<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Research Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1.</td>
<td>INTRODUCTION</td>
</tr>
<tr>
<td>3.2.</td>
<td>REVIEW OF THE LITERATURE</td>
</tr>
<tr>
<td>3.3.</td>
<td>IDENTIFICATION THE RESEARCH PROBLEM</td>
</tr>
<tr>
<td>3.4.</td>
<td>OBJECTIVES OF THE STUDY</td>
</tr>
<tr>
<td>3.5.</td>
<td>SELECTION OF THE SAMPLING DESIGN</td>
</tr>
<tr>
<td>3.6.</td>
<td>SCOPE OF THE STUDY</td>
</tr>
<tr>
<td>3.7.</td>
<td>PERIOD OF THE STUDY</td>
</tr>
<tr>
<td>3.8.</td>
<td>SOURCES OF THE DATA</td>
</tr>
<tr>
<td>3.9.</td>
<td>HYPOTHESIS OF THE STUDY</td>
</tr>
<tr>
<td>3.10.</td>
<td>STATISTICAL TOOLS &amp; TECHNIQUES OF ANALYSIS</td>
</tr>
<tr>
<td>3.11.</td>
<td>SIGNIFICANCE OF THE STUDY</td>
</tr>
<tr>
<td>3.12.</td>
<td>OUTLINE OF CHAPTER</td>
</tr>
<tr>
<td>3.13.</td>
<td>LIMITATIONS OF THE STUDY</td>
</tr>
<tr>
<td></td>
<td>REFERENCES</td>
</tr>
</tbody>
</table>
3.1 Introduction

Research is composed of two words ‘RE’ & ‘SEARCH’ which means to search again or to scroll for new fact or to modify older once in any brand of knowledge.

“A careful critical inquiry or examination in seeking facts or principles diligent investigation in order to uncertain something.”

- The Wooster’s International Dictionary

"Research is a more systematic activity directed towards an organized body of knowledge."

- John Best

“Research is a careful inquiry or examination in seeking facts or principles a delight investigation to ascertain something.”

- Clifford Woody

“A careful investigation or inquiry specially through search for new facts in any branch of knowledge.”

- The Advanced Loaner’s Dictionary

⇒ Research Methodology is the root of any research process steps as follows:

1) Formatting the research problem.
2) Extensive literature survey.
3) Developing the Hypothesis.
4) Preparing the research design.
5) Determining samples design.
6) Collecting the Data.
7) Executive of the project.
8) Analysis of Data.
9) Hypothesis testing.
10) Generalizations and interpretation.
11) Preparation of the report or Presentation of the results.
3.2 REVIEW OF THE LITERATURE:

Value Added Reporting is developing concept that why some studies conducted in context with the performance through value added reporting to the corporate sector. The researcher has studied those works which are as follows:

- The study made by Dr. MohanaRao who published a book in “Value Added Reporting - in Theory, Practice and Research”. He has studied concept of value added, value added-computation formula. Value added ratios analysis and value added reporting has been examined in the United States in forms of its relevance to capital market. He studied analysis of value added statement of SAIL (Steel Authority of India Ltd.) part of creation of value added and disposal of value added. He made several suggestions. For the strengthening the financial soundness.

- Kaushal A. Bhatt has done his M.Phil under guidance on Dr. Prof. S. J. Parmar, Saurashtra Uni. Thesis on “Value Added As A Performance Measurement Tool. (A combative study of GSFC & GNFC) for the period from 2001-02 to 2005-06. He had made an attempt to analysis of value added statement of GSFC & GNFC. He had studied distributed to net value added towards Employees, Government, Capital Providers and Owner (Retained in Business). He had also analyzed value added ratios between comparatively studies on GSFC & GNFC. He also suggested to GNFC better performance compare to GNFC through analyzed value added ratios.


- Dr. Sanjay J. Bhayani has written a book “Practical Financial Statement Analysis” published by Raj book Enterprise the study covered 18 cement
companies for the period from 1990-91 to 1996-97. He studied analysis of activity, analysis of financial structure and value added analysis. He made several suggestions for the strengthening the financial soundness.

