CHAPTER III

PROCEDURE

3.1 SAMPLE

This study followed the "purposive stratified random sampling technique". At present there are fourteen institutions for higher learning which are of university level in Thailand. All of them are state institutions. Ten are universities and four are institutes organized under the Office of University Affairs (OUA). The Executive Heads of the institutions for higher learning are called the University Rectors. Out of these, ten are in Bangkok and four are the Regional Universities located in provinces outside Bangkok. Since the major purposes of this investigation were to study the structure of decision-making and the prescription of the Thai University Rectors' role in educational administrative system; to study the effectiveness of decision-making of the University Rectors in the Thai University administrative system; and lastly to find out ways and means to make the decisions of the Rectors more acceptable and implementable, so while recognizing bureaucratic influences on the Rectors, it was decided that only Rectors' role would be studied. For this purpose the Executive Officers concerned with the decision-making located at various levels had to be contacted.

3.1.1 Technique of Sample Selection Used:

Therefore, a sample of 130 cases was selected on
stratified basis from eight levels of respondents classified into three groups:

First, Rector group comprised of thirty-three cases which included nine University Rectors, six from Central and three from Regional Universities; twenty Vice-Rectors, fifteen from Central Universities and five from Regional universities; four Directors, three from Central Universities and one from Regional Universities.

Second, Dean group comprised of seventy-three cases which included forty Deans, thirty from Central and ten from Regional Universities; fourteen Vice-Deans, eleven from Central and three from Regional Universities; nineteen Heads of teaching departments, fifteen from Central and four from Regional Universities.

Third, Senior staff members group comprised of twenty-four cases which included eighteen senior staff members, eleven from Central and seven from Regional Universities; six Chairmen of Students Unions, five from Central and one from Regional Universities.

3.2 RESEARCH INSTRUMENTS:

The present study was structured on the normative survey pattern. The tools used were:

(a) Structured Interview in the form of a checklist.

(b) Questionnaire
3.2.1 **Structured Interview in the form of a checklist:**

Everyone was familiar with the interview in the form of checklist prepared to help the present researcher to study the Rectors' role. All possible aspects that one should bear in mind before making a decision were considered. It is the simplest device for solving problems. All items aimed at investigating the role prescription together with role perception for University Rectors and role expectation for other respondents.

3.2.2 **Questionnaire:**

All items of the questionnaire were constructed for investigating the University Rectors' role on educational decisions held by eight levels of respondents. The first part of the questionnaire was concerned with personal and professional background information of the respondents like their place of residence, sex-age, rank, salaried income, highest qualifications, and tenure of working-experience. The second part dealt with the problems on Role of the University Rector in Educational Decision-Making. Eight questions were asked on role structure, seven questions on role process, eight questions on role effectiveness, six questions on role acceptable ways for a decision and six questions on role implementable means for a decision. To diminish the prejudices of the respondents, the questions
were mixed, so that they could concentrate and be critical.

The questionnaires and the checklists were translated from English into Thai language. Those were then typed, cyclostyled and checked by one Vice-Rector and one rector before for administering them to the actual sample. Some were re-typed and recyclostyled to be distributed to the University Executive Officers.

3.2.3 Pre-Test Research Tool Validity:

To work out the pre-test research validity of the two tools used with University administrators of fourteen Thai Universities at both Central (Bangkok) and Regional (Provinces) areas, the researcher distributed twenty questionnaires together with checklists. For the pre-test of the questionnaires and checklists proformas to be completed were distributed to two full time senior staff members at the National Institute of Development Administration (NIDA), two vice-rectors at the Research Centre of the Chulalongkorn University (CU), two Vice-Rectors at King Mongkut's Institute of Technology (KMIT) and to twelve university executive officers and two Chairman of two student's unions of the same three institutes.

All twenty questionnaires and checklists were completed and fully returned. Then the investigator interviewed twelve university executive officers out of the
The researcher received comments only from one respondent for improving them. The rest of nineteen respondents commented that the tools were fit and quite valid for the doctorate level study. On the basis of Pre-Test, the questionnaires and checklists were reviewed and corrected (See Appendix III). In general, the Pre-Test provided a mean of solving problems including the areas which might help in the administration.

3.3 DATA COLLECTION

The data were collected in two phases. In the first phase, the investigator consulted the different documents, reports and other materials available regarding decisions taken in educational administration in Thailand during the last ten years (1971-1980) and the data were collected from them. In the second phase, an investigation of the present situation of educational decision-making process in Thai educational administrative system of the University Rectors' role was made.

