CHAPTER IV

METHODOLOGY

4.1 INTRODUCTION

It is the Research design which connects the conceptual research problems to the pertinent empirical research. The design of a study defines the study type e.g. descriptive, co relational, semi-experimental, experimental, review, meta-analytic and sub-type e.g.: descriptive - longitudinal case study, research question and hypotheses, independent and dependent variables, experimental design if applicable, data collection methods and a statistical analysis plan. A research design encompasses the methodology and procedure employed to conduct systematic research.

4.2 RESEARCH DESIGN OF THE STUDY

The research design of this study contains an ethical methodology, a plan for disseminating the findings and an outline of the overall research strategy as well as the specific methods, techniques and instruments used. This research design does not interfere with flexibility, Provides certainty and it does not block other promising options. The ambivalence of this study is handled with Quantitative research design under the following sub heads.
4.2.1 TYPE OF RESEARCH

Quantitative research is a systematic empirical investigation of quantitative properties and phenomena and their relationships. This type of research involves, collecting numerical data to analyze utilizing statistical methods. The quantitative research designs are experimental and descriptive. Statistics derived from quantitative research can be used to establish the existence of associative or causal relationships between variables.

Descriptive research asks questions about the nature, incidence or distribution of variables and is primarily concerned with identifying the characteristics of a population (Ary, Jacobs & Razavieh 2002). By using Quantitative research design the survey is conducted among the insurance consultants of private sector and public sector insurance companies in Tirunelveli District. The study’s time horizon is from June 2011 to June 2012 and the researcher observed descriptive research to explore the career satisfaction of Insurance consultants. The study is based mainly on the primary data collected from Insurance consultants of both public sector and private sector Insurance Companies in Tirunelveli District with the help of a well drafted, pre tested and structured questionnaire.

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4.2.2 UNIVERSE

The universe of the study included all the registered Insurance Consultants belonging to Public Sector and Private Sector Insurance Companies in Tirunelveli District.

4.2.3 SAMPLE DESIGN

In statistics and survey methodology, sampling is concerned with the selection of a subset of individuals from within a population to estimate characteristics of the whole population. Sampling design specifies for every possible sample, its probability of being drawn. Mathematically, a sampling design is denoted by the function \( P(S) \) which gives the probability of drawing a sample \( S \). The design of samples is a particularly important aspect of survey methodology, and provides a basis for the sound measurement of economic and social phenomena from surveys of businesses and households. The sample design of this study is described under the following titles.

4.2.3.1 SAMPLING METHOD

The study includes the insurance consultants working for various public sector and private sector Insurance companies of Tirunelveli District. The Quantitative data collection methods rely on random sampling and structured data collection instruments that fit diverse experiences into
predetermined response categories. Since the intent of the researcher is to generalize from the research participants who are the Insurance consultants of public sector Insurance companies and Insurance consultants of private sector Insurance companies of Tirunelveli District, the researcher has employed probability sampling techniques to select participants.

At first a list of private sector and public sector insurance companies in Tirunelveli District was sketched and out of these, 10 branches from each sector were randomly selected on the basis of Lottery method. From these branches the researcher observed that there are 3656 registered consultants.

The researcher selected a sample of 362 consultants out of 3656 consultants from the selected private sector and public sector Insurance Companies of Tirunelveli District through Systematic Random Sampling method.
4.2.3.2 SAMPLE SIZE

For a survey design based on a simple random sample, the sample size required can be calculated according to the following formula.

Formula:

\[
\hat{n} = \frac{t^2 \times p(1-p)}{m^2}
\]

Description:

\( n = \) required sample size
\( t = \) confidence level at 95% (standard value of 1.96)
\( p = \) estimated level
\( m = \) margin of error at 5% (standard value of 0.05)

By surveying a sample of the population, the researcher could find that there's a 95% chance that he’s within the margin of error of the correct answer. After trying repeated change in the sample size and watching to the alternate scenarios, the researcher could observe that the relationship between Margin of Error and the confidence level of 95% are related.
Finally the researcher could conclude that sample size of 362 is suitable for this study. The sample size of 362 includes 188 from public sector and 174 from private sector Insurance companies.