Dr. Pradeep Singh, has written an article in “The Management Accountant, August, 2008.” On the value added reporting with the title “Social Performance Through Value Added Reporting”-- An Empirical study of Lupin Lab. Ltd. In this article, he has analyzed to explain performance volution by Lupin Ltd. By the value added reporting from 1995-96 to 2004-05. He has suggested to analysis and interpretation of Value Added Statement and Value Added Ratios could be concluded that the management of Lupin Lab. Ltd. Has served to the society vary well as total value added has been distributed among the employees, government, financial Institutions, banker & shareholders, on the other hand it also contributed of value added forwards the growth and development of the company retained in the business.

The study made by Dr. N. P. Agrawal who published a book “Analysis and Interpretation of Value Added Statement.” He has studied methods of calculating value added forms of value added statement & various types of value added ratios and covered more than 7 various types of statically tools used through net value added & gross value added towards, stakeholder, owner (retained), government, employees. He made several suggestions for the strengthening performance through value added reporting.

P. Mohana Rao has written a book “Corporate social Accountings & reporting” published by Deep & Deep publication New Delhi. He has covered three types of social responsibility, concept of social responsibility. Social responsibility toward different groups like shareholder, employees, consumer, community, investors, suppliers, competitors, and government.

Anthony T. Barbera has written an article “Performance Results in Value Added Reporting” Mid-Atlantic Journal of Business, State University of New
York, College at Old Westbury, (March 1, 1997). He has been a tremendous exchange of business and management ideas and techniques amongst companies in different countries. Perhaps one of the most publicized examples of this exchange of ideas is the growing adoption by U.S. businesses of the Japanese concept of Just-in-Time inventory. Worldwide accounting and financial reporting has not been immune to this exchange of influences. An idea which is growing in use by foreign multinational firms is that of value added reporting.

- Pong, Chris; Mitchell, Falconer has published article as on title “Accounting for a disappearance: a contribution to the history of the value added statement in the UK.”-Accounting Historians Journal (December 1, 2005). They have been an empirical study of the information in the VASs of UK companies shows that they were unlikely to give support to the economic interests of the employee user group who had been promoted as an important beneficiary of the VAS. The study demonstrates that the social and economic nature of accounting means that change analyses which take account of both aspects of the discipline’s character are likely to be more convincing than those which focus solely on one or the other.

- L.J. Stainbank has written article title as on “The value added statement: -- does it add any value?”(School of Accounting, University of KwaZulu-Natal) research studied on “The value added statement has been voluntarily reported by South African companies for many years despite reservations about its usefulness. This article examines current literature on value added statements in two areas: the usefulness of the value added statement in South Africa and the relevance of social accounting theories in explaining its continued disclosure in South African listed companies’ annual reports. It also reports the results of a questionnaire survey addressed to preparers of value added statements. The research studies examined in the literature review indicate that legitimacy theory is more likely to provide an explanation for the disclosure of value added statements in annual reports in South Africa. The results of the empirical survey indicate that the majority of the respondents are of the opinion that it is desirable.
Research Methodology

Chapter 3

153

to prepare a value added statement, but that it is not used in the majority of companies. Furthermore, the reasons advanced by the preparers for the desirability of the value added statement provide some evidence that legitimacy theory may be behind the propensity of companies to publish a value added statement. The article recommends that the preparation of the value added statement should be standardized. However, the disclosure of an independently prepared value added report may be more useful to all users.

- **Arumugam Subramanian** has written research paper on titled “Value Added Reporting: A Case Study Of Abans Listed Manufacturing Company Limited in Sri Lanka” published by University Of Jaffna, Jaffna, Thriunelvely, Jaffna, Sri Lanka. He has studied a business enterprise specifically a company is a conscious, deliberate and purposeful creation for satisfying the domain of aspiration of the society at large. It is an independent and a separate legal entity. The survival stability and growth of such entity within society largely depend on the wealth created by it through the collective efforts of all the stakeholders-shareholders, providers of loan capital, employees and the government. All these stakeholders are the parties to whom the result of operations of business is communicated. He has attempted to show how and to what extent the Value Added Statement (VAS) can supplement additional financial information to satisfy all the stakeholders of the enterprise. Further, in order to meet the objectives of the study, data were collected from secondary sources mainly from financial report of the selected company (i.e., ABANS Listed Manufacturing Company) which was published by Colombo Stock Exchange (CSE) in Sri Lanka. Hence, it is clear that ratios using Value Added (VA) indicate that the company little bit efficient in terms of utilization of materials.

