CHAPTER – 4

RESEARCH METHODOLOGY
# RESEARCH METHODOLOGY

<table>
<thead>
<tr>
<th>4.1</th>
<th>Introduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.2</td>
<td>Definition of Research</td>
</tr>
<tr>
<td>4.3</td>
<td>Review of Literature</td>
</tr>
<tr>
<td>4.4</td>
<td>Statement of Problem</td>
</tr>
<tr>
<td>4.5</td>
<td>Title of the Study</td>
</tr>
<tr>
<td>4.6</td>
<td>Objectives of the Study</td>
</tr>
<tr>
<td>4.7</td>
<td>Period of the Study</td>
</tr>
<tr>
<td>4.8</td>
<td>Hypotheses of the Study</td>
</tr>
<tr>
<td>4.9</td>
<td>Data Collection</td>
</tr>
<tr>
<td>4.10</td>
<td>Sample Design</td>
</tr>
<tr>
<td>4.11</td>
<td>Scope of the Study</td>
</tr>
<tr>
<td>4.12</td>
<td>Nature of the Study</td>
</tr>
<tr>
<td>4.13</td>
<td>Tools and Statistical Techniques</td>
</tr>
<tr>
<td>4.14</td>
<td>Chapter Plan of the Study</td>
</tr>
<tr>
<td>4.15</td>
<td>Significance of the Study</td>
</tr>
<tr>
<td>4.16</td>
<td>Limitations of the Study</td>
</tr>
</tbody>
</table>
4.1 INTRODUCTION

Research in common parlance refers to a search for knowledge. Research means Re – Search. It means again and again searching for knowledge one can also define research as a scientific and systematic search for pertinent information on a specific topic. In fact, research is an art of scientific investigation. Research can be considered as a movement, a movement from the known to the unknown. Research is a diligent enquiry and careful search for new knowledge through systematic scientific and analytical approach in any branch of knowledge. Constant search and research are the guiding factor of research which helps to discover new facts.

Research is an original contribution to the existing stock of knowledge making for its advancement. It is the pursuit of truth with the help of study, observation, comparison and experiment. In short, the search for knowledge through objective and systematic method of finding solution to a problem is research. The systematic approach concerning generalization and the formulation of theory is also research. As such the term ‘Research’ refers to the systematic method consisting of enunciating the problem, formulating a hypothesis, collecting the facts or data, analyzing the facts and reaching certain conclusions either in the form of solution towards the concerned problem or in certain generalizations for some theoretical formulation.

Full form of Research includes as below and each has its own significance:

- R - Requirement
- E – Estimation
- S – Searching
- E – Enquiry
- A – Allocation
- R – Raw Data
- C – Creativity
- H – Helpful For Society Welfare

4.2 DEFINITIONS OF RESEARCH

- Redman & Mory define research as a “Systematized effort to gain new knowledge.”

- According to Johan West, “Research is a systematic activity directed towards the discovery and development of an organized body of knowledge.”
According to Clifford Woody, “Research comprises defining and redefining problems, formulating hypothesis or suggested solutions; collecting, organizing and evaluating data; making deductions and researching conclusions; and at last carefully testing the conclusions to determine whether they fit the formulating hypothesis.”

According to Kerlinger, Fred N., “Scientific research is a systematic, controlled, empirical and critical investigation of propositions about the presumed relations among natural phenomena.”

V. P. Michael defined research “Research is a systematic activity directed towards investigating problems and results in an invention or discovery of tools for problem solving and decision – making.”

4.3 REVIEW OF LITERATURE

Various studies on dividends and dividend policy have been conducted abroad and in India. Empirical study is divided into two sections:

4.3.1 Empirical Studies Conducted Abroad

4.3.2 Empirical Study in India.

4.3.1 Empirical Studies Conducted Abroad

- John Conslor (2011) the object of this paper was to make the comparison of relative power of operating cash flow and earnings in the prediction of dividends. 1902 dividends paying firms were analysed for study purpose. Quarterly CRSP and comp stat data has been taken for the year 2002 to 2006. Cash flow per share is shown to produce a better fit than earning per share based on selected model fit criteria. Author also suggested that investors and analysts predict dividends as a part of their stock valuation work.

- Fairchild (2010) the aim of this paper was to analyse or to focus on the complex relationship between dividend policy, managerial incentives and firm value. A survey has been made by developing a theoretical model on dividend policy that combines signaling and free cash flow motives. Moreover, managerial communication and reputation effects are also considered into the model. Author said that for more investment in new value
creating project firm may need to cut dividends. It is also found that investors are considered “dividend cut” as bad news and it effected to firms market value. To mitigate this problem managers communicate to the investors about the reason for dividend cut which could be helpful for improving managerial reputation effects. Author has also provided Real world examples to illustrate the complexity of dividend policy. Study also revealed that Profitability and stock market capitalizations also play an important role in dividend pay-out policy.

- **Joshua Abor (2010)** the object of this paper was to observe the effects of investment opportunity and corporate finance on dividend policy. Survey has been made with a sample of 34 emerging market countries for 17 year period during 1990-2006. Fixed effects panel model is used for study purpose. Results showed significant negative relationship between investment opportunity set and dividend payout policy. However, it showed that various measures of corporate finance like financial leverage, external financing and debt maturity have insignificant effects on dividend pay-out policy. Study also revealed that Profitability and stock market capitalizations also play an important role in dividend pay-out policy.

- **Setia-Atmaja (2010)** investigated the broad influence of debt and dividend policies of family controlled firms. Panel data of Australian publically listed firms were considered for survey purpose during the period 2000 to 2005. Panel regression was used for survey purpose. The study found that in comparison with non-family counterparts family controlled firms have higher levels of leverage and dividend pay-out ratios. The study also indicated that higher proportion of independent directors have positive impact on family control on dividend policy which reflected significant influence of independent directors on firm’s dividend policy, specifically for controlled firms. Author also found that independent directors and dividends have complementary government mechanisms. And Author also found little evidences which show the relationship between family control and debt moderates by board independence.
Chapter - 4 Research Methodology

- Basil Al-Najjar (2009)\(^5\) an attempt is made here in this paper to examine the association between dividend payout and outside directorships. 400 non-financial firms listed at London stock Exchange has been taken for the study purpose during the period 1991 to 2000. Author used Tobit and logit regression models to analyse the extent to which firms with a majority of outside directors on their boards experience significantly lower or higher dividend pay-out after controlling for insider ownership, profitability, liquidity, asset structure, business risk, firm size, firm’s growth rate and borrowing ratio. It was found that dividend pay-out is negatively associated with the number of outsider directors on the board of directors.

- Hoiejo (2009)\(^6\) Investigated empirical association between managerial entrenchment and dividend policy. The study observed on entrenchment irrelevancy hypothesis, the dividend signaling hypothesis and the optimal entrenchment hypothesis. Large numbers of US industrial firms were used for the study period during the period 1990 to 2003. Various LOGIT and TOBIT regression methods are used to investigate firm’s propensity to pay dividends. Findings of the study showed that firms with more entrenched managers are more likely to pay dividends. It also observed that large cash reserve can be used to deter hostile takeovers and paying dividends reduces cash holdings, leaving the firm more vulnerable to hostile takeovers.

