

CHAPTER 3 RESEARCH METHODOLOGY

The chapter on research methodology describes in detail about research framework that was developed during the literature review for the current research study.

Research Design & Method

Descriptive and Exploratory research design were used in the present study. Descriptive method describes the characteristics of the sample and exploratory explores significant associations and difference between the various independent variables and dependent variables.

Sample Design

Sample design is the procedure or technique the researcher uses in selecting the sample from the population.

Population of the study

To meet the objectives of the research survey all the listed companies in National Stock Exchange (NSE) and Bombay Stock Exchange (BSE) has been considered as population of the study.

Sampling method

Stratified convenience sampling has been used as sampling methodology to collect data for the present research study. The population has been divided in to PSU and Private sector companies. Thereafter, convenience sampling is used to include the foregoing characteristics in the sample companies.

Sample size

Sample size refers to the number of items that have been selected from the population of study to form a sample. To get the right sample size to be appropriate enough to represent the population, formula could be used, however, getting data from industries in large number was very difficult, therefore pooled data method was used to determine the sample size. Hence 100 companies were finalized as sample size for the research study but response was received only from 55 companies. Therefore, the response rate was 55%. Therefore, the present study analyses the response from 55 companies, out of total respondents which 6 (11%) are PSU and 49 (89%) are Private sector companies. A detailed list of the sample organizations has been attached in the Annexure II.

Data Collection

Data Source

Both primary and secondary sources were considered for data collection. Primary source was used for collecting the information from the Company Secretaries of the listed companies. While the secondary data was collected from the annual reports of the companies, newspaper articles, journal articles, books, government websites and various other websites related to concerned topics like prime database, moneycontrol Market screener etc.

Data Collection Tools

The research was survey based, so a structured questionnaire was used for collecting the data from the respondents. Hard copy of the questionnaire was circulated amongst the target population. Soft copy of the questionnaire was also circulated amongst the target population via. Google form and emails on the request of the companies. Further structured expert interviews for qualitative data were carried out to get more insights into gender diversity on boards in Indian companies.

Data Collection Instruments Development

The data collection instrument was developed after doing literature reviews. Content validity and reliability test were also conducted for the instrument.

Demographic Section- This section includes necessary demographic information like name of the company, sector, type of industry, designation of the respondent in the company, gender of the respondent, gender of the Chairperson of the company and stock exchange on which the company is listed.

Questionnaire Section- After reviewing various research articles the questionnaire was developed. The questionnaire contains three different sections. Section 1 covers the demographic information of the companies, section 2 consisting of the questions with respect to women directors and section 3 talks about the women employees working in senior managerial positions in the companies and their challenges to reach to the top positions in the organization. Table 7 represents the various dimensions covered in questionnaire, their measures and scales used for data collection during research.

Table 7*Various Dimensions Covered in Questionnaire, their Measures and Scales Used*

Section No.	Question. Nos. & Dimensions	Measures	Scale
Section 1	1-12 Demographic information	Used for descriptive analysis and hypothesis testing	Independent Variable
Section 1	13-20 Status of women directors on boards in companies	Q 13. Identifying women candidates for directorship role	Multiple Response Question
		Q 14. Nomination of women director	
		Q 15. Appointment of women director	Dichotomous
		Q 16. support for Mandatory quotas	
		Q 17. No. of women directors on Boards	
		Q 18. Maximum number of years a woman director has served on board	Short question
		Q 19. Appointment of first woman director on board	Short question
Q 20. Most recent appointment of women director.	Multiple Choice		
	21-22	Board Meetings	Multiple choice
	23	Board Evaluation	Open ended
	24	Reasons for appointment of women directors on company boards	Reflective summated scale
	25	Actions for increasing women representation on boards	Ranking

Section No.	Question. Nos. & Dimensions	Measures	Scale
Section 2	1-11 Opinions about appointment, participation and mentorship of women directors	Q1. Women CEO or Chairperson and women director's appointment Q2. Participation of board members Q3. Participation of women directors Q4. Men directors & Board meetings Q5. Women directors & Board meetings Q6. Mentorship for women at middle management level Q7. Working Style of Women directors Q8. Domination in Appointment of women directors Q9.-11 Women directors participation in discussions	Reflective summated scale
	12-17 Roles and capabilities of Women directors	Q12. Working of women directors	Reflective summated scale
		Q13. Capabilities of Women directors in different areas	Reflective summated scale
		Q 14 -17. Role of Independent women directors	Reflective summated scale
	18 Characteristics of Women directors	Q 18. About different traits of women directors working in corporate boards	Reflective summated scale
Section 3	1-18 Women perceived in the role of a board member or to get promoted to board level	Q.1-18. Questions on different perceptions about women working in organization and their struggle in taking up leadership roles	Reflective summated scale

Instrument Validation Procedure

Before moving forward with the method, a pilot study was carried out for testing the questionnaire, to ensure that a) the questions listed in the questionnaire were relevant to the

objective of the study b) whether the respondents were able to understand the questions, c) whether the sequencing of the questions was correct d) time taken by the respondents e) to bring out any weakness in the technique if any and improve it further.

