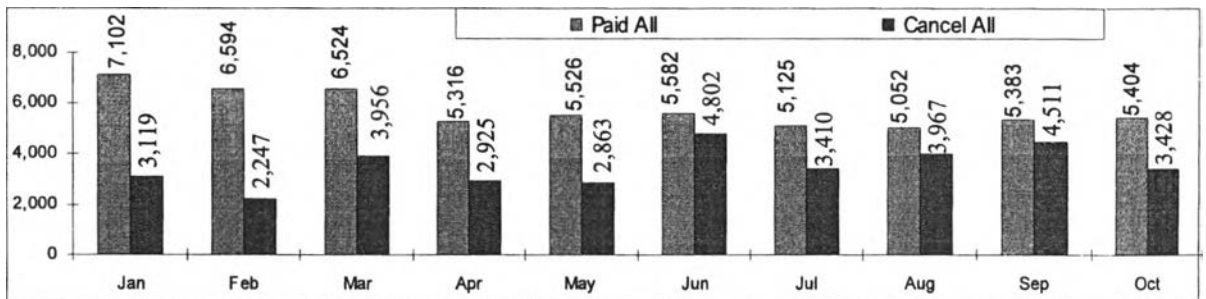


## CHAPTER 3

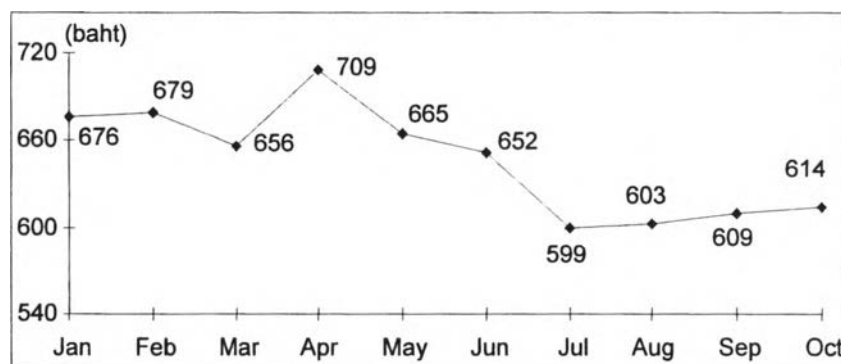
### SURVEY METHODOLOGY

#### 3.1 Introduction to TT&T's Market Survey

TT&T market survey is motivated by some existing problems. As shown in Figure 3.1 sales of fixed-line telephone are extremely below expected value while a cancellation seems to be higher, resulting in the low additional billable line each month. Besides, the revenue per line per month, namely RPL, reveals an endless downward signal as shown in Figure 3.2. The fact that why people are replacing the usage of fixed-line telephone by other substitution and why our customers are using fewer telephone can be identified from the result of market survey.



***Figure 3.1*** Sales volume (paid) and cancellation of TT&T's telephone line



***Figure 3.2*** Revenue per line per month (baht)

In addition, the economy slump is assumed to be the big factor that leads to the unsatisfied sales and RPL values. This assumption will be proved, whether right or wrong, from the answers of respondents in the market survey. Moreover, to enlarge the revenue of TT&T, the potential in providing other appropriate telecommunication services will be granted from the survey as well.

### **3.2 Hypothesis Development**

The possible answer of the research problem areas is called hypothesis. Since the decreased revenue resulting the lower RPL and monthly new customers is the most serious problem of TT&T, the hypothesis was develop in terms of an opportunity to get higher revenue from providing other potential telecommunication services. Thus, the main hypothesis of TT&T's market survey is that people who live outside the Bangkok metropolitan have the demand the use other communication services in addition to the fixed-line telephone. Because the above hypothesis was not known in advance to be true so that it would be reasonable to conduct the research. However, to support the other problem areas, other hypotheses were developed such as "Fixed-line telephone is replacing by mobile telephone usage", "Decreasing in the price of fixed-line telephone causes higher new customers", "TT&T's customers are satisfied in the service", "TT&T's Image is good in terms of fame, reliability, security and high technology", "The first criterion that customers are concerned in selecting a telecom-service provider is price", and "There is an acceptable demand for the prepaid promotion and the telecom-equipment promotion". After all the hypotheses are questioned, at least one objective of the research will be derived from them.