- Khaled Hussainey (2009)\(^7\) Examined the value relevance of voluntary disclosure and dividends signal future earnings for decline earnings growth firms. For study purpose, the behaviour of 33 non-financial UK firms after a decline of their sustained growth has been taken. Corporatized content used to analysis number of forward looking sentences in the annual report narratives. For examining the association with the abnormal future earnings, it shows changes in disclosures and dividends in the year of earning growth declines. The result showed that value relevant information about future earnings for declining earnings growth firms does not depend on increase in dividends.. But it is generally based on signalling theory and mentioned that forward looking information in annual report is an important tool for signalling future earnings for these firms.
Neil L. Fargher (2009)\textsuperscript{8} The study investigated the cross-sectional differences in the profits, returns, and risk of high and low market to book ratio stocks before and after the initiation of regular cash dividend payments. Study has been conducted for the period of 1965-2000. For study purpose some parametric and non-parametric statistics was used. To test for differences in profits, returns and risk of high and low – market-to-book ratios stocks before and after dividend initiation ordinary regression was used. The study found that the low –market-to-book stocks positively connected with dividend initiation announcements. The study also showed that in comparison with low market to book stocks high market-to-book stock firms have large profits, cash levels and capital expenditure before and at the time of dividend initiation. The study also found that decrease in systematic risk is associated with excess returns earned by low market-to-book stock firms whereas high profitability is associated with high market-to-book stock firms.

Pourheydari (2009)\textsuperscript{9} the aim of this paper was to evaluate the CFOS (Chief Financial Officers) views on dividend policy of Iranian firms. Survey has been made Iranian firms listed on the Tehran stock exchange regarding the factors influencing dividend policy for the year 2006. Based on theoretical and empirical works on dividend policy author identified the factors that are most important for study purpose. The finding showed that stability of cash flow, the available profitable investment opportunities and stability of profitability are important factors that influenced the dividend policy.

Temurshoey (2009)\textsuperscript{10} the aim of this paper was to find out the problems related to overestimation of profits because of presence of cross-shareholding (CS) links among firms. Author used matrix Algebra to identify both direct and indirect financial interests. By comparing the industry, finding showed that retained earnings increases, while aggregate external shareholder’s returns decreases unless dividend ratios are all unity. The study also revealed that for all profits specifications, qualitatively there is no difference but quantitatively there is a difference. The author also said that if there are extensive CS links present in industry dividend payment have to be taken in to account by analysing market performance.
Harido Koemiadi (2008) investigated management earnings by studying whether stock dividends provides management with an incentive for manipulating earnings. For study purpose refined accrual model is used for controlling the performance effects in estimating the part of accrual subject to management discretion. It is found that discretionary accruals of stock dividend issuing firms are negatively correlated with the declines in both future earnings and abnormal stock returns.

Bhattacharyya (2007) The Study aimed here to review in brief the principle theories of dividend policy and to summarize empirical evidence on these theories. For study purpose author has reviewed and identified major theoretical and empirical papers on dividend policy. It is found that still some dividend puzzles are not solved. Some empirical evidences are of ambiguous and the search for new explanation for dividends continues.

Douglas (2007) the object of this paper was to study the explicit links with corporate social responsibility to the dividend flow. It aimed to examine that whether the corporate investment in social responsibility affects to expected dividends or not. For an analysis purpose 17670 US firms were undertaken for the period of 1991-2007. Univac rate and Multivariate techniques are used for study purpose. It is found that matured firms are more interested to invest in corporate social responsibility. The study showed that investment in CSR and dividends trend increasing together. In short the study observed that CSR investment tend to be affected by the companies who can afford them and it does not lowering the value by lowering investors expected payout.

H. Kent Baker (2007) the broad objective of this paper was to examine the survey results on the perceptions of dividends by Canadian managers. For survey purpose 291 dividends paying Canadian firms listed on Toronto Stock Exchange (TSX) has been taken and their view has been taken. The survey found that dividend policy is to be influenced by the level of current and expected future earnings stability of earnings and the pattern of past dividends. Canadian managers believed that dividend policy affects firm value. They expressed their strong support for the signaling and life cycle explanation for
paying dividends, but not for the bird-in-hand, tax preference and dividend clientele, agency cost or catering explanation and expressed little agreement with the theory of a residual dividend policy. The author also said that Canadian dividend paying firms are significantly larger and more profitable.

- **Abeyratna Gunasekarage (2006)** The main aim of this paper was **to analyse the long-run financial and return performance of UK companies following joint dividend earnings announcements.** For analysis purpose, both stock market’s share price performance and companies’ detailed analysis by using financial ratios are for the period of five years have been for the study. It is found that there are positive relations between share returns and company’s dividends and earnings. Author also said that dividend news does not signaling the long term future company performance. The study also revealed that those companies who cut the dividends and reported lower earnings; they can achieve largest excess return over next five years. Financial used for assessing company performance revealed the same pattern. In short, the author said that most of the future long term share performance was attributable to the earnings rather than to the dividend news.

- **John Goddard (2006)** The purpose of this paper was **to test the validity of the smoothing and signalling hypothesis of dividend determination.** Author used VAR framework for examination of the dynamic behaviour of share prices, dividends and earnings. Causality test is used for obtaining signalling hypothesis. For study purpose, 137 UK manufacturing and service companies are observed during the period 1970-2003. Author observed a strong relationship between prices, dividends, and earnings. Author also observed a little bit diversity in the casual relationship between prices, dividends and earnings. Causality test is used for obtaining signalling hypothesis. For study purpose, 137 UK manufacturing and service companies are observed during the period 1970-2003. Author observed a strong relationship between prices, dividends, and earnings. Author also observed a little bit diversity in the casual relationship between prices, dividends and earnings.
Mohammed Amidu (2006)\textsuperscript{17} this paper studied the determinants of dividend pay-out ratios. For analysis purpose, firms listed on Ghana stock Exchange have been taken for six years period. Ordinary Least square model is used to estimate the regression equation. Author used institutional holding as a proxy for agency cost. Growth in sales and market to book value were also used as proxies for investment opportunities. Study observed positive relationship between dividend pay-out ratios and profitability, cash flow and tax and negative association between dividend pay-out and risk institutional holding, growth and market to book value. Study also showed that profitability, cash flow, sales growth and market to book value are significant variables.

Raj Chetty and Emmanuel Seez (2004)\textsuperscript{18} in their study *Do Dividend Payments Respond to Taxes? Preliminary Evidence from the 2003 Dividend Tax Cut*, made an attempt to examine the effect of taxes on dividend payment by US corporations. The study made use of the secondary data published by Centre for Research in Security Price. The data spanned for a period of 25 years from 1980 – 2004 (first quarter). The study concluded that (i) there was a sharp and widespread surge in dividend distribution due to tax cut (ii) the proportion of public firms paying dividends increased sharply (iii), nearly 150 firms had initiated tax payments after the tax cut (iv) many firms which were already paying dividend raised their regular dividends, payments significantly and (v) the special dividends paid also increased.