- **Andrew C. Worthington & Tracey West** has written articles “Value-Added Reporting: A Review of the Theoretical and Empirical Literature” They have been a renewed emphasis on devising measures of corporate financial performance and incentive compensation plans that encourage managers to increase shareholder wealth. One professedly recent innovation in the field of
internal and external performance measurement is a trade-marked variant of residual income known value-added reporting. This paper attempts to provide a synoptic survey of VAR’s conceptual underpinnings and the comparatively few empirical analyses.


South Africa was experiencing the highest incidence of publication of the value added statement reported anywhere in the world to date. In addition research investigating the predictive ability of value added information has been conducted in the USA since 1990, even though the value added statement has not been published there. The research reported in this paper sets out to establish whether the value added statement is a disclosure worth considering by companies around the world, by investigating the South African experience with the value added statement. The social accounting theories of organizational legitimacy and political costs were found to be best suited to explain why the value added statement is published. Surveys among the companies publishing the value added statement indicated that management had the employees in mind when they published this information. However, a survey among users has indicated that very little use has been made of the value added statement. The main reason for this seems to be that the unregulated nature of the value added statement allows for inconsistencies in disclosures, which eventually caused users to suspect bias in the reports. The USA evidence that the information has additional predictive power is not confirmed by a South African study, and is complicated by the limited additional information contained in the value added statement. The South African experience with the value added statement does.

Suvarun Goswami, (The university of burdwad) has written research articles on title as “Value added Statement (VAS) – a critical study” (A case study of Bharat Heavy Electronics Limited) Vol.2 no.2
This paper he has tried to show how and what to extent, the VAS can supplement addition financial information to satisfy all stakeholders of enterprise.

Ahmed Riahi- Belkaoui has published book title on “Value added reporting” (lessons for the United States) - Greenwood Publishing Group, 1992 - Business &Economics. A new form of accounting statement--the value added statement--is gaining popularity in the corporate annual reports of the largest companies in the United Kingdom. This new statement can be viewed as a modified version of the income statement. Like the income statement, the value added statement reports the operating performance of a company at a given point in time, using both accrual and matching procedures. Unlike the income statement, however, it is interpreted not as a return to shareholders but as a return to the larger group of capital and labor providers. Riahi-Belkaoui shows that the value added statement can be easily derived from the income statement and is therefore easily adaptable to the needs of U.S. companies. To illustrate the usefulness of the value added statement, He devotes Chapter 1 a thorough discussion of its many benefits. He then analyzes the usefulness of the value added concept in understanding the characteristics of corporate takeovers in the United States, and in Chapter 2 he discusses the relationship between the value added concept and the systematic risk of U.S. companies, concluding in Chapter 3 with a discussion of value added statements in financial analysis

Ahmed Riahi- Belkaoui written book on “Value added reporting and research” (state of the art) Greenwood Publishing Group, 1999 - Business & Economics - 185 pages. It is clear that value added methods provide relevant, useful information for financial analysis, market valuation, and financial decision making in corporate settings. Value added methods can be used in ratio analysis, in the determination of earnings as management tools, and can be substituted for earnings in equity valuation. When included in a wealth measurement it can vastly improve the quality of decision making. Riahi-Belkaoui covers these topics and more. His book is essential examination of what the latest value added methods are and what they can do, not only for accounting professionals but for
academics and top corporate management as well. Value added reporting is popular in most European countries and in New Zealand, South Africa, and Australia. Most emerging countries are using it too, or considering it. Riahi-Belkaoui explicates latest developments in value-added practice and research, first covering the meaning of the concept, the history behind value added's development and its implied advantages and disadvantages. He then covers the derivation of a value added report, using a fictional case and the resulting data, before moving to an overview of the empirical literature most concerned with value added in the United States. Documenting the overall behavior of the net value added earnings policy model, he lays the foundation for more contextually specific approaches and investigates the usefulness of the substitution of net-value added in equity valuation. The book concludes with an examination of whether accounting knowledge is associated with a decision maker's tendency to ignore value added in wealth measurement in favor of the profit concept. He draws heavily on his own important writings, to further illustrate and explain the methods and benefits of value added approaches in accounting and other forms of financial decision making.