### **3.3 Objectives Development**

After finding out the problems areas and setting up the hypothesis, needed information is defined as research objectives. Firstly, the market opportunities of TT&T in providing other telecommunication services to target market have to be identified. In doing that, what the product is, what the target market is, when the product is appropriately

launched and what the expected benefits are will be roughly declared after finishing the research. Second, to establish the effective strategies, customer satisfaction of an existing TT&T's services has to be known, including TT&T image and important profile of our customers. Finally, feasibility study of new marketing will be completed.

### **3.4 Scope of the Survey**

Scope of the survey is the most important issue affecting costs. Once the survey is totally designed, the cost of performing the survey should be estimated rationally. The estimated cost of TT&T's market survey will be described later, after a sampling method and sampling size are decided. Such estimated cost and expected benefits will be traded-off so that the survey research will be justified to conduct as designed at all or partially. Timing is another portion that has to be considered. Taking long time of the survey in each province might create risk that a number of interest point from the survey's result will be missed. After the analysis of value versus cost and time involved, the survey designed must be revised to be less costly and shorter time consuming. Scope of the survey consists of three issues. They are sampling area, target population, and potential telecommunication services.

At first, the population we are actually interested is all TT&T's customers in 72 provinces, except the Bangkok metropolitan. Unfortunately, because of time limitation and resources constraint, the survey cannot be conducted in all 72 provinces. So we selected 4 provinces which have the most amount of population in 4 regions; northern, southern, north-eastern, and central. They are Chiangmai, Songkhla, Nakhon Ratchasima and Chonburi.

Second, a target population has to be determined. To serve the major hypothesis involving potential telecommunication services, so business customers are concentrated. Moreover, among those business customers, only businesses that have the

maximum RPL of one TT&T line more than 3,000 baht are targeted because they have the potential to use an additional telecommunication service TT&T intends to provide. Even though residential customers are not interested in the first hypothesis, they are interested in the others. We are interested not only in the TT&T's residential customers but also the TOT's residential customers.

Finally, the potential telecommunication services refer to the services that TT&T can provide to customers under the utilization of existing resources. Simultaneously, such services should show the high demand from customer side in the near future.

### **3.5 Sampling Process**

As mentioned earlier, a main target population of the research is the business customers that have the RPL of one TT&T's line more than 3,000 baht. They have a potential to pay more on additional telecommunication service with no doubt if it can facilitate their daily operations. A list of all target business customers in the selected four provinces was found out, waiting for a step of sampling process. A decision was made to use a sampling method that was less costly and less time consuming. Following the list, the targeted business customers can be roughly classified into subgroups depending on the geometrical areas with the province. Therefore, a cluster sampling, which is very cost effective approach, is used to fasten the transportation time between one particular place to another. For instance, there several districts in Chonburi province, so we divided Chonburi into three zones. Further, a random sampling was done for each zone.

For the residential samples, we can say that the cluster sampling is modified to use with them as well. The employees in the business companies which are sampled were asked by random sampling to fulfill the questionnaire themselves.

### **3.6 Sample Size**

Sample size of the survey depends on various factors. The accuracy required of the survey results are regarded first. It is traded-off with the cost to obtain all information from all samples. Since we have a limited budget based on an economy slump, the level of confidence and the amount of error were not set to be high. Second, the variability of target population are considered. From the database of TT&T, business customers are categorized into 15 types of business. As known that different business type will represent different characteristics and opinions, so that we avoided to sampling more repeatedly in the same type.