LVLN Sharma and Kokhee Kuin (2004)\textsuperscript{19} in their study "Corporate Dividend Behaviour in Emerging Markets: A Study of Malaysian Corporate Sector", analysed the trade and service companies in Kualalampur, Malaysia from 1998 to 2001. The results were found to be consistent with Linter’s model and they advanced evidences that stable dividend policies were preferred by the Malaysian Corporate Sector. The empirical results showed that the main determinants of current dividends were the lagged dividends and the current earnings. It also identified that stable rather than erratic dividend policies were preferred by the Malaysian Corporate Sector.
Pandey (2003) in his study “Corporate dividend policy and behaviour: The Malaysian Evidence”, showed that pay–out ratios vary across industries and time. The results also revealed that the dividend behaviour of the listed Malaysian companies was sensitive to the change in earnings. Further, using Lintner’s framework and panel regression methodology, the study found evidence of less stable dividend policies being pursued by the Malaysian companies. The results of the two – way fixed effects model revealed strong individual firm and time effects.

La Porta (2000) in his article “Agency Problems and Dividend Policies around the World”, viewed that dividend payout are an outcome of the legal shareholder protection. Firms in civil-law countries pay lower dividends than in common law countries. Under effective legal system, ministry shareholders use their legal power to force firm’s dividends.

Dempsey, et al. (1993) in their study “Dividend Policies in Practice; Is there an Industry Effect?” examined the industry effect for two economic periods from 1974 to 1980 and from 1981 to 1987. The results suggested that industry affiliation was found to possess a significant explanatory power.

Benjamin Christoper (1992) in his dissertation “A Study of Earning in Indian Industries” examined the earnings behaviour for a period of 15 years from 1976 to 1990. A total of 97 companies from mine industries were chosen for the study. The financial data of the companies were taken from the official stock exchange directory published by the Bombay Stock Exchange. His findings suggested that the level of earnings differed and there existed no uniformity in the variables that influenced the dividend decisions. The earnings distribution pattern was also not uniform.

Jean Crockett and Irwin Friend (1988) undertake a study entitled “Dividend Policy in Perspective: Can Theory Explain Behaviour”. to examine the contribution of recent research to the explanation of a variety of behavioural findings with particular attention to tax clientele effects, cross-section studies dependent on capital asset pricing model assumptions and dividend signalling models. Three reasons for after tax dividend preference have been advanced to rationalize much of the
evidence on investor and management behaviour. These are dividend signalling risk aversion on the part of investors in firms that are capital constrained and the transactions cost/liquidity risk associated with systematic liquidation of stock. Individually each of these reasons appeared inadequate to offset the heavy tax cost of dividends but the case may become somewhat more convincing when all the three are combined.

- **Jhonson (1985)** made a study on “Dividend and Share Value”. The results indicated that dividend policy affected stock prices and that dividend consistency was of utmost importance. It further indicated that policy makers showed a close attention to the continuity and consistency of dividends to get the confidence of shareholders.

- **Robert Litzenberger and Krishna Ramaswamy (1982)** undertake a study entitled “The Effects of Dividends on Common Stock Prices: Tax Effects or Information Effects”. They presented an empirical evidence which showed a positive and non-linear relationship between common stock returns and expected dividend yield. They concluded that whether the effect of dividend yields on common stock returns can be attributed to taxes or is due to some omitted variables remains an open question. Further, they concluded that significant yield effects cannot be pinned to the information content in the prior knowledge that the firm will declare a dividend of unknown magnitude.

- **Eugence F. Fama (1974)** conducted a study entitled “The Empirical Relationship between Dividends and Investment Decision of Firms”. Using annual financial statement information on 900 major industrial firms for the period 1946 to 1968, he found that in a perfect capital market, period by period investment decisions by a firm were separable from its dividend decisions as showed by Modigliani and Miller. Further whatever imperfections were present in the capital market were not sufficient to cause his data to reject the hypothesis that there was a complete degree of independence between the dividend and investment decisions of firms. There was also no evidence of systematic
relationships between parameter estimates of dividend and investment models or any relationship between the residuals of these models.

- **Higgins (1972)** in his study entitled “The Corporate Dividends Savings Decisions”, found that consistent with the residual payout policy; dividends vary positively with earnings and negatively with the investments. His study, reports United State’s cross section tests for eight industries for the period 1961, 1963 and 1965. He observed that inter – temporal difference in corporate dividends could be attributed largely to differences in profitability and investment needs.

- **Friend and Pukett (1964)** conducted a study entitled “Dividend and Stock Prices”. They a made statistical analysis with five industry samples viz chemicals, electronics, electric utilities, foods and steel from 1956 and 1958. The analysis suggested that there was little basis for the customary view that in the stock market, generally except for unusual growth stocks, a dollar of dividends has several times the impact on price of a stock than a dollar of retained earnings. There was some indication that in non – growth industries as a whole, a somewhat higher investor valuation may be placed on dividends than on retained earnings with the range of payout experienced but that the opposite may be true in growth industries.

- **Miller, M. H. and Modigliani, F. (1961)**, “Dividend policy, growth, and the valuation of shares”, Journal of Business, Vol. 34. In this paper attempt that in 1961, two noble laureates, Merton Miller and Franco Modigliani (M&M) showed that under certain simplifying assumptions, a firms’ dividend policy does not affect its value. The basic premise of their argument is that firm value is determined by choosing optimal Investments. The net payout is the difference between earnings and investments, and simply a residual. Because the net payout comprises dividends and share repurchases, a firm can adjust its dividends to any level with an offsetting change in share outstanding. From the perspective of investors, dividends policy is irrelevant, because any desired stream of payments can be replicated by appropriate purchases and sales of
equity. Thus, investors will not pay a premium for any particular dividend policy.

M&M concluded that given firms optimal investment policy, the firm’s choice of dividend policy has no impact on shareholders wealth. In other words, all dividend policies are equivalent. The most important insight of Miller and Modigliani’s analysis is that it identifies the situations in which dividend policy can affect the firm value. It could matter, not because dividends are “safer” than capital gains, as was traditionally argued, but because one of the assumptions underlying the result is violated.

The propositions rest on the following four assumptions:

1) Information is costless and available to everyone equally.

2) No distorting taxes exist

3) Flotation and transportation costs are non-existent

4) Non contracting or agency cost exists

➢ P. Sargent Florence (1959)\textsuperscript{31} in his study, “Size of the Company and Other Factors in Dividend Policy” compared the policy of allocation of profits to dividends of the different companies for the period of 1948 to 1951, and noted the effect of size and industry class on dividend. The larger the company, the lower the rate of dividend was found to be compared with rate of equity profits on assets and the more the rate of dividend on nominal capital was stabilized. The companies usually followed stable dividend policy even when, a) New issues were being floated on the market and dividends might well have been put up. b) Bonus shares were granted. c) Equity profits varied greatly.

➢ The Gordon model (1959)\textsuperscript{32} stock valuation model states the fair value of a stock should equal to the stock-dividend per share and the difference between the discount rate and the long-term dividend growth rate. The model assumes that the firm’s dividend will grow at a constant rate and that the discount rate stays the same for ever. The theory suggests if there will be an increase in
dividend rate there will be simultaneously an increase in stock value of the firm.

