3 RESEARCH DESIGN AND METHODOLOGY

3.1 Overview of the Chapter
This chapter presents the methodology used to test the research framework and construction of the model for estimating the relationship between corporate governance variables and different firm characteristics like ownership structure, dividends, capital structure etc. The following sections 3.2 and 3.3 discuss sample selection and data collection procedure and Section 3.4 provides operational mechanism and measurement of variables. The final section gives empirical model framework and discussion about the estimation methods used in the study.

3.2 Objectives of the Study
The aim of this study is to determine the quality of corporate governance and its effect on companies capital structure, cost of capital and dividend payout/policy.

3.3 Research Objectives
The following are specific research objectives of the study:

i. To examine the present status/Pattern of corporate governance in the companies

ii. To study the effect of corporate governance on capital structure of companies.

iii. To evaluate the effect of corporate governance on dividend policies of the companies.
iv. To identify and establish link between corporate governance, capital structure, corporate dividend policies and cost of capital individually and collectively.

v. To identify and establish link between corporate governance and firms accounting performance.

vi. To identify and establish link between corporate governance and firms market performance.

3.4 Research Methodology

3.4.1 Sample

The sample of the current study comprised of BSE SENSEX Index companies. The names of the companies are given in Annexure 1.

3.4.2 Study period

The study span period is from 2002 to 2014. The Indian political and economic scene witnessed market changes during this period. Further, the corporate governance scenario also saw a significant change which was the main aim of the study.

3.4.3 Data collection

The Data was collected from Capitaline and Prowess Software. In case of missing data, the information was collected from various academic publications, journals, newspapers, government publications, annual reports, prowess and company websites.
3.4.4 Tool of Data analysis

For further analysis, raw data collected was analysed using different statistical software’s like SPSS, SPSS Amos EViews, Stata etc. Descriptive statistic like mean, median, mode, Standard deviation, T-test, Panel Regression, Structural Equation Modelling were used to analyze continuous and categorical.

3.5 Research Hypotheses of the Study

The hypotheses formulated for the present study are as follows:

Hypothesis

H1: There has been significant change in the trends and patterns of capital governance structure over the last decade.

H2: There is an association between board size and capital structure of the chosen companies.

H3: There is an association between the presence of independent directors on the board and capital structure of the chosen companies.

H4: There is an association between the board size and financial leverage of the firm.

H5: There is an association between level of corporate governance and accounting performance of the firm.

H6: There is an association between level of corporate governance and market performance of the firm.

H7: There is an association between corporate governance quality and dividend pay-outs.
H8: There is an association between corporate governance quality and the amount dividend pay-outs.

3.5.1 Estimation Techniques
3.5.1.1 Exploratory Factor Analysis (EFA)

The final data was collected using the refined questionnaire followed by an Exploratory Factor Analysis (EFA) for structure detection. The next step in the data analysis was to perform a CFA on the 41 items using Maximum Likelihood extraction method with Oblimin rotation to confirm the dimensionality of the derived instrument.

3.5.1.2 Test of reliability: Cronbach’s alpha

Further, this research tests the reliability of identified factors. Reliability refers to whether a measurement instrument is able to yield consistent results each time it is applied. It is the property of a measurement device that causes it to yield similar outcome for similar inputs. Statistically, a Cronbach’s alpha measurement can be used to determine reliability of a measurement instrument (Straub et al. 2004). A Cronbach’s alpha value of 0.7 and greater is considered reliable (Straub et al. 2004). The Cronbach’s alpha values from the SPSS output (see Table 7) for each component are greater than 0.7, thus indicating good reliability.

3.5.1.3 CFA: Path Diagrams in SPSS AMOSS

After performing the Confirmatory Factor Analysis and reliability analysis, the same procedure is performed in SPSS AMOS 21. The software provides an easy way of depicting the complex relationships with the help of path diagrams and simultaneously testing established models. Further, the program also
supports other powerful commands which can provide insights about the structure of data.

### 3.5.1.4 Anova, Levene's Test for Equality of Variances, t-test for Equality of Means

After identifying the factors from confirmatory factor analysis and structural equation modelling, the basic properties of the six factors are studied in detail. The mean, standard deviation and standard error scores were estimated for selected variables. Furthermore, this research investigates whether the mentioned variables differ in terms of different demographic variables or not, for which Independent Samples Test, Levene's Test for Equality of Variances, One way Anova and t-test for Equality of Means are employed. Below are limitations which might have affect the results:

I. In Anova for each population, the dependent variable is normally distributed and the variance of the dependent variable in each of the population should be equal and the observations must be independent.

II. The concept of 't' itself is based on the fact that the population is normally distributed. For difference of two means test where t-test is used and if sample sizes are small the distributions of the populations are at least approximately normal.

### 3.5.1.5 Correlation Analysis

In the next step, the analysis of aggregates of the items i.e. six components identified by confirmatory factor analysis is conducted. The correlation between loyalty and the other five variables of the study are evaluated.
3.5.1.6 Panel Regression Analysis

Further, the relationship between corporate governance and firm characteristics variables is analyzed by employing a panel least square. The corporate governance score is taken as a dependent variable and the other variables as independent variables. The same relationship has been shown in equation 1 below.

\[
C.G Score_{it} = \alpha_0 + \beta_0 \text{MKT PERFORMANCE} + \beta_1 \text{Size} + \beta_2 \text{DIVIDENDS PAYOUT} + \\
\beta_3 \text{CAPITAL STRUCTURE} + \beta_4 \text{OWNERSHIP STRUCTURE} + \epsilon_{it} \quad \text{Equation 1}
\]