4.2.4 CONSTRUCTION OF THE RESEARCH INSTRUMENT

The present study is descriptive and hence field survey is adopted by the researcher. To conduct the study, primary source is used and a questionnaire is used to collect first hand information. Questionnaires used in this study contain uniform question presentation and there is no middle-man bias. The researcher’s own opinions do not influence the respondent to answer questions in a certain manner. There are no verbal or visual clues to influence the respondent.

The questionnaire is prepared with the help of face to face interaction with the consultants. Also the Questionnaire was developed depending upon the extensive literature review (Martel and carol 1995²; Huselid 1996³). Besides, experts in the area were consulted and current social and organizational environment was also taken into consideration.

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Perception of consultants about different dimensions of satisfaction level was studied by a series of questions. The questions have been designed to facilitate the respondents to identify the factors of career satisfaction and provide insights on the career satisfaction of Insurance consultants of private sector and public sector Insurance companies.

The questionnaire was divided into three sections. The first section contain the geographical description of the consultants of Insurance companies which includes gender, marital status, education, remuneration, age and the organization working for. The second section contains the various factors which can measure the career satisfaction of Insurance Consultants. The respondents are requested to rank the elements of Motivational Insights in the third part of the Questionnaire.

The respondents have been requested specifically to use their best judgments on a 5 point likert scale ranging from strongly agree to strongly disagree. SPSS pc + version 12.0 were used for statistical analysis.
4.2.5 PILOT STUDY AND PRE TESTING OF QUESTIONNAIRE

To determine the construct validity of the instrument and to enhance its effectiveness, a pilot study was conducted on a sample of 50 Insurance consultants. The sample for the pilot study included 25 Insurance consultants from public sector Insurance companies and 25 Insurance consultants from private sector Insurance companies of Tirunelveli District. The respondents were questioned on the issues related to their demographic profile, Remuneration, Recognition, Inter Personal Relationship with Clients and Employees, Morale, Leadership, Training, Work Environment, Career Growth and Autonomy. The pilot study with 50 respondents helped in improving the construction of the Questionnaire.

4.2.6 TEST OF RELIABILITY

Evaluation of the internal consistency of the sub-scales for the career satisfaction questionnaire was carried out by calculating the Cronbach Alpha coefficient. This coefficient ranges from 0 - 1. Large Cronbach Alpha values indicate a high consistency of the questions of which the sub-scale is consisted.
The following factors commission from regular premium (Remuneration), supervision of leader (Leadership), applications of skills (Autonomy), period of work and job productivity (work), and interaction with company employees (Interpersonal Relationship), sense of achievement (Morale), career opportunities and recognition in society (Recognition) are identified for the study. It will be premature to claim that the underlying items of these factors make up the scale for measuring these factors. But for the purpose of illustration, we assume this to be correct. So we measure the reliability of these scales.

Table – 4.7.1 TABLE SHOWING RELIABILITY STATISTICS

<table>
<thead>
<tr>
<th>Cronbach’s Alpha</th>
<th>N of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.7027</td>
<td>7</td>
</tr>
</tbody>
</table>

The reliability statistics gives the value of the Cronbach alpha coefficient and the number of items selected for the scale. For this analysis, where the Carrier Satisfaction of Life Insurance consultants of public sector and private sector Insurance Companies in Tirunelveli district is said to be influenced by significant factors, we find the Cronbach’s alpha value to be 0.70 which indicate that the extracted variables are good fit.
4.2.7. FINALIZATION OF RESEARCH INSTRUMENT

The questionnaire was intricately designed to tap the perception of Insurance Consultants on Career Satisfaction. The questionnaire was peer reviewed twice by experts. The final questionnaire which could haul out necessary information related to our research study was framed with valuable inputs from the peer reviewers. The final version with 50 items is used for research study.