- **Linter (1956)**\(^{33}\) **Findings**, Linter (1956) following his ground breaking field survey of the determinants of dividend policy among companies in the United States, successfully modelled and empirically verified a number of features of dividend policy. The following is a synopsis of Linter’s findings on the construction of Corporate Dividend Policy in the US:
  
  - Firms used their existing dividend rate as a benchmark when deciding to change dividends.
  - Dividends are cautiously and partially adjusted upward at a fraction of current earnings growth.
  - Where it was feasible managers felt obligated to distribute a portion of substantial increases in earnings to shareholders as dividends and vice versa.
  - Managers were careful to ensure that the company is able to sustain dividend increases as they tried to avoid the punitive actions of shareholders for substantial dividend cuts.
  - Major changes in earnings that were out of tandem with existing dividend rates were the foremost influence of a company’s dividend decisions. Companies therefore maintain a target dividend payout ratio, utilizing an adjustment factor to gradually attain and sustain the target.

### 4.3.2 EMPIRICAL STUDIES CONDUCTED IN INDIA:

- **Prof. Ranpreet Kaur (2014)**\(^{34}\) Investigated the concept and scope of dividend policy and to study the irrelevance theory (Modigliani-Miller Model) dividend theory and to know the relationship between dividend policy approach and share prices (companies listed in CNX Dividend opportunities Index was chosen as population universe) and for sample 5% companies listed in index was considered. Analysis has been made by using secondary data and simple random sampling is used during period 2013-2014. The study found that there is neither positive nor negative relationship between the market price of shares
and dividend payout. Author said that due to other factors share-prices are affected. It can be concluded that irrelevance theory shows true picture in current scenario in comparison to relevance theory in short time period.

- **Dr. T. Sobha Rani (2013)**\(^{35}\) the purpose of this research paper was to evaluate the *profitability and its growth rate in selected pharmaceuticals companies in India*. Secondary data used for study purpose during the period 2002-2011. For an analysis purpose annual compound rate, Profit before interest and tax, profit after tax, earnings per share, dividend per share variables were used. The study found that the profitability of pharmaceutical companies are affected by determinants of dividend and it also revealed that annual compound growth rates of dividends determination give the profitability and growth rate. Author also suggested that decisions regarding companies’ performance depend not only on highest dividend per share but more on broad decision, dividend payout ratio and several other factors.

- **Gayathridevi & Mallikarjunappa (2012)**\(^{36}\) the aim of this paper was to analyse the *trends and determinants of dividend decisions*. For survey purpose NSC listed 114 Indian Textiles companies have been taken during the period 1989-2009. The simple Regression model was used to evaluate the study. Study revealed that most of the dividends paying companies are profit making companies. The study also showed that absolute value of dividends and dividend paid-up capital shows the significant and positive relationship between dividend policy and lagged earnings belonging to common shareholders, profit after tax, earnings belonging to shareholders cash flows, size, cash dividends and lagged dividends. It also showed that current Ratio and capital structure have insignificant influence on dividend policy.

- **N. R. Parasuraman (2012)**\(^{37}\) the aim of this research paper was to study the effectiveness of Linters’ model for dividend payout. Analysis made on BSE Sensex firms during the period 2002-2011. For study purpose Linter model and another three basic models were used. Multiple regression were used to test the variables namely, cash earnings, basic earnings, lagged dividends and capital expenditure. By using Linter model as a base, it is found that the payout decision of SENSEX firms depends on the factors like earnings, cash
Chapter - 4 Research Methodology

earnings, lagged dividends and capital expenditure. It can also be found that Linter Model holds good to a large extended in case of SENSEX firms. In short the study support prevalence and relevance of Linter model of dividend policy. This simply suggested that managers can’t ignore the variables like earnings capacity and lagged dividends while designing dividend policy.

- **Pasricha D. A. (2011)*** the objective of this study was **to test the applicability of dividend models in Indian context with special reference to engineering Industry.** Regression model was used to test the study. It is found that the Linter model provided a good fit and other four models developed by Dobrovolsky, Brittain do not offer appropriate explanation of dividend behaviour in majority companies.

- **R. Sucharitha (2010)** in her study entitled “Dividend and Dividend Policy: An Empirical Study in India Pharmaceutical Industry” states that a sound financial performance in a pharmaceutical company can be determined by the measure of its dividend payout features. This again refers to two basic objectives of a firm i.e., maximizing the wealth of the firm’s owners and providing sufficient funds to finance its growth. Therefore, it could be concluded that ultimate dividend policy of any company depends on numerous factors.

- **Amitabh Gupta (2010)** Re-examined the various factors **that influenced the dividend decision of firms.** The study has been conducted on BSE listed Indian companies for the period 2001-2007. Depending on the literature review author has found fifteen variables for framing dividend policy. Author used factor analysis for extracting prominent factors from various variables. And then multiple regression analysis has been conducted. The result of the factor analysis showed that leverage, liquidity, ownership structure and growth are major factors. The study revealed that after applying regression leverage and liquidity are the major determinants of dividend policy for Indian companies. The study also found that non-financial factors such as foreign collaborators’ shareholding, attitude and behaviour of management, company policy etc. may also influence the dividend decision of firm.
Packkirisamy (2010)\textsuperscript{41} the object of this paper was to evaluate the link between corporate leverage and the dividend policy of firms across industries in India in respect of size of corporate firms. Survey has been conducted from 73 different companies of different industries namely cement, chemical and fertilizers, IT, oil and Gas, Pharmaceutical, Shipping and Textiles, Which was listed on NSC in India during the period 1996-2007. Multiple Regression technique (OLS Method) is used for survey purpose. The study revealed that dividend pay-out of small size, large size and overall corporate firms across industries in India is dependent on the level of debt in Capital Structure.

K.P. Kaushik (2009)\textsuperscript{42} in his study entitled “Empirical Validity of Dividend Policy Models in the Indian Context”, focused on a sample of 96 trading and service companies listed on the Kuala Lumpur Stock Exchange for the period of three years (1998-2001). The results were consistent with Lintner’s model and they had evidenced that stable rather than erratic dividend policies were preferred by the Malaysian corporate sector. The determinants of current dividends were the lagged dividends and the current earnings, the evidences similar to those in developed capital markets.

Devaki, S. (2009)\textsuperscript{43} in her study entitled “Dividend Policy of Indian Corporate Hotels: An Analysis of Trends and Determinants” has analysed different parameters through which corporate hotels distributed dividend, the effect of ownership pattern on dividend policy and impact of capital structure changes or shareholder’s returns. For analysing the impact of capital structure changes, full adjustment model, partial adjustment model, earnings trend model, wand model and the model developed by Jitendra Mahakud had been used. It was established that, institutional shareholding had a major influence of the determination in dividend payout policy of the corporate hotels in India.

Parua A. A. (2009)\textsuperscript{44} the main aim of this study was to find out the trends in dividend payment and determinants of dividend decision. 607 listed Indian companies have been considered for the study purpose during the period from 1993-94 to 2004-05. The study found that while setting dividend policy current-profit, past-profit and expected future profit have play significant
positive role and cash position and cash flow has significant negative relationship with only dividend rate. Whereas interest expenses, capital expenditure, tax ratio and share price behaviours were not related to matter of dividend payment. The author also said that for any managers stability of dividends is the primary concern.