The Executive Officers at the Central as well as the Regional University levels were given a questionnaire and a checklist to be filled about the educational decision making process in order to study the effectiveness of the University Rectors in their policy roles. The researcher
had obtained permission letter for supplicating co-operation from the Under-Secretary of State, Office of University Affairs for getting response to the questionnaire and checklist proformas from the University Executive Officers, and for the remaining documents another permission letter was obtained from the University Rector, King Mongkut's Institute of Technology. (See Appendix III A-1 & 2). Then the questionnaire and checklist as a form of interview together with an accompanying letter signed by the Under-Secretary of State, Office of University Affairs; the Rector of King Mongkut's Institute of Technology and the researcher's official addressed envelopes: Lecturer Prasit Nakpathumswat, Office of the Rector, King Mongkut's Institute of Technology, Bangkok, were distributed to 283 administrators of the Thai Universities (See Appendix VI). The researcher personally distributed the questionnaires and checklists to the University Rectors, Vice-Rectors, Directors, Deans, Deputy-Deans (Associate-Deans), Departmental Heads, Senior Staff and Chairmen of the Student Unions of all the ten Central Universities inside Bangkok, except the four Regional Universities in the provinces where the inquirer sent these by official mail. The researcher spent three months in Bangkok Metropolis, and another three months in the provinces to collect data from the University Executive
Officers. Due to the need of some items of research tools to be asked verbally an interview was held. The Thai University Executive Officers did not have so much time to respond to such a very critical question, but these processes were possible due to the courteous co-operation of the researcher's authorities who were requested to respond and their signatures had been taken to make sure that the request had reached them. However, the researcher had to await the responses for a long time.

Completed questionnaires and checklists were directly collected at the researcher's department in the Office of the Rector, King Mongkut's Institute of Technology, Bangkok from the last week of October, 1979 up to February, 1980. The date-line for the receipt of data was February 15th, 1980. All the required data reached the investigator satisfactorily. Most of the respondents had sent the questionnaires and checklists enclosed with their official letters.

When the data collection was over, the investigator prepared a complete list showing the respondents' names, their designations, the date of administering the questionnaires and checklists and the date of the receipt of the respondents (See Appendix I). All responses to the data were checked and coded at the Institute of Computer Service of Chulalongkorn University in Bangkok. Thereafter, the data were recorded
The researcher arranged the ninety-seven variables of the questionnaire and the checklist for data processing and inserted all the 130 cases of a sample in data coding forms which were previously placed at random. Items were scattered so as to prevent prejudices from the University Executive Officers so that they responded freely and impartially. The respondents should have replied and thought over it very well. The investigator also made one code-book with instructions and descriptions for making tallies and tallied all data before using the IBM computer used.

Finally, all 308 control cards out of 414 actual cards were processed and 411.31 seconds were to be elapsed as required for computing by the IBM computer, model 370 at the Institute of Computer Service, Chulalongkorn University, Bangkok, Thailand. The normal and of job was finished and it ensured that the zero errors were detected.

3.3.2. **TECHNIQUES OF DATA ANALYSIS:**

3.3.2.1 *Statistical Formula Used:*

1. Percentage
2. Mean
3. Standard Deviation
4. **F-Test**

5. **t-test**

6. **Chi-square**

7. **One-Way ANOVA**: Analysis of Variance with Fixed Effects Test for "Homogeneity".

8. **Kendall and Spearman, Method of Correlation Coefficients.**

(1) **T-Test**

\[
t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}
\]

(2) **Chi-Square Formula:**

\[
x^2 = \left\{ \frac{(o - e)^2}{e} \right\} \text{ or } x^2 = \frac{(O-E)^2}{E}
\]

(3) **Correlation Coefficients by:**

(a) \( \rho \) (Rho) \( \frac{1 - 6 \times d^2}{N^3 - N} \) (by Spearman)

(b) \( \tau \) (tau) \( \frac{k}{N(N-1)} \times \left( \frac{\text{number of pair-to-pair agreements}}{N} \right) - 1 \) (by Kendall)

(4) **F-test Formula:**

\[
F = \frac{S^2_{\text{between groups}}}{S^2_{\text{within groups}}}
\]

This F ratio is never less than one, or \( F = \frac{S^2_{\text{between groups}}}{S^2_{\text{within groups}}} \)
### One-way ANOVA with Fixed Effects Formula:

<table>
<thead>
<tr>
<th>Source of Variable</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>SV</td>
<td>Source of variable</td>
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<tr>
<td>X</td>
<td>Crude Score</td>
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<tr>
<td>EX</td>
<td>Grand Total of Raw Scores</td>
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<tr>
<td>DF</td>
<td>Degree of Freedom</td>
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<tr>
<td>J</td>
<td>Number of Groups</td>
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<tr>
<td>N</td>
<td>Number of respondents</td>
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<tr>
<td>n</td>
<td>Number of respondents in separate groups</td>
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<td>Sum of Squares</td>
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<tr>
<td>MS</td>
<td>Mean Square</td>
</tr>
<tr>
<td>SS_B</td>
<td>Sum of Square for Between Groups</td>
</tr>
<tr>
<td>SS_W</td>
<td>Sum of Square for Within Groups</td>
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<tr>
<td>MS_B</td>
<td>Mean Square for Between Groups</td>
</tr>
<tr>
<td>MS_W</td>
<td>Mean Square for Within Groups</td>
</tr>
</tbody>
</table>

**Between group**

\[
\text{SS}_B = \frac{\sum_{j} \left( \frac{E_{Xj}^2}{nj} \right) - \left( \frac{\sum_{j} E_{Xj}^2}{N} \right)}{J-1}
\]

**Within group**

\[
\text{SS}_W = \frac{\sum_{i,j} X_{ij}^2 - \sum_{j} \left( \frac{E_{Xj}^2}{nj} \right)}{N-J}
\]

**Total**

\[
\text{SS} = \sum_{i,j} X_{ij}^2 - \left( \frac{\sum_{i, j} E_{Xij}^2}{N} \right)
\]