4.2.8 DATA COLLECTION

The researcher has adopted Systematic Random Sampling to select the participants for study. To give an equal chance to each of the 3656 consultants who could be selected for inclusion in the sample, the researcher planned to collect the data from the daily reporting consultants. (Consultants who report to office daily) The units are selected in an ordered way i.e every fifth consultant of the Daily reporting consultants. The researcher made regular visits to the branches every evening. By that the researcher could obtain a sample of 192 from public sector Insurance consultants and 186 from private sector Insurance consultants. Out of the 378 filled in questionnaires 16 instruments i.e 4 from public sector and 12 from private sector were discarded due to improper filling up of data. The study was conducted with the sample size of 362 which includes 188 from public sector and 174 from private sector Insurance companies.
4.3. FRAME WORK OF ANALYSIS

4.3.1 COEFFICIENT OF VARIATION – CV

Coefficient of Variation is a statistical measure of the dispersion of data points in a data series around the mean. It is calculated as follows:

\[
\text{Coefficient of Variation} = \frac{\text{Standard Deviation}}{\text{Expected Return}}
\]

The coefficient of variation represents the ratio of the standard deviation to the mean, and it is a useful statistic for comparing the degree of variation from one data series to another, even if the means are drastically different from each other.

A coefficient of variation (CV) can be calculated and interpreted in two different settings: analyzing a single variable and Model.CV setting.

**Analyzing a single variable** - The standard formulation of the CV, the ratio of the standard deviation to the mean, applies in the single variable setting. The CV for a single variable aims to describe the dispersion of the variable in a way that does not depend on the variable's measurement unit. The higher the CV, the greater is the dispersion in the variable.
Model CV setting- the CV is calculated as the ratio of the root mean squared error (RMSE) to the mean of the dependent variable. In both settings, the CV is often presented as the given ratio multiplied by 100. The CV for a model aims to describe the model fit in terms of the relative sizes of the squared residuals and outcome values. The lower the CV, the smaller the residuals are related to the predicted value. This is suggestive of a good model fit.

The researcher adopts the Model CV Setting to measure the factors influencing Career Satisfaction of Insurance consultants of public sector and private sector Insurance companies. From the various review of literature survey it has been identified by the researcher that the factors influencing career satisfaction are Remuneration, Recognition, Interpersonal relationship with the clients, Interpersonal relationship with the employees, Morale, Career growth, Work Environment, Training, Leadership and Autonomy. These narrated ten dimensions are otherwise known as career satisfaction variables. The researcher measures the factors influencing career satisfaction in the career of Insurance Consultants belonging to public and private sector Insurance companies with the statistical measure ‘Coefficient of Variation’
4.3.2. CHI SQUARE TEST

Karl Pearson in 1900 developed a statistic procedure for testing the significance of discrepancy between experimental values and theoretical values explained under some theory or hypothesis. This test is known as \( \chi^2 \) (Chi-square) tests. It is a test of goodness of fit and is used to find whether the deviation between observation (experiment) and theory may be attributable to chance (fluctuations in sampling) or any other factor. Chi square is applicable to enumeration on continuous scale (quantitative continuous variable).

The formula to calculate chi-square value is

\[
\chi^2 = \sum \frac{(O_i - E_i)}{E_i}
\]

Where \( \sum \) = Sum 
\( O_i \) = Observed frequency 
\( E_i \) = Expected frequency
Applications of Ch-Square Test:

1. Chi –square test of goodness of fit

   Goodness of fit is a generic term used to indicate how far an observed frequency distribution fits well with the expected frequency distribution based on some theory or expectation. In this case of null hypothesis \((H_0)\) is “There is no difference between observed frequency and expected frequency” The alternate hypothesis \((H_A)\) is “There is difference between observed frequency and expected frequency”

2. Chi-square test for association between attributes or independence of attributes:

   It is used to find whether two characters have the tendency to remain together or remain independently.

