CHAPTER 4

MANAGERIAL PERCEPTION OF CSR PRACTICES: RESEARCH METHODOLOGY

This chapter addresses the second objective and attempts to quantitatively study the Managers' perception of CSR practices in a Public sector Undertaking, SJVNL. The chapter being divided into different sections elaborately discusses the research methodology adopted to conduct the following research.

4.1 Research Methodology

The progress of mankind depends upon well-conducted research program which postulates sufficient, reliable and valid facts. Such effects are obtained through the systematic procedure. To collect relevant data for any research problem in any area, one has to sample the population concerned. The collection of data is an important aspect of the research. The whole process of the research depends on the collected data. There are many techniques of evidence gathering. These methods and techniques have to be determined in the light of nature of the problem and the source of the relevant data. This section discusses methodology used in the study, research design, sampling techniques, data collection instrument, data collection and data analysis procedures.

4.2 Scope and Setting of the Study

The study has been conducted in one of the public enterprises named "Satluj Jal Vidyut Nigam Limited (SJVNL),"which is a 'Miniratna' enterprise, located in Himachal Pradesh. The study sites are the corporate office of SJVNL at Shimla (HP) and power plant of SJVNL at Rampur (HP). For the quantitative study, the target population consists of middle-level manager in the SJVNL. This selection of the study area is based on one of the purposive sampling techniques, ie. Random sampling. Random sampling has been used presuming that the variables under study might exhibit interesting findings related to the specific features of the identified organization. For the randomization purpose, MS Excel random functioning program is used. The participants for the study are the middle-level manager of corporate office and power plant in SJVNL (sampling frame).

4.3 Research Design

As stated by Churchill (2010) research design is simply a framework or plan for the study used as a guide in collecting and analysing data. There are basically three type of research designs *exploratory, descriptive and causal*. The exploratory research emphasizes on the discovery of ideas and insights. Descriptive Research is used to obtain information concerning the current status of the phenomena and to describe "what exists" with respect to variables or conditions in a situation (libguides.usc.edu) and Causal research design is majorly concerned with determining "*cause and effect* relationships" (Churchill, 2010, p. 128).

As a plan and framework for a research project, the research design guides the data collection and analysis procedures to ensure that the study will ultimately address the relevant problem (Kothari, 2004).In dealing with the research problem, descriptive method of research design is employed. Descriptive research does not fit neatly into the definition of either quantitative or qualitative research methodologies, but instead it can utilize elements of both, often within the same study (Glass & Hopkins, 1984).   There are two types of descriptive study: a) *Longitudinal study* which relies on panel data or panel methods that mean a fixed sample of subjects is repeatedly measured. b) The cross-sectional study involves the collection of information from any given sample of population elements only once. This research is the single cross-sectional design where only one sample of public organization Managers as respondents is drawn from the target population. Descriptive research design meets the aim to obtain complete and accurate information, with due concern for the cost friendly completion of the study at hand.

4.4 Measures of the Variables

The questionnaire to be administered has been adopted accordingly from previous studies. The constructs related to Environmental issues, Ethical and Human Rights, Community Issues, Education and Health Issues have been adopted by Joshi (2007) where they were developed mainly on the basis of the studies of Ostuland (1977), Corson & Steiner (1974), Holmes (1976), and Perception on 'Corporate Social Responsibility (CSR) Practices' by Turker (2009). Secondary data has also been used to primarily construct the basic framework of the study before proceeding to primary data collection.

Demographic Variables: Gender, Annual income, Qualification, Household, and Area

Independent Variables: Environmental Responsibility, Ethical Responsibility, Community Development/ Responsibility, Educational Development, Healthcare

Dependent Variable: Perception of 'Corporate Social Responsibility (CSR) Practices.

4.5 Data Collection Instruments

Getting appropriate data is the key to reach accurate study results. For every type of research, we need certain instruments to gather new facts and explore new fields of knowledge. The instruments thus, employed are called tools. The selection of suitable instruments as tools is of vital importance for any successful research, and this depends upon the nature of the problem.