- **Ahmed Riahi-Belkaoui** has written book on “Performance results in value added reporting”, Greenwood Publishing Group, 1996 - Business & Economics - 175 pages. Value added reporting provides a better measure of the wealth produced by a firm than other methods, says Riahi-Belkaoui in this research-based analysis. It is more useful generally to investors and other users of accounting information, and to policy makers throughout the financial services and related industries. Empirical studies of its uses in Europe support the author's contention and provide a compelling argument for its use in the United States. An important book for professionals and academics alike.
3.3 IDENTIFICATION OF RESEARCH PROBLEM:

Problem identification too broadly defined cannot be addressed adequately in single study. Formulation of problem is often more essential than its solution because when the problem is formulated, an appropriate technique can be applied to generate alternative solution. In essence, a proper formulation of the research problem starting with objective would enable a researcher to go ahead in the proper direction. Finally, it may be noted that problem formulation would have focus on what sort of decision issue are tackled.

India is growing fast country, value added reporting is recently developing concept in India. Value added concept is comparatively new but is gaining considerable importance those days, particularly for taxation and managerial performance purposes. A growing number of companies in India have started including a value added statement (VAS) on the lines of the companies in western countries, as a part of their published annual reports and accounts. The concept of value added or wealth creation is a performance measure and it reports the wealth generated by a business undertaking over a period of time. In now days, not only financial information including in annual report but also includes social information in annual report. Social measurement tools as belows.

1. Value Added Reporting
2. Market Value Added
3. Economic Value Added

There are three important measurement tools include in annual report that give us social performance describe towards shareholders, government, lenders, and employee.

After reviewing many research study and articles researcher comes to know what the important role play social measurement tools in India and also seen that which factors influence to measure social performance between private sector corporate units and public sector corporate units in India.

Most of the research study shows that an empirical study and a comparative two countries’ company to measure social performance and in recent years, there has been a tremendous exchange of business and management ideas and techniques amongst companies in different countries. Listed companies in U.K., U.S.A., Japan, South Africa, and other foreign countries use value added reporting in annual reporting.
This empirical research study narrates the vital role of social performance through value added reporting in India. Research defines various existing literatures related with the study and problems of the title, various objective frames by the researcher, which leads to research phenomena. There were used many literature of review for this research study and formulated appropriate methodology for accomplish objectives of the study. By referring the different past research studies, researcher selected this topic for the purpose of the study the relationship between sale turnover to gross value added and net value added. A comparative study between public sector corporate units and private sector corporate units in India. However most of the prior researcher studies have been based on empirical and they have covered different time duration and methodologies.

Consequently, researcher recognition of variables, statistical tools and techniques for the suitable findings. Researcher has framed for the purpose of the study entitled “Social Performance through Value Added Reporting – The Empirical Study of Selected Corporate Units”.

3.4 OBJECTIVES OF THE STUDY:

The mandatory objective of the study is to measure the social performance of the selected corporate concept. This research is based on the following objectives:

1. To understand the concept is the value added reporting.

2. To evaluate Social Performance of the selected corporate units with value added accounting and value added ratios then analyze how value added reporting is better way rather than traditional method of reporting.

3. Other objectives of the study are mentioned below:

   A. To process the Gross Value Added (GVA) of the selected corporate units.

   B. To study the Net Value Added (NVA) of the selected corporate units.

   C. To evaluate the generation of value added.

   D. To analyze the application of value added reporting through performance and social responsibility towards Employee, Government provides of capital and shareholders (Owners).