Validity

Validity means the extent to which a test measures what research actually wants to measure. There are basically two major forms of validity: external validity and internal validity. External validity is data's ability to generalize across persons, settings and times. Internal validity is ability of the research instrument to measure what it is supposed to measure. It is majorly classified into three main categories 1) content validity which measures whether the instrument adequately covers major topics relevant to the study 2) criterion-related validity reflects the success of measures used for prediction or estimation and 3) construct validity is extent to which a tool measures an underlying construct (Cooper, Schindler, & Sharma, 2012). Data Collection Instrument was validated by taking expert opinion in addition to guiding teacher.

Table 8 reflects the name of the experts whose opinions were sought during the research study for the data collection instrument validity. Since, this study is about women directors on company boards, industry experts were consulted. All the validity criteria i.e., content, construct and criterion are fulfilled with this instrument.

Table 8

Experts Name, Company and Designation of the Experts Approached for Content Validity

Sr. no.	Name of Expert	Company Name -Designation
1.	Mr. Hiren Dalwadi	Finolex Industries Limited- Compliance Officer
2.	Mr. Sandeep Kumar	DS group -Company Secretary
3.	Mr. Ravi Pareek	Gujarat State Electricity Corporation Limited-Company Secretary

Reliability

The reliability of test score measures the consistency across different occasions, different edition or different raters. George and Mallery (2003) suggested a rule of thumb as “ $\alpha > 0.9$ - Excellent, $\alpha > 0.8$ - Good, $\alpha > 0.7$ - Acceptable, $\alpha > 0.6$ - Questionable, $\alpha > 0.5$ - Poor and, $\alpha < 0.5$ - Unacceptable”.

Table 9 shows the internal consistency of constructs used in instrument.

Table 9*Internal Consistency of Constructs*

Section	Q. No.	Construct	No. of Variables	Instrument	Cronbach's Alpha α
1.	Sec. 1-24	Reason of companies for appointing women directors	5	Likert Summated Rating Scale	0.724
2.	Sec. 2-Q.10	Views on Capabilities of Women directors' Contribution in Decision Making Process in Different Areas	10	Likert Summated Rating Scale	0.876
3.	Sec. 2-Q. 12	Perception of Women directors and Their Working in Organization	7	Likert Summated Rating Scale	0.725
4.	Sec. 2-Q. 18	Characteristics of women directors	13	Likert Summated Rating Scale	0.895
5.	Sec. 3-Q.1-18	Perceptions about women working in organization and their struggle in taking up leadership roles	18	Likert Summated Rating Scale	0.954

Cronbach's alpha (α) helps in measuring internal consistency, i.e. how closely the set of items are related to each other in the group. It is considered to be a measure of scale reliability. Cronbach's alpha (α) quantifies the level of agreement on a scale of 0 to 1, where higher value indicates higher agreement and lower value indicates lower agreement. From the

above table it can be inferred that Cronbach's alpha α value for reasons of companies appointing women directors on boards of 55 respondents is 0.725 which is acceptable and Cronbach's alpha α for characteristics of women directors of 55 samples is 0.895 which indicates good internal consistency amongst the scale items.

Statistical Tools and Techniques

Both descriptive as well as inferential statistics was used for the data analysis by the researcher. Descriptive statistics provides the information with respect to companies' and directors' profile, while inferential statistics was used for analysing the data w.r.t dependent and independent variables and their association i.e. hypothesis testing. Scales like nominal, ordinal and interval were used to get response from the respondents. Since most of the data was not normally distributed non-parametric tests like Mann Whitney U test, Wilcoxon signed ranked test, Chi-square test, Fisher's Test, Spearman's Rank Correlation and Friedman Test were conducted.

Limitation and Future Scope of the Study

Not many companies participated in the study due to sensitivity of the data. The research analysis does not consider the control variables. For in-depth study, a large sample size data can be taken. This research study discusses different challenges and issues of women directors on company boards. Further study can be done on various measures that were actually effective in increasing gender diversity on the company boards in India. Also, a comparative analysis can be made between India and other developing countries where gender diversity on boards is higher. Current study considers Performance measures like ROA, ROE and ROCE are used to study the correlation between the presence of women directors and performance indicators. Some other performance measures can also be used to see the effect of presence of higher number of women directors on company boards. Various studies can be carried out on performance of women directors - sector wise, industry wise and geographical area wise.