The research instruments employed to collect primary data was questionnaire in this research. The questionnaire served as the main data collection instrument since the major objective of this study is to assess the Managers' perception on each of the selected dimension of CSR.

To investigate the present problem the investigator himself designed a tool to find out the perception of managers on 'Corporate Social Responsibility (CSR)'under five dimensions viz. Environmental Responsibility, Ethical Responsibility, Community Responsibility, Educational Development, and Healthcare which includes eight, seven, eight, five and six items respectively under each of the stated dimension. The tool is set on 5 point Likert-type scale to obtain the desired responses where the measurement was sought regarding degree of agreement. The scale used is as follows: 1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly disagree.

4.6 Pretesting of the Questionnaire

Pretesting of the questionnaire refers to the testing of the questionnaire on a small sample of respondents to identify and eliminate potential problems. It has helped the researcher to determine how well the questionnaire works in reality.

Method to conduct the pre-test

For pre-testing three methods are often used: personal interview, telephone interview, and mall intercept. For the current study, personal interview has been used since according to Churchill (2010), a pre-test is best done by personal interview even if the actual survey is to be conducted by telephone interview or through electronic means because interviewers

can observe respondents' reaction and attitudes. Out of the two commonly used procedures for pre-testing; debriefing (in Debriefing after completion of questionnaire respondents are asked to describe the meaning of each question, explain their answer and state if the encountered with any problem while answering the question) and protocol analysis, protocol analysis is used where respondents are asked to think while answering the question. This method allowed the interviewer to observe the responses for each question.

Who should do the pre-testing?

Churchill (2010) states that variety of interviewers should be used to pretest the questionnaire. The project director, the researcher who developed the questionnaire, other key members of the research team should conduct the interviews. This gives them a good idea about the potential problems and nature of the expected data. Both experienced and new interviewers should carry out the pretest. Experienced interviewers help to perceive uneasiness, confusion, and resistance in the respondents whereas new interviewers can help the researchers identify interview related problem. As suggested by Hunt (1982) the pre-test was conducted by three interviewers: researcher himself; and two of his fellow researcher.

Sampling units in the pre-test

The respondents in the pre-test were similar to those who would be included in the actual survey regarding background, characteristics, and familiarity with the topic; as suggested by Churchill (2010) and other researchers like Burger (1975). In other words, respondents for the pre-test and the actual survey were drawn from the same population.

The sample size for the pre-test

Pre-test sample size is small and it varies from 15 to 30 respondents. Ferber and Verdoorn (1962) suggests a sample size of 12; Boyd (1977) suggests a sample size of 20 for the initial testing, depending on the heterogeneity of the target population. The sample size can increase if pre-testing involves multiple stages and considering all the studies pre-test for this research was finalsied and conducted among 12 respondents.

Pre-testing of Questionnaire- Results

Initially, length, layout, sequencing, and format of question was pretested and respondents felt that some part of the questionnaire had the repetitive questions which were making the questionnaire redundant. To rectify this, the questions were kept as such, but the

manner of asking was changed so as not to repeat the standard part of the question. Also, related questions were asked in continuation so that respondents do not feel the questionnaire to be lengthy. Some questions required more clarification and were considered incomplete. Such questions were modified to make them complete and easily understandable. However, the managers did not show any difficulty with layout and format. No question was found ambiguous and confusing.

4.7 Sample Design and Sample Size

Population

Population refers to any collection of a specified group of human beings or of non-human entities such as objects, educational institutions, organizations, time units, geographical areas, etc. A population is properly defined so that there is no ambiguity as to whether a given unit belongs to the particular population. The total population of managers in SJVNL being considered was 245.To determine sample size for main study, the task of identifying sampling frame was taken first. A sampling frame is a list of potential sampling units. Sampling frame involves selection of elementary sampling units.