   E. To compare the value added ratios of selected corporate units in between Public Sectors and Private Sectors.
F. To identify the responsible factor affecting the generation of wealth of selected corporate units.

4. To study comparison of last 5 years social performance between selected 6 private sector units and 4 public sector units in India

5. To after some suggestion for the implementation of value added in between Public Sectors and Private Sectors.

### 3.5 SELECTION OF THE SAMPLING DESIGN

The study has used non-probability sampling techquenics. A non-probability sampling method assists to selection for the study and its give facility for proper selection to all of the population to be selected. Researcher has developed sampling design by following elements for reliable and appropriate sampling.

**Universe and Population**

This present study the universe has finite base on National Stock Exchange and Bombay Stock Exchange listed companies in India for the present study.

Population has finite NSE and BSE listed companies amongst selected top 75 companies in private sector corporate units of India for the present study. (Figure shows Table-3.1). NSE and BSE listed companies amongst selected top 50 companies in public sector corporate units of India for the present study. (Figure shows Table-3.2)

**Sampling Units**

This present study researcher has selected sample using non-probability sampling techquenics like as convenience random sampling method. The must be adequate in the term of area, size, production and services. The researcher has selected **6 companies in Private sector and 4 companies in Public sector** from various groups of companies of India out of population (Show below Chart-3.1)
### Table-3.1