- **Pani (2008)** the object of this paper was to analyse the possible links between dividend policy and stock-price behaviour in Indian corporate sector. For study purpose 500 listed companies on BSC had been taken during the period 1996-2006. The survey made on six different industries namely electricity, food and beverage, mining, Non-metallic, Textile and service-sector. Fixed effect model had been used for study purpose. The variables like size and long term debt-equity ratio has been taken for analysing the relationship between dividend retention ratio and stock-price behaviour of the firm by using panel data approach. The study result based on fixed effect model. The result of this model indicated that there is possible links between dividend policy and stock price behaviour. The author said that in some industries it shows the possibility of “clientele effect.

- **Monica Singhania (2007)** published a paper on “Dividend Policy of Indian Companies”. This paper examined the dividend policy of select 590 listed Indian companies over the period 1992-2004. The analysis revealed that while the percentage of companies declaring dividend declined over the years, the average dividend per share increased by nearly eight times. This implied that those companies which declared dividend increasingly paid higher dividends over the years. Average dividend payout ratio ranged between 25 per cent and 68 per cent during 1992 – 2004. However, average dividend yield showed a consistent upward trend throughout the period of study – increasing from 0.75 per cent in 1992 to 10 per cent in 2004.

- **Dr. Jasvir S. Sura (2006)** the object of this paper was to evaluate the factors influencing dividend policy decisions in banking sector. This study examined the re-applicability of Linter’s (1956) and Britain (1966) path breaking analyses of dividend policy. For, study purpose banks listed on National stock exchange have been taken. Survey has been made by using
cross sectional analysis during the period 1996-2006. The study found that commercial banks in India generally followed stable dividend policy. The study also found that lagged dividends and current earnings are major determinants of dividends. The study also supported the argument of ‘information content of dividends’ with reference to dividend proceeds. Hence, author suggested that the management of the bank can use dividend policy as signaling device.

- **Sanjeev Mittal (2006)** investigated the dividend behaviour of NSC and BSC firms. The article studied the dividend behaviour of selected firms during the period 2001-2005 and divides them into payers and non-payers groups. To know the relationship of dividend paid with investment opportunities, Growth cost of equity and ownership structure regression analysis was used. The study found that payer firms to have large size, less investment opportunities and high cost of retained earnings and the opposite in case of non-payers. Author also found that by reducing agency costs promoters can increase in dividend with increase in equity ownership.

- **Monica Singhania (2006)** published a paper on “Taxation and Corporate Payout Policy”. This study examined the dividend trend of 590 Indian Companies over the period 1992-2004 of all manufacturing, non – government, non – financial, and non – banking companies listed on BSE. Dividend payout had been chosen for the purpose of examining the impact of taxation on dividend policy. For the purpose of this study, the sample was classified on the basis of dividend history, industry and size; out of the 590 companies, 240 companies were regular payers – the companies that had paid dividend regularly without ever skipping the payments throughout the period of study.

- **Thirumalvan&Sunita (2005)** studied the impact of Share repurchases & Dividend announcements on Stock prices in the context of Indian Corporate sector during the period (2002-2004). They examined the signaling effect of Stock repurchases and Dividend announcements. The study examined abnormal returns across various repurchases level. They have taken the firms listed in the BSE Index for the purpose of 6 empirical investigations. The
study covers the impact on stock prices five days prior and after the dividend announcement. The result exhibits the upward trend of share price movement after the dividend announcement. The crucial point of their findings is that positive signaling existed only for a day after the announcements. After which the extent of positivism of shares starts declining. Their finding shows that market reaction in the Indian context to events or announcements such as share repurchases and dividends generally fluctuate around day or two. The study can be cited as important for the present study.

- **Reddy Y. Subba and Rath Subhrendu (2005)**51 “Disappearing dividends in Emerging Markets? Evidence from India”, Emerging Markets Finance and trade, Vol. 41, no. 6, Nov-Dec 2005 examined Dividend trends for large sample of stocks traded on Indian markets indicated that the percentage of companies paying dividend declined from over 57% in 1991 to 32% in 2001, and that only a few firms paid regular dividends. Dividend – paying companies were less likely to be larger and more profitable than non-paying companies, though growth opportunities do not seem to have significantly influenced the dividend policies of Indian firms. The rise of the number of firms not paying dividends is not supported by the requirements of cash for investments.

- **J.V.M. Sharma and SP Panda (2005)**52 in their article “Theories and Determinants of Dividend Behaviour”, studied the large public limited companies for the period 1969-2000. Their empirical analysis followed Linter’s model. The results showed that among the financial variables, namely profits, capital structure, sales changes and lagged dividend demonstrated significant results, whereas investment demand did not. This was because the estimates might be biased due to the presence of the lagged dependant variables as one of the explanatory variables.

- **Jitendra Mahakud (2005)**53 published a paper on “Shareholding Patterns and Dividend Policy: Evidence from Indian Corporate Sector”. This paper examined the influence of shareholding pattern on dividend pay–out out ratio of the Indian companies which belong to manufacturing industries listed in Bombay Stock Exchange (BSE) during the period 2001-04. A balanced panel
data analysis had been carried out to find out the effect of shareholding pattern on dividend policy. It found a positive association of dividend with logged dividend earning, sales and size of the company. Debt to equity ratio was found to be negatively related to dividend. Institutional shareholders had greater impact or influence on the determination of dividend payout ratio and it affected dividend policy inversely.

- **Y. Subba Reddy (2002)** conducted a study entitled “Dividend Policy of Indian Corporate Firms: An Analysis of Trends and Determinants”. He examined the dividend behavior of Indian corporate firms over the period 1990-2001 and attempted to explain the observed behavior with the help of trade-off theory and signaling hypothesis. Analysis of influence of changes in tax regime on dividend behavior showed that the trade-off or tax preference theory did not appear to hold true in the Indian context. Test of signaling hypothesis reinforced the earlier findings that dividend omissions had information content about further earnings. However, analysis of other non-extreme dividend events such as dividend reductions and non-reductions showed that current losses were an important determinant of dividend reductions for firms with established track record and that the incidence of dividend reduction was much more severe in the case of Indian firms compared to that of firms traded on the NYSE.

- **Ramcharran and Hari (2001)** conducted a study entitled “An Empirical Model of Dividend Policy in Emerging Equity Market” by taking dividend policy of 21 emerging equity markets (including India) in period of 1992-1999. The study mainly focused on the characteristics of dividend policy observed in emerging equity markets, formulation of a model for dividend policy which considers political risk and relationship between dividend policy and financial decision of firms. His macroeconomic approach using country risk data found evidence for pecking order hypothesis – lower dividends were paid when a higher growth was expected. The study also found that political risk factors had no significant impact on dividend payments effects on dividend policy decisions. In general, the same factors that were important to NASDAQ Firms were also important to New York Stock Exchange Firms.
Mohanty (1999)\textsuperscript{56} in his study “Dividend and Bonus Policies of the Indian Companies”, analysed the dividend behaviour of more than 200 companies for a period over 15 years. He found that in most of the bonus issue cases, companies had either maintained the pre bonus level or only decreased it marginally, thereby increasing the payout to shareholders. The study also found that companies that declared bonus during 1982-1991 showed higher returns to their shareholders compared to companies which did not issue bonus shares but maintained a steady dividend growth. He found evidence for a reversal in trend during 1992-96. He attributed such a reversal in trend to the changed strategy of multinational corporations (MNCs) and their reluctance to issue bonus shares.