The sample size of TT&T's market survey was planned majority based on the time and resources constrains. The sizes of 150 residential samples and 150 business samples in each province were proposed by the "rule of thumb". Thus, the overall 1,200 samples was expected to be surveyed for this particular study.

### **3.7 Survey Approaches**

There are various approaches included in the survey method. To collect the primary data of *business customers*, we decided to use *an executive interviewing approach* instead of mail or telephone due to various reasons. First of all, the rate of response is likely to be most satisfied than other approaches, even personal interview is more costly and time consuming. Further, the designed questionnaire is quite lengthy resulting in ignorance of the respondents. Moreover, some questions are difficult to understand, particularly the technical part of the questionnaire. Likewise, certain important questions are open-ended questions that normally be ignored by the respondents who answer without probing of incomplete answers from interviewers. However, it still has disadvantages. Once a qualified person is addressed, an interviewer must go to his office at the appointed time. Often, there is a risk of having long wait or cancellation. Also, the shortage of TT&T's

facilities and TT&T's staff availability which are very important components in a personal interview approach is taken into account to be overcome.

For residential customers, the mall intercept and self-administered interviewing are employed simultaneously with some modification. The officers from the offices sampled are asked to do the questionnaire themselves. The questionnaire is more simple and easy to understand than the questionnaire of business customers.

### **3.8 Cost Estimation of the Survey**

From the sample-size determination, each province requires 150 samples of business customers and 150 samples of residential customers. One interviewer is expected to interview 4 business customers, accommodating with 4 residential customers in one working day. Therefore, about 40 man-day is required for each province. Four interviewers, two from headquarter and two from local office, are planned to conduct the survey in each province within 10 days.

Consequently, cost estimation of each province is;

Perdium	= 2 x 10 x 250 = 5,000 baht
Accommodation	= 2 x 10 x 400 = 8,000 baht
Travel expense	= 500 x 10 = 5,000 baht
Total	= 18,000 baht

And the overall cost is estimated to be  $18,000 \times 4 = 72,000$  baht. In addition to this, reserve for a contingency plan, 8,000 baht is included in the above estimation. Eventually, a total of 80,000 baht is budgeted for the survey.

### **3.9 Schedule of the Survey**

The survey is designed to start at Chonburi during Mar 1998, following with May 1998 at Songkhla, Jun 1998 at Chiangmai, and July 1998 at Nakhon Ratchasima.

Next, the data entry is expected to finish before the end of Aug'98. After that, data analysis is planned to be accomplished by the end of Sep'98 for supporting the development of TT&T's action plan 1999.

### **3.10 Design of the Questionnaire**

To success in designing an effective questionnaire, all the needed information was concluded after understanding the survey objectives. Taskforce was established from a coupled of experienced members for increasing ability to inspect wording and meaning of the subject and wording of all the questions based on the respondent's perspective. Closed-ended questions were used more in both business and residential questionnaires, especially in the residential questionnaire that was planned to be answered by the respondent himself. Some published survey questions were used as a guideline to save time and effort in designing the questionnaire. After finishing the design stage, such questionnaires were pre-tested internally in order to test the respondent interest and attention, flow of the questionnaire, skip patterns, and its length. In addition, after the survey at the first province, Chonburi, was finished, the questionnaire was revised again. The questions, which are difficult to understand or answer, were traded-off with the benefits of gaining those answers for further analysis. Therefore, the lengthy of the questionnaire was shortened, resulting in less reluctance of residents to complete the questionnaire.

#### ***TT&T's questionnaire***

Both business and residential questionnaires shown in the appendices are slightly different in details. The major content is divided into 10 issues as shown in a Table 3.1.