For selecting a sample, there are different sampling techniques: probability sampling, where sampling units are chosen by chance and non-probability sampling, where sampling relies on the personal judgment of the researcher rather than the opportunity to select sample elements. In this research, probability sampling technique is selected as both population, and sampling frame are precisely defined and available for the researcher. From the available probability sampling method, the lottery method is used in selecting the middle-level managers which are to be involved as sample respondents. This technique has given an equal chance to all the managers for being included in the sample population.

4.8 Sample Size Determination

Sample size refers to the number of elements to be included in the study. Statistical studies (surveys, experiment, observational studies, etc.) are always better when they are carefully planned in many aspects, one of them being finding adequate sample size. Sample size calculation is necessary to ensure that estimates are obtained with required precision or confidence. The basic requirement for a sample is that sample must be as representative of the population as possible. (Krejcie & Morgan, 1970; Jonker & Pennink, 2010). Krejcie & Morgan (1970) presented an approach identified by the research division of National Education Association (NEA) in 1960, which is capable of giving a mathematical

solution and as such is a frequently used technique for determining a sample size. This calculation gives a sample size that ensures the desired level of precision rate and confidence level. To choose the right sample size, we need to define the following inputs. a) Specify the desired margin of error ME. This is your measure of precision. b) Specify alpha which is the significance level. c) Find the critical standard score z.

For this study, a 95% confidence level was taken with a confidence interval of ±5. According to the December 30/2015 updated list of the SJVNL Human Resource Department, the sample population number is 245. With a 95% confidence level and a confidence interval of ±5, the sample size of this research as calculated is 150 respondents, following the NEA (1960, cited in Krejcie & Morgan, 1970) sample size calculation formula below.

$$n = [z^2 * N * p(1-p)] / [d^2 (N-1) + z^2 * p * (1-p)]$$

Where n = Sample size, z = 1.96 for 95% confidence level, N = Population Size, p = Population proportion (expressed as decimal); (assumed to be 0.5 (50%) – this provides the maximum sample size). d = Degree of accuracy (5%), expressed as a proportion (.05).

4.9 Pilot Test

A pilot test was conducted with the aim to solve ambiguity in language and structure, to check validity, reliability, and feasibility of the instrument. In the present study, the instrument was administered to 15 respondents in the study area, the SJVNL. To respond right away for any ambiguity that might arise while filling the questionnaire, the researcher was physically present. The composition of the respondents was 10.9% and 89.1% for women and men, respectively. The time limit was made for the completion of the questionnaire, which was of a duration of 30 minutes. During the process of filling the questionnaire, the respondents raised questions mainly related to the physical/structural setup of the questionnaire; like keeping the continuity of the "Likert scale" as a title on the top of every page, and completing of a question on the same page then turn some part over. Apart from this, the pilot test showed that managers understood the questions correctly. Based on the responses provided, the internal consistency reliability of the instrument was computed by using Cronbach's alpha, which is a measure of internal consistency, that is, how closely related a set of items are as a group. It is considered to be a measure of scale reliability. The calculated Cronbach's alpha coefficient was 0.89.

Based on the pilot test, the necessary modifications were made for actual data collection. The changes were presented in detail on the validity of the study, data collection instrument section.

Description of the tools

The internal consistency of total items and items under each of the dimension, the value of Cronbach Alpha (coefficient of reliability) for the total items came out to be 0.899.