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Name of Company</th>
<th>Sr. No.</th>
<th>Name of Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reliance Industries Limited</td>
<td>49</td>
<td>Indian Petrochemicals Corp.Ltd.</td>
</tr>
<tr>
<td>2</td>
<td>Tata Consultancy Services (TCS)</td>
<td>50</td>
<td>Biocon India Limited</td>
</tr>
<tr>
<td>3</td>
<td>Infosys Technologies Ltd</td>
<td>51</td>
<td>Essar Oil Limited.</td>
</tr>
<tr>
<td>4</td>
<td>Wipro Limited</td>
<td>52</td>
<td>Asian Paints Ltd.</td>
</tr>
<tr>
<td>5</td>
<td>Bharti Tele-Ventures Limited</td>
<td>53</td>
<td>Dabur India Limited</td>
</tr>
<tr>
<td>6</td>
<td>ITC Limited</td>
<td>54</td>
<td>Jaiprakash Associates Limited</td>
</tr>
<tr>
<td>7</td>
<td>Hindustan Lever Limited</td>
<td>55</td>
<td>JSW Steel Limited</td>
</tr>
<tr>
<td>8</td>
<td>ICICI Bank Limited</td>
<td>56</td>
<td>Tata Chemicals Limited</td>
</tr>
<tr>
<td>9</td>
<td>Housing Development Finance Corp. Ltd.</td>
<td>57</td>
<td>Tata Tea Limited</td>
</tr>
<tr>
<td>10</td>
<td>TATA Steel Limited</td>
<td>58</td>
<td>Tata Teleservices (Maharashtra) Ltd.</td>
</tr>
<tr>
<td>11</td>
<td>Ranbaxy Laboratories Limited</td>
<td>59</td>
<td>The Indian Hotels Co. Ltd.</td>
</tr>
<tr>
<td>12</td>
<td>HDFC Bank Ltd</td>
<td>60</td>
<td>Glenmark Pharmaceuticals Limited</td>
</tr>
<tr>
<td>13</td>
<td>Tata Motors Limited</td>
<td>61</td>
<td>Nirma Limited</td>
</tr>
<tr>
<td>14</td>
<td>Larsen &amp; Toubro Limited (L&amp;T)</td>
<td>62</td>
<td>Jindal Steel &amp; Power Ltd</td>
</tr>
<tr>
<td>15</td>
<td>Satyam Computer Services Ltd.</td>
<td>63</td>
<td>HCL Infosystems Ltd.</td>
</tr>
<tr>
<td>16</td>
<td>MarutiUdyog Limited</td>
<td>64</td>
<td>Cadila Healthcare Limited</td>
</tr>
<tr>
<td>17</td>
<td>Bajaj Auto Ltd.</td>
<td>65</td>
<td>Colgate-Palmolive (India) Limited</td>
</tr>
<tr>
<td>18</td>
<td>HCL Technologies Ltd.</td>
<td>66</td>
<td>The Great Eastern Shipping Co. Ltd.</td>
</tr>
<tr>
<td>19</td>
<td>Hero Honda Motors Limited</td>
<td>67</td>
<td>Aventis Pharma India Ltd</td>
</tr>
<tr>
<td>20</td>
<td>Hindalco Industries Ltd</td>
<td>68</td>
<td>Ashok Leyland Limited</td>
</tr>
<tr>
<td>21</td>
<td>Reliance Energy Limited</td>
<td>69</td>
<td>Pantaloons Retail (India) Limited</td>
</tr>
<tr>
<td>22</td>
<td>Grasim Industries Limited</td>
<td>70</td>
<td>Indian Rayon And Industries Limited</td>
</tr>
<tr>
<td>23</td>
<td>Jet Airways (India) Ltd.</td>
<td>71</td>
<td>Financial Technologies (India) Ltd</td>
</tr>
<tr>
<td>24</td>
<td>Sun Pharmaceuticals Industries Ltd.</td>
<td>72</td>
<td>United Phosphorus Limited</td>
</tr>
<tr>
<td>25</td>
<td>Cipla Ltd.</td>
<td>73</td>
<td>Matrix Laboratories Limited</td>
</tr>
<tr>
<td>26</td>
<td>Gujarat Ambuja Cements Ltd.</td>
<td>74</td>
<td>Sesa Goa Limited</td>
</tr>
<tr>
<td>27</td>
<td>Videsh Sanchar Nigam Limited</td>
<td>75</td>
<td>Lupin Ltd</td>
</tr>
<tr>
<td>28</td>
<td>The Tata Power Company Limited</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>Sterlite Industries (India) Ltd.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Associated Cement Companies Ltd.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Nestle India Ltd.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>Hindustan Zinc Limited</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>GlaxoSmithKline Pharmaceuticals Limited</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Siemens India Ltd.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>Motor Industries Company Limited</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>Mahindra &amp; Mahindra Limited</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>UTI Bank Ltd.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>Zee Telefilms Limited</td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>Bharat Forge Limited</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>ABB Limited</td>
<td></td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>i-Flex Solutions Ltd.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>Dr. Reddy’s Laboratories Ltd.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>Nicholas Piramal India Limited</td>
<td></td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>Kotak Mahindra Bank Limited</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>Reliance Capital Ltd.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>Ultra Tech Cement Ltd.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>47</td>
<td>Patni Computer Systems Ltd.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>Wockhardt Limited</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Sources: www.Business Maps of India.com)
### Table-3.2