3. Chi-square test to test the equality of proportions:

   Chi –square test enables one to find out the significance of difference between two or more population proportions.

4. Chi- square test of homogeneity:

   This is used to compare the samples taken from two populations differing in some characters.

Though four different applications are given for chi-square test, all these tests are basically same as those tests find whether the observed frequency fits well with expected frequency, i.e, null hypothesis

\[
(H_0) = O_i - E_i = 0 \quad \text{but the statement of hypothesis differs.}
\]
In this study, the researcher attempts to analyse the association between the demographic variables with that of each factors influencing Career Satisfaction of Insurance Consultants of Private Sector and Public Sector Insurance Companies. Using Chi Square Test, Contingency Table the association between Demographic variables namely, Gender, Age, Qualification, Marital status, Period of Work and Average Income and the factors influencing career satisfaction of Insurance Consultants namely, Remuneration, Recognition, Interpersonal relationship with Clients, Interpersonal relationship with the employees, Morale, Career Growth, Work Environment, Leadership, Training, Autonomy are studied.

4.3.3 T-TEST

W.S. Gosset described a distribution called t- distributions and the test of significance which is based on it. The t- distribution is based on degrees of freedom. The t-test enables to test the significance of difference between two sample means or significance of a single mean.

In two-sample test the observations of the same variables are compared under different conditions. The independent samples t-test procedure compares means for two groups of cases. When we apply independent samples t-test, we need to ensure that differences in other factors are not masking or enhancing a significant difference in means. When we have two sets of data from two different populations, either hypothetical or existing, the null hypothesis is that there is no difference in the means of two samples.
The formula for t-test

\[ t = \frac{|\bar{X}_1 - \bar{X}_2|}{\sqrt{SE_1^2 + SE_2^2}} \]

Where \( \bar{X}_1 \) – mean of sample 1
\( \bar{X}_2 \) - mean of sample 2
\( SE_1 \) – Standard Error of sample 1
\( SE_2 \) - Standard Error of sample 2

Standard error is calculated by applying the following formula, where SD is the standard deviation and \( n_1 \) and \( n_2 \) are the size of sample 1 and 2

\[ SE_1 = \frac{SD_1}{n_1} \]
\[ SE_2 = \frac{SD_2}{n_2} \]

Standard Deviation is calculated as

\[ SD_1 = \sqrt{\frac{\sum(X_i - \bar{X}_1)^2}{n_1 - 1}} \]
\[ SD_2 = \sqrt{\frac{\sum(X_i - \bar{X}_2)^2}{n_2 - 1}} \]
Where

\[ n_1 - \text{Size of sample 1} \]
\[ n_2 - \text{Size of sample 2} \]

The null hypothesis is \( \bar{X}_1 = \bar{X}_2 \)
The t-values calculated may be positive or negative.
The researcher applies t-test to compare the factors influencing career satisfaction of Insurance Consultants of Public Sector with that of the factors influencing career satisfaction of Insurance Consultants of Private Sector.

4.3.4 GARRETT RANKING METHOD

This technique is used to evaluate the motivational insights of the Insurance Consultants. In this method, the Insurance Consultants were asked to rank the given insights according to the magnitude of preferences. The orders of merit given by the respondents were converted into ranks by using the following formula.

\[ \text{Per cent Position} = \frac{100 \times (R_{ij} - 0.5)}{N_j R_{ij}} \]

Where,

\( R_{ij} \) – Rank given by the jth individual for the ith elements and
\( N_j \) – Number of elements ranked by the jth individual.
The percentage position of each rank thus obtained was converted into scores by referring to the table given by Henry Garrett. Then for each element the scores of individual respondents were added together and divided by the total number of respondents for whom the scores were added. These mean scores for all the elements in the motivational insights were arranged in the order of their ranks and inferences were drawn.

4.4 CONCLUSION

By using the above mentioned statistical tools, the researcher carries out a detailed analysis of the data collected with an intension to obtain a prolific solution to his objectives in the following chapter.