4.10 Reliability of Questionnaire

Reliability refers to the consistency or repeatability of the measure. Among the different types of reliability estimators, this study used Cronbach's alpha. Internal consistency reliability of the English and Hindi versions of the instrument was determined for the entire questionnaire and the subscales using Cronbach's alpha. Cronbach's alpha of the entire scale is found to be 0.89; while the computed Cronbach's alpha coefficients for the subscales of the dimensions are; Environmental Responsibility (8 items)= .709, Ethical Responsibility (7 items)= .763, Community Responsibility(8 items)=.605, Educational Development (5 item)=.657 and Healthcare(6 item) =.658
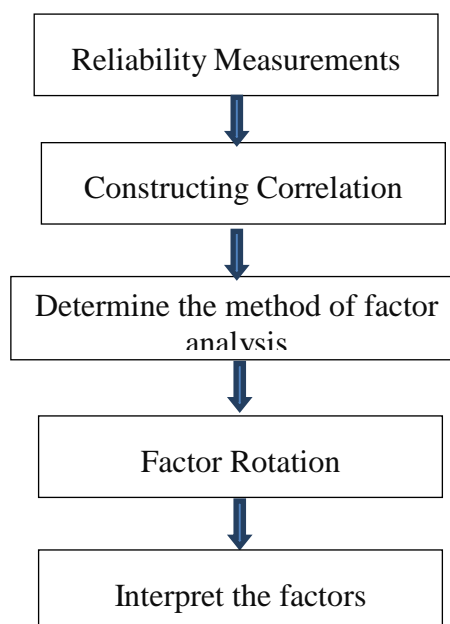
4.11 Validity of the Scale

Assessing the extent to which the scale measures given construct is what's all about validity. Out of the different types of validity, content validity and construct validity are checked for the present questionnaire. Simply defined, content validity is the extent to which the elements of a measurement procedure are relevant and representative of the construct that they will be used to measure (Haynes et al., 1995). Establishing content validity is a necessary initial task in the construction of a new measurement procedure (or revision of an existing one). To verify this, the researcher went through each item on the scale to make sure that they fit into the context. The questionnaire was then translated from English to Hindi in case some respondents may desire to answer other than English. During the process of translation, it was ensured that the core meanings of the sentences were retained. In translating some questions, the technique of equivalence and reformulation was used to give a correct sense to the sentence. The translated instrument was given to an experienced translator for review purpose, who has ample knowledge of the field of psychology. This helped to maintain the psychological context of meanings and intentions of each item on the scale. The review was made by comparing the English and Hindi languages versions of the instrument. From the response, it is known that presenting both forms

helped to check whether meanings were lost in the translation or otherwise. It is then that translation was given to two academicians, along with the English version, for enrichments and verifications. On the overall presentation of the questionnaire, the expert advice was included along with the specific instructions as to how the researcher needs to administer the questionnaire and it was edited accordingly. Words and phrases were revised as per the provided feedbacks, and on the scale items, some words and phrases with embedded were rearranged. After going through these processes, the instrument was then presented to the field expert for more comments and approval, upon which the expert further gave few remarks and approved the scale as seemingly good in measuring CSR perception of Managers.

To test the construct validity of the questionnaire. Principal component analysis was performed on a sample of 110 Managers. It helps us to empirically examine the interrelationship amongst the items and the construct. Detailed procedure for validating the questionnaire is described below:

Factor analysis (Principal Component Analysis)

Factor analysis is a term denoted to a class of procedures used for data reduction and summarization (Malhotra, 2011). It attempts to bring intercorrelated variables together under more general, underlying variables (Hout 1993). Factor analysis consists of following steps (Malhotra, 2011):

| Reliability Measurements |
| Constructing Correlation |
| Determine the method of factor analysis |
| Factor Rotation |
| Interpret the factors |

Figure 2: Factor Analysis

Step1: All the five independent and one dependent variable were measured on an interval scale. An appropriate sample size was taken, i.e.110 managers. As researcher states that there should be at least four times as many as an observation as there are variables. Hence the sample size was accurate. The Kaiser-Meyer-Olkin measure the sampling adequacy (KMO- test). The sample is adequate if the value of KMO is greater than 0.5. In this study, KMO value is greater than .5

Step 2: Two things are important while analyzing the correlation matrix, i.e., the variables have to be intercorrelated, but they should not be the highly correlated otherwise unique contribution of variables to the factors would be difficult to determine. Inter correlation between variables can be checked by using Bartlett's test of sphericity, which "tests the null hypothesis that the original correlation matrix is an identity matrix" This test has to be significant: when the correlation matrix is an identity matrix, there would be no correlations between the variables. In this study, Bartlett's test of sphericity was significant.