Narasimhan and Asha (1997)\textsuperscript{57} in their study entitled “Implications of Dividend Tax on Corporate Financial Policies” discussed the impact of dividend tax on dividend policy of companies. They observed that the uniform tax rate of 10 per cent on dividend as proposed by the Union Budget 1997-98, altered the demand of investors in favour of high payout – rather than low payout – as the capital gain was taxed at 20 per cent in the said period.

Akhigbe and Madura (1996)\textsuperscript{58} in their empirical study on “Dividend Policy and Corporate Performance” measured the long term valuation effects following dividend initiations or omissions. It was found that firms initiating dividends experienced a favourable long–term share price performance; conversely, firms omitting dividends experienced an unfavourable long – term share price performance.

Agarwal and Jayaram (1994)\textsuperscript{59} made a study on “The Dividend Policies of All Equity Firms: A Direct Test of the Free Cash Flow Theory”. The findings were that the medium payout ratio of all – equity firms was 90 per cent higher than the levered firms. The evidence suggested that dividends and managerial ownership were substitute mechanism for reducing agency costs in all equity firms.

Panigrahi, et al. (1991)\textsuperscript{60} conducted a study entitled “Management of Internal Finance in the Corporate Sector”. They used RBI data on large
Indian companies for the period 1973 – 74 to 1985 – 86 and found dividend as a prime and active decision while retention of earnings is a residual one. They noted the significant impact of net income, corporate tax, liquidity requirements, growth rate of sales, capital structure and need of replacement of fixed assets on retention. Their overall conclusion was that large Indian Companies had adopted a prudent financial policy because average retentions were more than 50 per cent of net income.

- **R.N. Aggarwal (1990)**\(^6\) conducted a study entitled “An Analysis of Investment BehaviourIn Indian Automobile Manufacturing Industry” in the period of 1966 – 67 to 1986 – 87. The results explained dividends mainly by net profits and past dividend behaviour. Dividends and share prices were found closely related with each other but the causation was seen one that is past dividends were found to explain the current share prices and not vice versa.

- **T.V.S Ram Mohan Rao and Rita Sharma (1984)**\(^6\) carried out a study entitled “Primacy of Corporate Dividend Decision.” They found an overwhelming support to the notion of primacy of corporate dividend decisions. Further, it was argued that nexus of choices of the shareholders and the management explained the primacy of dividend decisions.

- **Anil Rai (1981)**\(^6\) conducted a study entitled “Investment Behaviour in the Indian Jute Textiles Industry. A Micro Econometric Study”. He analysed dividend as a part of multiple equation structural model for analysing private investment behaviour in the Indian Jute Textile industry over the period 1950 to 1975. The dividend equation revealed the importance of current profits and lagged dividends in dividend decision. Further, the result suggested that dividend decisions were largely autonomous of investment policies.

- **V. Sharan (1980)**\(^6\) in his study entitled “Retained Earnings as a Source of Business Finance in India”, observed that retained earnings had worked as an important source of company finance in India. However, on making a probe into the factors influencing the retention of earnings in
the private corporate sector, he found that the corporate managers accorded priority to the policy of a stable dividend payment. The retained earnings were only the residual element of the corporate identity.

- **Kumar and Khurana (1979)** undertakes a study entitled “Determinants of Dividend Policy in Indian Chemical Industry: A Survey”, for analysing dividend policy in Indian Chemical industry by conducting a survey. Results indicated that both dividends and retained earnings decision variables were of equal importance in the financial management and neither was the by-product of other decision. Increase in profits, better cash flow position and better reserves were the significant factors resulting in increase in dividends whereas decline in profits and poor cash flow position had accounted for reduction or skipping over of dividends in most of the companies. Expansion requirement was also an important factor affecting dividend decision. Other factors that influenced decision-making were lagged profits, investment intentions and lagged dividends. Share prices, amount and cost of external funds, contingent liabilities, investor’s expectations, and nature of shareholding had very little influence on dividend decision making.

- **N.L. Dhameja (1978)** made an attempt under the title “Dividend Investment and Financial Behavior of Firms”. Using a complete system approach for analysing Dunlop India Tyres and Ceat Tyres of India for the period 1960 to 1972, he showed the significance of co-efficient of adjustment as derived from Lintner’s dividend model. Investment, current profits and lagged dividends were found to be significant. However, increase in sales, change in working capital and external finance did not produce conclusive results.

- **N.L. Dhameja (1976)** in his study “Corporate Dividend Practices and Policies” analysed the dividend policies and practices based on data for 158 listed non-government public limited manufacturing companies for the period 1961 to 1972. The dividend practices were found to be varying from company to company. The companies have not followed dividend yield or dividend payout ratio as a dividend policy. However, the firms were found to follow non-decreasing dividend policy as 88 per cent of
the firms followed a policy to cut dividend for a maximum period of two consecutive years. The regression analysis results indicated that last year’s dividend rate was used as a benchmark for the determination of current year’s dividend and current year’s profits were used to adjust with conservatism for change in the rate of dividend.

- **Kumar and Man Mohan (1975)**\(^{68}\) in their study entitled “Determinants of Dividend Payout” measure the relative importance of the two major hypotheses i.e. earnings approach and the cash flow approach along with the influence of lagged dividends and interest payments in the payment of dividend. The regression analysis showed a strange result that in most cases neither cash flow nor earnings were a significant determining factor. Lagged dividend, on the other hand, was found to be an important explanatory variable. It was statistically significant in almost all cases but specially highly significant in those cases where neither earnings nor cash flow was significant. Thus, the main consideration appeared to be to maintain a certain level of dividend so that equity holders who expect a regular dividend were not disappointed.

- **Purnanandan and Hanumantha Rao (1966)**\(^ {69}\) in their study “Corporate Savings in India in Textile Industry” presented the estimates of the short run managerial propensity to save and long run desired saving ratios of the 50 public limited companies in the Indian Cotton textile industry for the period 1946 to 1963 using the estimated equation derived from the Lintner dividend model. It was concluded that investment requirements as such could not have played any dominant role in determining the long run desired dividend rate.

- **K.S. Hanumanta Rao and J. Purnanandan (1965)**\(^ {70}\) made a study entitled “Corporatedividend Target Payment Ratio in India” They attempted to study the dividend behaviour of large companies in India during the post war period using Lintner’s dividend equation. The sample covered 25 large public limited companies taken from the list of public limited companies with a paid up capital of Rs.50 Lakhs and above , during 1959 to 1960 as published and privately circulated by the Company Law
Department. Intercept term was found to be statistically significant in 10 out of the 25 cases studied. The target payout ratio was generally high compared to American companies target payout ratio and 14 companies out of 23 had almost reached their target payouts.

- Balyan this paper attempted to know the relationship between earnings and dividends particularly for top five selected companies from steel sector in India for finding out the difference practices. For analysis purpose variables like earnings per share, dividend per share, dividend payout ratio and dividend yield has been taken. For study purpose one-way ANOVA and an independent sample t-test has been used. The study found that companies belonging to steel industry who have declared dividend do not follow a similar pattern while declaring dividends to shareholders in relation to earnings.

