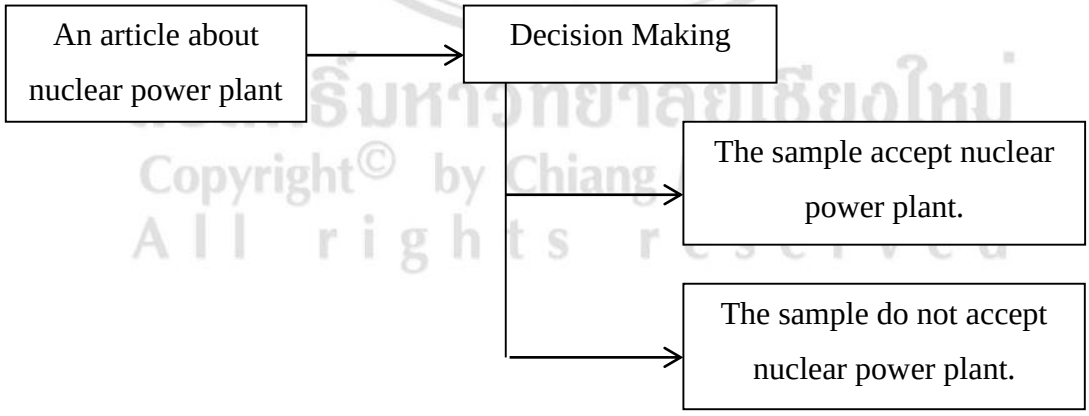
3.1.3 To study the opinions and attitude on nuclear power plant.

3.2 Conceptual framework



Sources: Created by author

Figure 3.1: Conceptual Framework



Sources: Created by author

Figure 3.2: Decision Making Model

3.3 Population and Sampling

3.3.1 Population

Population used in this study is general Internet users.

3.3.2 Sampling

The sampling is selected by accidental sampling including 400 people who can give information or answer questions twice. This means the sampling includes anyone who can give information.

3.4 Sampling Method

The sampling methods are the accidental sampling and simple random sampling by sending the questionnaire online. The total is 400 people.

3.5 Research Methodology

In this study, the researchers created an online survey to collect the data as the following:

Step 1: Create an online survey and send it to a sample of 600 people for the first data collection and analysis.

Step 2: Send an article about the knowledge of nuclear power plant for all samples of 600 people via email.

Step 3: Three months later, the researcher sent the online survey back to the original sample of 600 people to collect the second data. The data will be changed after they receive accurate information about nuclear power. This is expected in the second sampling to have respondents of at least 400 people.

Step 4: To compare statistical data from the 1st and 2nd for finding if the decision has changes after receiving the knowledge. After that, the researcher will analyze the data.

3.6 Data Analysis

3.6.1 In this study, the data were analyzed by using SPSS Version 20 and StataSE13as the following steps.

Step 1: Collecting data from online questionnaires

Step 2: Coding

Step 3: Editing

Step 4: Processing data

Step 5: Output

3.6.2 Data Analysis by using following this statistics

Part 1: The general information of the respondents is analyzed by frequency, percentage, and explanation by the narration.

Part 2: The knowledge and understanding of nuclear power plant, inferential statistics is used to analyze the data to prove the hypothesis. To study about transition on the decisions.

Table 3.1: Scoring Scales

Questions	**Pre-Test**			**Post-Test**		
1 - 15	Yes	No	Uncertain	Yes	No	Uncertain

Sources: Created by author

Then, the score collection was used to translate as the following:

Table 3.2: Scoring Scales

Total Score	**Mean**
0 – 3	Lack of knowledge about nuclear power plant.
4 – 7	Low level of knowledge about nuclear power plant.
8 – 11	Moderate level of knowledge about nuclear power plant.
12 - 15	High level of knowledge about nuclear power plant.

Sources: Created by author

Part 3: The questionnaire shows opinions and attitudes about nuclear power plants which are analyzed by using the Likert Scale and divided into the following five level.

Table 3.3: The level score of opinions and attitudes about nuclear power plant

Level	Level
Strongly Agree	4
Agree	3
Disagree	2
Strongly Disagree	1

Sources: Created by author

Then, the score collection was used to translate as the following

Table 3.4: Scoring Scales

Average Rating	Mean
9.51 -10.00	Respondents accept nuclear power plant in Thailand.
5.51 – 8.50	Respondents are very positive about nuclear power plant in Thailand.
2.51 – 5.50	Respondents are fairly positive about nuclear power plant in Thailand.
0 – 2.00	Respondents do not accept nuclear power plant in Thailand.

Sources: Created by author

Part 4: The questionnaire shows opinions from respondents to accept nuclear power plant in Thailand within the next 30 years. It is a multiple choices question.

3.7 Statistics used for data analysis

The data analysis refers to finding out the relationship between independent variables and dependent variables by using computer processor as the following.

3.7.1 Inferential Statistics were used to test hypothesis including four kinds**:** 1) Chi-Square Test used to compare the different information of knowledge and understanding about nuclear power plants before and after receiving the worksheet, **2)** T-Test (Mean One Sample Test) used to test if averages of opinions and attitude about nuclear power plants equal to zero or not, 3) Logit Model used to study the relationship between independent variable (X) and dependent variable (Y) affecting opinions and attitude about nuclear power plants, and 4) Multinomial Logistic Regression used to analyze the

relationship between information of respondents and guideline selection that can help produce enough electricity needed by Thai people within the next 30 years after receiving the worksheet.

3.7.2 Descriptive Statistics were used to describe basic information of the sample group such as frequency, percentage, mean, and standard deviation.