Step 3: As our primary concern is to determine the minimum number of factors that will account for maximum variance in the data for use in subsequent multivariate analysis. The extraction of principal components takes place by calculating the eigenvalues of the matrix. The number of positive eigenvalues determines the number of factors/components to be extracted. In this research, Eigen values for the factors are, as expected in decreasing order of magnitude as we go from factor 1 to factor 6. The Eigen value for a factor indicates the total variance attributed to that factor. Factors with eigen values greater than one are retained. Hence in this study, all the factors were having Eigen values greater than 1. Also as the Eigen values represent the amount of variance associated with the factor. Factors which, in total, account for about 70-80% of the variance are to be kept. In our study, all the six factors amount for 51% variances

Step 4: Factor rotation helps us to determine how the variables are correlated with factors. As we would like each variable to have non zero or significant loadings with only a few factors. In this study varimax rotation is considered as it minimizes the number of variables with high loadings on a factor thereby enhancing the interpretability of the factors. Factor loading represents the correlation between the factors and the variables.

Step 5: Identify the variables that have large loadings on the same factor. That factors are then interpreted regarding the variable that load high on it. In this study, we can see that all 39 variables loaded on the relevant six factors.

Thus, from the result section, we can see that questionnaire is valid for all the items loaded on their related construct.

4.12 Administration of the Tool

The investigator visited the selected public undertaking named SJVNL power plant at Jhakrhi, (H.P) personally for the collection of data regarding the research problem. The investigator approached the HR (Human Resource) manager of the concerned plant and explained to him the nature and purpose of the investigation and also showed the tool to him. He was kind enough to permit the investigator to administer the developed questionnaire, for the collection of desired data from the various managerial level of the plant.

The investigator also assured the managers that their responses would be kept confidential and utilized only for research purpose, so they should try to be honest and sincere in responding to each question. Proper instructions and guidance were given to every single respondent separately as data was collected personally. The investigator explained to them the items which were not properly understood by the managers.

Ethical Considerations

In the process of data collection, issues related to voluntary participation and informed consent were raised. In response, the researcher was equipped with the necessary fact files to fully inform prospective participants about procedures involved in the research. To protect the privacy of participants, the principle of anonymity was strictly adhered to. The confidentiality of filled data was also guaranteed, and no personally identifiable data was collected. While dealing with the secondary data, the necessary precaution has been taken not to misinterpret, which might lead to serious implications.

Data Analysis Procedures

The collected data was entered into IBM SPSS version 21 (Statistical Package for Social Science, version 21) computer program. The entered data was checked and explored. Following this, appropriate data analysis techniques were selected, taking into consideration the research objectives, characteristics of the data, and the underlying properties of the statistical techniques. Descriptive statistical tests of frequency, percentage and standard deviation were employed to check the CSR perception of Managers according to gender, income, educational level, area and family size. Inferential statistics was used to explore the relationship between dependent variable and demographic variables and also between dependent and independent variables.

4.13 Statistical Techniques Used

In order to decide about statistical tests to be used for analysis, scales of dependent and independent variables were examined. Table 17 & 18 display this information.

Table 17: Scales of dependent and independent variable

S.No	Name of Variable	Variable Scale
	Dependent Variable	
1	CSR Practices	Categorical Scale
	Independent Variable	
	Demographic Variables	Categorical Scale
1	Environmental Responsibility	Interval Scale
2	Ethical Responsibility	Interval Scale
3	Community Development/Responsibility	Interval Scale
4	Educational Development	Interval Scale
5	Healthcare	Interval Scale

Using the information of the scales and requirement of the objectives proper statistical tests were chosen and they are as follows:

Table 18: Test used for analyzing the results

S.No	Area of study	Statistical Test Used
1	Relationship between demographic variables and CSR Practices	Percentage analysis and chi-square test
2	Correlation between perception towards CSR practices and moderating variables	Correlation coefficient used in statistic test.
3	Influence of moderating variables on perception towards CSR practices	Multiple Regression