4.4 STATEMENT OF PROBLEM

In the present era trend of Indian Economy has gone down. Contribution of Indian IT Sector in India is very valuable. So that to attract investors it is necessary to perform well by Indian IT Units. Through various earning model as well as dividend distribution model like MM approach, Gordon Model, Lintner Model, Walter Model etc. it can be ascertained that the impact of the various dividend models on the shareholder’s money and wealth of the company. So that in the present study researcher has been attempt to discover the impact of various dividend models on the share price by using Walter and Gordon dividend model. So that to protect Shareholder’s Money and Investor Money researcher has chosen this topic.

4.5 TITLE OF THE STUDY

The title of the study is

“A STUDY ON CORPORATE DIVIDEND POLICY OF SELECTED UNITS OF IT INDUSTRY OF INDIA”

4.6 OBJECTIVES OF THE STUDY

The objective is to find out whether past dividends and earnings explain dividend payments in India’s selected ten IT companies with reference to dividend discount
Chapter - 4 Research Methodology

models such as Walter and Gordon Model.

- To define ‘dividend policy’ and understand some institutional features of dividend and dividend discount models.

- To explain why dividend policy is relevant to shareholders’ wealth in the market.

- To outline the theoretical share price as per Walter and Gordon Model and their returns to investors.

- To identify the factors that may cause dividend policy to be important.

- To outline the main factors that influence companies’ dividend policies.

- To know why dividend payments generally reflect the business risk of the company.

- To check the impact on the book value per share with the help of Walter and Gordon Model of selected IT units of India.

- To test hypothesis.

- To give suggestion to sample companies for better performance.

4.7 PERIOD OF THE STUDY

Present study includes performance evaluation based on share price of selected ten IT companies of India for five years. The period of the study has been commencing from 2010-11 to 2014-15.

4.8 HYPOTHESIS OF THE STUDY

The present study the researcher will be formulated two Hypotheses i.e. Null Hypothesis and Alternative Hypothesis. Both Hypotheses are tested with the help of two way ANOVA and Correlation. The statements of Hypothesis are as under:
Null Hypothesis:

i) \( H_0: \) There is no significance difference between the share Price as per Walter Model and share price as per Book Value of selected 10 IT Companies during the study period.

ii) \( H_0: \) There is no significance difference between the share Price as per Gordon Model and share price as per Book Value of selected 10 IT Companies during the study period.

iii) \( H_0: \) There is no significance difference between the share Price as per Walter Model and share price as per Gordon Model of selected 10 IT Companies during the study period.

Alternative Hypothesis:

i) \( H_1: \) There is significance difference between the share Price as per Walter Model and share price as per Book Value of selected 10 IT Companies during the study period.

ii) \( H_1: \) There is significance difference between the share Price as per Gordon Model and share price as per Book Value of selected 10 IT Companies during the study period.

iii) \( H_1: \) There is significance difference between the share Price as per Walter Model and share price as per Gordon Model of selected 10 IT Companies during the study period.

4.9 DATA COLLECTION

This study will be based on secondary data. The data has been collected from published annual report of selected companies. Other information related to selected companies has been collected from official website and net sources, books, journals and newspaper etc.

4.10 SAMPLE DESIGN

The total of corporate dividend policy is the universe of the study. At this stage researcher has decided to take sample selected ten Information Technology companies
in India for the study. Here researcher takes the selected ten IT companies of India as given below:

Table No 12
As Per Latest Survey Based on Profit Selected 10 IT Companies of India

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of the Company</th>
<th>Industry</th>
<th>Scrip No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tata Consultancy Services Ltd.</td>
<td>Computer - Software</td>
<td>532540</td>
</tr>
<tr>
<td>2</td>
<td>Infosys Ltd.</td>
<td>Computer – Software</td>
<td>500209</td>
</tr>
<tr>
<td>3</td>
<td>Wipro Ltd.</td>
<td>Computer – Software</td>
<td>507685</td>
</tr>
<tr>
<td>4</td>
<td>HCL Technologies Ltd.</td>
<td>Computer – Software</td>
<td>532281</td>
</tr>
<tr>
<td>5</td>
<td>Tech Mahindra Ltd.</td>
<td>Computer – Software</td>
<td>500376</td>
</tr>
<tr>
<td>6</td>
<td>Mphasis Ltd.</td>
<td>Computer – Software</td>
<td>526299</td>
</tr>
<tr>
<td>7</td>
<td>Oracle Financial Service Ltd.</td>
<td>Computer – Software</td>
<td>532466</td>
</tr>
<tr>
<td>8</td>
<td>Mindtree Ltd.</td>
<td>Computer – Software</td>
<td>532819</td>
</tr>
<tr>
<td>9</td>
<td>Polaris Tech. Ltd.</td>
<td>Computer – Software</td>
<td>532254</td>
</tr>
<tr>
<td>10</td>
<td>Hexaware Technology Ltd.</td>
<td>Computer – Software</td>
<td>532129</td>
</tr>
</tbody>
</table>

4.11 SCOPE OF THE STUDY

Scope of the study would be including mainly two types:

- **Functional Scope:**

  Functional Scope has been including Share price as per Walter and Gordon Model. For that purpose researcher have been calculate various payout ratio, Growth rate, Retention ratio and other parameters for the research work.

- **Geographical Scope:**

  Geographical Scope has been including selected 10 IT Companies of Indian Stock Market. This study has only concern with selected 10 IT Companies. Other IT listed companies does not include in geographic scope of the study. For that purpose researcher has collect data from their respective websites, annual reports and other printed media.
4.12 NATURE OF THE STUDY

This research work has been started in the form of ex-post – facto ‘study in which the researcher tried to study the existing state of affairs as well as factors affecting or causes for contradictory result. After that it is conceptual nature as it measures whether share price as per Walter Model and Gordon Model theoretical & practical has applied in the market or not. And at last this Study is largely Empirical in approach. Since the study is analytical, with certain evidences has been used through proving hypothesis. It is based on secondary data.

4.13 TOOLS AND STATISTICAL TECHNIQUES:-

- Ratio analysis
- Modigliani and Miller Model
- Gordon Model
- Walter Model
- Linter Model
- Correlation

Statistical technique:-

- **ANOVA:**

Analysis of variance (abbreviated as ANOVA) is an extremely useful technique concerning researches in the field of economics, biology, education, psychology, sociology, business/ industry and in researches of several other disciplines. When researches are conducted any field of knowledge it has a variability in the set of data. Variability exists within group and between groups. Is this variability significant, or merely by chance? The significance of the difference between the means of two samples can be judged through either Z – test or the T – test, but the difficulty arises when we happen to examine the significance of the difference amongst more than two sample means at the same time. Professor R. A. Fisher was the first man to use the term ‘variance’ and in fact, it was he who developed a very elaborate theory concerning ANOVA, explaining its usefulness in practical field.
Chapter - 4 Research Methodology

There are two types of analysis of variance.

1) One – way ANOVA.

2) Two – way ANOVA.

In One – way ANOVA, all of the variability in the data can be divided into two types: within-groups variability and between-groups variability. Within-groups variability is the degree to which the scores of subjects in the same treatment group differ from one another. Between-groups variability is the degree to which the scores of different treatment groups differ from one another.

Two-way ANOVA technique is used when the data are classified on the basis of two factors. The technique involves the following steps:

1) Calculate total source of variance.

2) Calculate source of variance between columns.

