CHAPTER 3
THE DESIGN OF THE STUDY

Chapter three begins with a general view about the research methodology used in this study. This section explains about the sampling plan, data collection method; design of questionnaire and about the tools used for data analysis.

3.1 RESEARCH METHODOLOGY

This study utilized the descriptive and Quota sampling method for the research work. The general intent of this descriptive study was threefold. Relatively, the method is appropriate to this study since it aims to describe the present retention practices followed in the Automobile Industry. The technique that was used under descriptive method is the normative survey approach and evaluation, which is commonly used to explore opinions according to respondents that can represent a whole population. Specifically, two types of direct-data survey are included in this study. These are questionnaire survey and interviews. The direct-data type of survey is a reliable source of first-hand information because the researcher directly interacts with the participants.

The purpose of employing the descriptive method is to describe the nature of a condition, as it takes place during the time of the study and to explore the cause or causes of a particular condition. The researcher opted to use this kind of research considering the desire to acquire first hand data from the respondents so as to formulate rational and sound conclusions and recommendations for the study. Since this study is focused on the perception
of employee’s towards retention practices followed in automobile companies the descriptive method is the most appropriate method to use.

Therefore a systematic and organized methodology was obtained for the research study. A survey design was used to obtain the required information. The population for this study comprised of employees working in various Automobile companies in India namely Ashok Leyland Ltd., Tata Motors Ltd., Eicher Motors Ltd., Force Motors and SML ISUZU. A sample size of 500 was chosen for this study. Quota sampling technique was used to gather data from the respondents, because of which respondents diverged from every age group, gender, organization, marital status and others. The questionnaire was intricately designed to tap the demographic variables including age, education, gender, marital status, and organizational hierarchy of the respondents. Statistical Package for the Social Sciences (here in after referred as SPSS) version 17.0 was religiously used for the statistical analyses.

3.2 METHODS OF DATA COLLECTION

Data Collection is an important aspect of any type of research study. Inaccurate data collection can impact the results of a study and ultimately lead to invalid results. For this study purpose, the sample data is collected from primary and secondary sources. The primary data were obtained through the questionnaire. The respondents of the primary data, constitute the employees of the selected automobile companies in India. The primary data were obtained as per tables 4.1, 4.2, 4.3, 4.4 and 4.5 based on demographic classification. Secondary data were also used for this study. The Acts relating to employees wage payment and compensation are obtained from
i. The Factories Act, 1948

ii. The workmen Compensation Act, 1923

iii. The payment of wages Act, 1936.

The work is based on an empirical study, mainly on questionnaires. For this study purpose the employees of Ashok Leyland Ltd., Tata Motors Ltd., Force Motors, Eicher Motors, SML ISUZU were selected and they were requested to fill in the questionnaire related to the study. Relevant information has also been collected from the Human Resource Management Review, articles and research papers published in various periodicals on the subject from time to time. The statistical data collected from primary sources have been arranged and analysed by appropriate statistical like Simple Percentage Analysis, Chi-Square analysis, multiple regression models, ANOVA, kruskal Wallis Test, Cross Tabulation and Mann-whitney test. The employees view about the retention activities were analysed by grouping the employees on the basis of age, education, organizational hierarchy, gender and marital status as has been shown in tables 4.1,4.2,4.3,4.4 and 4.5.

3.3 DATA COLLECTION PROCEDURE

3.3.1 Questionnaire

Questionnaires are one of the most common and popular tools to gather data from a large number of people. A good questionnaire can be a powerful tool to inform the evaluation, and a poorly designed questionnaire can make research result inaccurate. To accomplish the aforementioned research objectives, the data for this study was collected through self-administered questionnaires. As part of its data gathering efforts, the
researchers asked the focus group participants to complete a written survey about various aspects of their work place. The Questionnaire covered the following factors

i. Working Environment

ii. Welfare Measures

iii. Rewards and Recognition

iv. Superior Subordinate Relationship

v. Organizational Culture

vi. Job Satisfaction

3.4 SAMPLING PLAN

3.4.1 Sample

A sample is defined by Collis and Hussey (2003) as a subset of a population and should represent the main interest of the study.