Issue	Business (question no.)	Resident (question no.)
1. Profile	1-5,14	1-7,19-23,25-27
2. PABX,SPC, and Hunting group usage	7,10-11	9
3. Mobile effect	9	13
4. Promotion response	20	17-18,24

5. Tariff sensitivity	15-19	14-16,28-29
6. Existing telecommunication services	8,21,23-30	10-12,22
7. Payment channel	6	8
8. Image	13	32
9. Criteria in selecting telecommunication-service provider	22	30
10. Customer satisfaction	12	31

***Table 3.1*** The content of questionnaires

The business and residential questionnaire that were used in TT&T's market survey are placed in Appendix A and B.

### **3.11 Measurement and Scaling**

In the questionnaire there are two kinds of measurement scales employed.

1. *Nominal scale* is used in case of no necessary relationships among the categories such as sex, occupation, education, and so on. The only arithmetic operation we can apply is a count of each category. Accordingly, the results of the count will be tuned to be percentage and mode.

2. *Ordinal scale* is employed by ranking objects, for example, the question about the priority of criteria in selecting the telecommunications-service provider, the question asking for ranking the five most-to-least popular TV programs, and so on. Mode will be use as an arithmetic operation for this kind of answers. Notably, the amount of difference among criteria and among TV programs is not known.

However, the popular scale measurement, namely *Ratio scale*, was not developed in this questionnaire. Ratio scale is typically used in the question that its answer allows us to make a comparison of magnitude. Simple speaking, how many times greater or



smaller one sample is than another can be defined with this scale. To do that, the respondents will confront the difficulty to reply the accurate answer. The error and non-response many consequently occur.



### **3.12 Process of Preliminary Data Analysis**

The data obtained from the market survey is not ready to be applied to any specific marketing decision. Therefore, after collecting needed data from all the samples, the data was prepared and converted into a suitable form for analysis. There are three processes involved, which are data editing, data coding, and data tabulating.

#### *1. Data editing*

Actually, this activity is planned to accomplish in the field immediately after finishing the survey in each province, instead of doing that after finishing all 4 provinces as we did. All the data is edited to identify the problems happened such as omission, ambiguity, inconsistencies, ineligible respondent, or interviewer error. Some missing or illegible answers are realized as “no answer” category and the samples that some questions have no answer will be excluded from the analysis involving those questions. Ambiguous and inconsistent answers are corrected by calling back to the respondents or by the interviewers if those are their errors.

#### *2. Data coding*

As we have known earlier that coding for closed-ended questions is fairly simpler, TT&T’s questionnaire is prepared weighty on closed-ended questions avoiding open-ended questions. Accordingly, there is only 10% of open-ended questions in the questionnaire. Coding of close-ended questions is quite straightforward while coding of open-ended questions is much more complicate and can generate error in misinterpretation. By coding open-ended questions, a lengthy list of possible answers is developed. Frequently, some answers can not be coded following the available list and some can fit to

more than one possible value. In the TT&T's market survey, only one person is used in editing and coding processes to overcome the inconsistent of judgment.

### *3. Data tabulating*

There are two approaches we employed which are a frequency distribution and descriptive statistics.

*Frequency distribution:* In each question, the data obtained from TT&T's market survey is organized into categories. Data that falls into each of the categories is counted and then calculated to be a percentage form. Additionally, graphical illustration of such percentage results will be shown in the forms of bar line, and pie graph.

*Descriptive statistics:* After organizing obtained data into the frequency distribution, basic simple calculation of central tendency measurement will be conducted. In this case, mean is used for the answers of ratio scale and mode is used for the answer of nominal scale.

**In this chapter, the process preparing market survey is explained step-by-step. First of all, the problem area is determined before developing a hypothesis and objective of the survey. After that, scope of the survey is described in terms of sampling area, target population, and potential telecommunication services. Sampling process and its size are also mentioned as well as the selected survey approach before estimating the cost and tentative schedule of the survey. Further, the questionnaire is designed under the consideration of measurement and scaling. The process of analyzing obtained data is explained at the last step before presenting the results of business samples in the next chapter.**