3) Calculate source of variance within columns.

4) Calculate degree of freedom.

5) Calculate mean square.

6) Calculate F – ratio.


8) When F – calculate is lower than F – table H₀ is accepted.

- **Standard Deviation:**

  The standard deviation concept was introduced by Karl – Pearson in 1823. It is by far the most important and widely used measure of studying Dispersion. Standard Deviation is also known as root mean square deviation for the reason that it is the square root of the mean of the squared deviation from arithmetic mean. Standard deviation is denoted by small Greek letter “σ” (Read as sigma). The formula of standard deviation is as under:

  \[
  \sigma = \sqrt{\frac{\sum(x - \bar{x})^2}{n - 1}}
  \]
• Mean / Average:

The most commonly used average is the arithmetic mean, briefly referred to as the mean. The mean can be found by adding all the variables and dividing it by total number of years taken. It gives brief picture of a large group, which it represents and gives a basic of comparison with other groups. Simple mean can be found by applying following formula.

\[ \bar{X} = \frac{\sum X}{n} \]

Whereas, \( \bar{X} \) = Average of sample,
\[ \sum X = \text{summation of sampled companies} \]
\[ n = \text{number of companies} \]

• Correlation

Correlation is a statistical technique that can show whether and how strongly pairs of variables are related. Correlation, in the finance and investment industries, is a statistic that measures the degree to which two securities move in relation to each other. Correlations are used in advanced portfolio management. Correlation is computed into what is known as the correlation coefficient, which has value that must fall between -1 and 1. Although this correlation is fairly obvious your data may contain unsuspected correlations. With the help of correlation it may also suspect there are correlations, but don’t know which are the strongest. An intelligent correlation analysis can lead to a greater understanding of analytical data.

4.14 CHAPTER PLAN OF THE STUDY

Chapter – 1 Introduction of Information Technology Sector of India: -Chapter one is concerning introduction of Information Technology Sector of India. This chapter includes Concept of Information, Meaning, Definitions, History and Development of Information Technology at world level as well as at domestic, Features, Functions, Structures, Components and Types of Information Technology (Primary & Secondary).Furthermore researcher has been attempting to disclose Development phase of Information Technology in India.
Chapter - 2 Conceptual Framework of Dividend and Dividend Discount Models:
- In the second chapter of the study researcher discloses theoretical aspect of Dividend, Dividend Policy and Dividend Discount Models as well as Ratio Analysis for their Study. In this chapter researcher mention Meaning, Evolution of Dividend and dividend model their legal Provision as per Amended Companies Act, 2013. Furthermore researcher also discloses Concept, Meaning, Definition and Measurement M.M Model, Gordon Model, Walter Model, Lintner Model Meaning, Definitions, their Calculation and impact on the market as well as impact on the share price.

Chapter – 3 Sample Profile of Selected 10 IT Companies of India
Chapter three is about sample profile of selected 10 IT companies of India. In this chapter researcher has been attempting to disclose number of sampled companies in India with special reference to Bombay Stock Exchange. Researcher also discloses profile of selected 10 IT companies as per 2013 Report of revenue. i.e. TCS ,Infosys Ltd, Wipro Ltd, HCL Technologies, Mahindra Satyam, Mphasis, Oracle Financial Service, Mind Tree, Polaris Tech, Hexaware Technology.

Chapter – 4 Research Methodology
Chapter on Research Methodology indicates research plan of the researcher. This chapter shows Introduction of Research, Review of Literature through various books & thesis, various research papers regarding Dividend, Dividend Policy of the various Companies with reference to different Dividend Model and Ratio Analysis. Among them researcher tried to review foreign study as well as domestic study regarding Dividend Model and Ratio Analysis, Statement of Problem, Title of the Study, Period of the Study, Objectives of the Study, Hypothesis of the Study, Data Collection, Sampling Design, Scope of the Study, Nature of the Study, Tools and Statistical Techniques, Chapter Plan of the Study, Significance of the Study and Limitation of the Study.

Chapter – 5 Data Analysis and Interpretation
Data is the blood for the research. But after the collection of data proper tabulation, analysis, interpretation and presentation of data are needed for converting them in meaningful manner. In the chapter five data analysis and interpretation researcher has been tried to find out Dividend distribution Policies of Selected 10 IT companies by
Chapter - 4 Research Methodology

using Dividend model such as Gordon Model, Walter Model during the study period. For that purpose researcher calculate Share Price based on the various model of Dividend and their Impact on the market of Selected 10 IT companies during the study period. Furthermore researcher also used statistical tool like two ways ANOVA, and Correlation during the study period.

Chapter – 6 Summaries, Findings and Suggestions
This chapter includes summary of each chapter and findings of the study, and last but not the least suggestions for increase performance of selected IT companies.

4.15 SIGNIFICANCE OF THE STUDY

The significance of the study will be as follows.

1) The analysis will be done on various parameters of dividend policy within IT sector in India. The parameters like analysis based on various dividend models can be reviewed.

2) The research gives the suggestion to corporate units for implication of dividend policy. And research will be helpful for management to take a decision regarding better dividend policy.

3) The society plays a vital role in corporate sector. He invests into corporate sector like information technology sector for gaining over market with reference to dividend per share income; the research would be also used for the shareholder to knowing the dividend per share.

4) Through the research work improve the analytical power of the researcher and knowledge regarding various tools and techniques.

4.16 LIMITATIONS OF THE STUDY

The research work is having certain limitations which are as follows:

i) The sample of the study is only limited with the selected Information Technology Companies in India. So, that the result may not show the best performance of overall applicability and their Implication.
ii) Analytical tools which are used in the study, if there are any related limitation; they automatically applied to the study.

iii) The study will base on secondary data taken from published annual report and websites.

iv) This study mainly on public sector, so data depend on policy of government.

v) Different experts have got different views on evaluating attitude and general practices of the company. Hence the view used in the study for the present purpose cannot be treated as an absolute and perfect.

vi) Researcher being outside external analyst obviously has no access to the internal information. Therefore it is hard to characterize inside view of the organization in the study.

vii) The individual effort will be limited so it also limitation of the study.
REFERENCES

❖ Books and Research Paper


6. **Hoje Jo, Carrie Pan**, (2009) "Why are firms with entrenched managers more likely to pay dividends?", Review of Accounting and Finance, V


32. The Gordon model (1959) stock valuation model states the fair value of a stock should equal to the stock-dividend per share and the difference between the discount rate and the long-term dividend growth rate.

33. Linter (1956) Findings, Linter (1956) following his ground breaking field survey of the determinants of dividend policy among companies in the United States, successfully modelled and empirically verified a number of features of dividend policy.


45. **Pani, Upananda (2008),** Dividend Policy and Stock Price Behaviour in Indian Corporate Sector: A Panel Data Approach SSRN.


50. **Thirumalvan & Sunita (2005)** studied the impact of Share repurchases & Dividend announcements on Stock prices in the context of Indian Corporate sector during the period (2002-2004).


54. Y. Subba Reddy (2002) conducted a study entitled “Dividend Policy of Indian Corporate Firms: An Analysis of Trends and Determinants”.


Website

- www.sodhgangainflibnet.in
- www.saurashtrauniversity.edu.in
- www.moneycontrol.com
- www.capitalline.com