The researcher selected five automobile Companies namely Ashok Leyland Ltd, Tata Motors Ltd, Force Motors, Eicher Motors and SML ISUZU, based on their product classification as mentioned in capital market magazine. The quota sampling method was used for selecting sample and the questionnaire were distributed to the selected respondents for survey commencing at 8.00 am, 10 am and 1 pm on Weekdays between Monday and Friday. The sample selection process is depicted in Table 3.1.
3.4.2 Sample Selection Process

Table 3.1 Table showing the number of sample respondents from the selected automobile companies in India

\[
\text{Total number of sample} = \frac{N}{1 + Ne^2}
\]

where \( N \) = Total number of items in the population
\( E \) = error estimated at 5%

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Name of the Company</th>
<th>Total No. of Employees</th>
<th>No. of Samples*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ashok Leyland Ltd</td>
<td>500</td>
<td>500/1650*500= 151</td>
</tr>
<tr>
<td>2</td>
<td>Tata Motors Ltd</td>
<td>350</td>
<td>350/1650*500= 106</td>
</tr>
<tr>
<td>3</td>
<td>Force Motors</td>
<td>300</td>
<td>300/1650*500= 91</td>
</tr>
<tr>
<td>4</td>
<td>Eicher Motors</td>
<td>250</td>
<td>250/1650*500= 76</td>
</tr>
<tr>
<td>5</td>
<td>SML ISUZU</td>
<td>250</td>
<td>250/1650*500= 76</td>
</tr>
<tr>
<td>Total</td>
<td>1650</td>
<td>500</td>
<td></td>
</tr>
</tbody>
</table>

* Rounded off
@ In approximate

3.5 DATA COLLECTION INSTRUMENT

3.5.1 The Questionnaire

According to Collis and Hussey (2003), questionnaires are associated with both positivistic and phenomenological methodologies. They (Collis and Hussey) describe a questionnaire as a list of carefully structured questions, chosen after considerable testing, with a view to eliciting reliable responses from a chosen sample.
3.5.2 Designing of the Questionnaire

Because the questionnaire was based on actual strategy rather than retention theory, design issues were to some extent demanding. The design had to be formulated from scratch using a combination of factors identified from the literature study. The questionnaire was, however, designed with simplicity in mind. Much effort was put in ensuring that there is balance between simplicity in design and focusing on answering the research problem.

The questionnaire was divided into two sections,

Section one – Demographic profiling

Section two – ten sub-sections detailing the factors that impact on employee retention

Working Environment
Ecological Environment
Working Place
Welfare Measures
Healthy and Safety Measures
Family Welfare Measures
Rewards and Recognition
Superior Subordinate Relationship
Organizational Culture
Job Satisfaction
3.5.3 Designing of Questions

A Likert rating scale as described in Collis and Hussey (2003) was used for section two of the questionnaire. The questions were turned into statements and the respondents were asked to indicate their level of agreement by checking the chosen box.

All question statements were posed in a positive context. The benefit of this was to discourage leading statements, i.e. leading the respondent into a negative context. It is after all, the negative context that the researcher attempted to invalidate, but if established, it is an indication of a problem area. Therefore, if the answer is “Disagree”, then it is actually so.

3.6 DATA PROCESSING AND ANALYSIS PLAN

The responses obtained were analyzed using SPSS V.17. To ascertain which of the employee’s retention factor criteria are perceived as more or less important, the data were analyzed using descriptive statistics and factor analysis. External and internal validity were established and reliability was tested. These techniques were deemed to be appropriate for this particular analysis because the main purpose of this thesis is to explore the main determinate of employee retention. The next section will deal about the statistical tools employed in this study.
3.7 TOOLS USED FOR STUDY

The following tools were employed to analyse that data with reference to the selected objectives of the study. Data were processed and analysed using statistical tools like,

3.7.1 Percentage Analysis

Percentage method refers to a specified kind which is used in making comparison between two or more series of data. Percentages are based on descriptive relationship. It compares the relative items. Since, the percentage reduced everything to a common base and there by allow meaningful comparison to be made.

\[
\text{Percentage} = \frac{\text{Number of respondents}}{\text{Total number of respondents}} \times 100.
\]

3.7.2 Chi-Square analysis

The Chi square test procedure tabulates a variable into categories and computes achi square statistic. It is a statistical tool to test whether two variables are independent. The chi-square test for independence examines whether knowing one variable influences another variable. The formula applied is given below

\[
\chi^2 = \sum \frac{(O - E)^2}{E}
\]

with degree of freedom (df) = (c-1) (r-1) where,

\(O = \text{Observed frequency},\)
E = Expected frequency,
c = Number of columns,
r = Number of rows.

3.7.3 Cross Tabulation

Cross tabulation tables (contingency tables) display data of two or more categorical (nominal or ordinal) variables in rows and columns. The Cross tabs procedure forms two-way and multi-way tables and enables a variety of tests and measures of association for two-way tables. The structure of the table and whether categories are ordered determine what test or measure to use.

3.7.4 Regression analysis

A statistical technique used to explain or predict the behavior of a dependent variable based on one or more independent variables. Generally, a regression equation takes the form of $Y=a+bx+e$, where $Y$ is the dependent variable that the equation tries to predict, $X$ is the independent variable that is being used to predict $Y$, $a$ is the $Y$-intercept of the line, $b$ is the slope on regression coefficient of $Y$ on $X$ and $e$ is a value called the regression residual. The values of $a$ and $b$ are selected so that the square of the regression residuals is minimized.

3.7.5 Mann-Whitney test

A non-parametric test that compares the mean values of two samples. The Mann-Whitney test can be used to evaluate two different data populations, such as performance results from two separate
production lines, customer survey responses taken before and after a process improvement has been implemented.

### 3.7.6 Kruskal Wallis test

A non-parametric method for one-way analysis of variance used to determine if three or more samples originate from the same distribution. The Kruskal-Wallis test is essentially a standard one-way analysis of variance, with ranks assigned to the data points replacing the data points themselves, and is similar to the Mann-Whitney U test, but applicable to more than two sample groups.

### 3.7.7 Analysis of Variance

A statistical analysis tool that separates the total variability found within a data set into two components: random and systematic factors. The random factors do not have any statistical influence on the given data set, while the systematic factors do. The ANOVA test is used to determine the impact independent variables have on the dependent variable in a regression analysis. The ANOVA test is the initial step in identifying factors that are influencing a given data set. After the ANOVA test is performed, the analyst is able to perform further analysis on the systematic factors that are statistically contributing to the data set's variability. ANOVA test results can then be used in an F-test on the significance of the regression formula overall.

\[
F\text{-ratio} = \frac{\text{Sum of squares (MS) between}}{\text{Sum Squares (MS) within}}
\]

where,

\[
\text{MS between} = \frac{\text{Between sum of Squares (SS)}}{k-1}
\]

\[
\text{MS within} = \frac{\text{Within sum of Squares (SS)}}{n-k}
\]

where \(k = \text{Number of groups}\) and \(n = \text{Total number of items in all the groups}\)
3.8 LIMITATIONS OF THE STUDY

1. Data collection is based on questionnaire
2. The research exercise was conducted within a limited duration. So a detailed study could not be made.
3. The information collection by the observation method is very limited.
4. The result would be varying according to the individual as well as time.
5. Some respondents hesitated to give the actual situation, they feared that management would take any action against them.
6. The 5 automobile companies selected for study was based on the support of Capital Market Issue where they were segmented on basis on product classification like LCV and HCV.