**Top 50 Public Sector Companies in India (Govt. under taken)**

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Name of Company</th>
<th>Sr. No.</th>
<th>Name of Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Airports Authority of India (AAI)</td>
<td>46</td>
<td>National Small Industries Corporation Limited</td>
</tr>
<tr>
<td>2</td>
<td>BalmerLawrie and Company Limited</td>
<td>47</td>
<td>Steel Authority of India Limited (SAIL)</td>
</tr>
<tr>
<td>3</td>
<td>Bharat Coking Coal Limited (BCCL)</td>
<td>48</td>
<td>National Scheduled Castes Finance and Development Corporation (NSFDC)</td>
</tr>
<tr>
<td>4</td>
<td>Bharat Earth Movers Limited (BEML)</td>
<td>49</td>
<td>National Minorities Development and Finance Corporation (NMDFC)</td>
</tr>
<tr>
<td>5</td>
<td>Bharat Heavy Electricals Limited (BHEL)</td>
<td>50</td>
<td>Oil and Natural Gas Corporation Limited</td>
</tr>
<tr>
<td>6</td>
<td>Bharat Refractories Limited (BRL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Bharatiya Nabhikiya Vidyut Nigam Limited (BHAVINI)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Bird Group of Companies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Broadcasting Engineering Corporation of India Limited (BECIL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Central Coalfields Limited (CCL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Central Mine Planning and Design Institute Limited (CMPDI)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Coal India Limited (CIL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Cotton Corporation of India Limited (CCI)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Educational Consultants India Limited (EDCIL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Engineers India Limited (EIL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Export Credit Guarantee Corporation of India Limited (ECGC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Ferro Scrap Nigam Limited (FSNL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Fertilizer Corporation of India Limited (FCIL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>GAIL (India) Limited</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Goa Shipyard Limited</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Heavy Engineering Corporation Limited (HEC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Hindustan Aeronautics Limited (HAL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Hindustan Copper Limited (HCL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Hindustan Latex Limited (HLL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Hindustan Prefab Limited</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>HMT Limited</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Hospital Services Consultancy Corporation (I) Limited (HSCC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>India Trade Promotion Organization (ITPO)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td><strong>Indian Oil Corporation Limited (IOCL)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Indian Railway Finance Corporation Limited (IRFC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Indian Renewable Energy Development Agency Limited (IREDA)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>Indian Oil Technologies Limited</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>IRCON International Limited</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Konkan Railway</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>Lubrizol India Limited (LIL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>Mahanagar Telephone Nigam Limited (MTNL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>Mazagon Dock Limited</td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>Metro Railway, Kolkata</td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>Minerals and Metals Trading Corporation Limited (MMTC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>MSTC Limited</td>
<td></td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>National Aluminum Company Limited (NALCO)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>National Fertilizers Limited (NFL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>National Handloom Development Corporation Limited (NHDC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>National Informatics Center Services Incorporated (NICSI)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>National Internet exchange of India (NIXI)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Sources: www.Business Maps of India.com)
3.6 SCOPE OF THE STUDY:

The scope of the study is very wide. All units registered under the companies Act-1956 can be census for the study. However, the researcher has selected 10(Ten) corporate units. It may serve as a guidance of social performance & financial analysis in other
units of the industry. It may be useful for further higher studies and to promote research in area of finance and accounting.

3.7 PERIOD OF THE STUDY:

- The present study was made for a period of the five accounting year Starting from 2005-06 to 2009-10.
- Researcher has selected the base year 2005-06.
- This year is normal for the purpose of analysis and evaluation.

3.8 SOURCES OF THE DATA:

Collection of Data is the blood vein for any type of research the kind of data collected and the method used to collect the data is a very important aspect of research.

- There are two basic means of data collection:
  - Primary Data.
  - Secondary Data.

The researcher has used both the methods of data collection for his convenience. But researcher gives more emphasis on secondary data because the researcher under takes. Research in value Added Reporting for which research needs all financial information includes balance sheet and profit & loss account and record from the selected company which are in nature of secondary data.

- Secondary Data

The secondary data are these which have already been collected by someone else and which have already been passed through the statistical process. The researcher would have to decide which sort of data he would be using for his study and accordingly he will have to select one or other method of data of collection. Researcher must be very careful in using secondary data. He must make a minute scrutiny because it is just possible that the secondary data may be unsuitable or may be in adequate in the contact of the problem, which the researcher wants to study.

The researcher must be using the secondary data see that they possess:

- Reliability of Data.
- Suitable of Data.
- Adequacy of Data.
3.9 HYPOTHESIS OF THE STUDY:

“A hypothesis is a special proposition on formulated to be tested in a certain given situation as a part of research which starts what the research is looking for”

Hypothesis formulated under the study are as follows:

For the present study the researcher has formulated the hypothesis via null hypothesis and alternative hypothesis were tested with the help of statistical tools. The statements of hypothesis were as under;

3.9.1 Hypothesis for Value Added Reporting Analysis

- NULL HYPOTHESIS ($H_0$)

1) There would be no significant relationship between Gross Value Added to Total Sale Turnover in Wipro tech. ltd.
2) There would be no significant relationship between Net Value Added to Total Sale Turnover in Wipro tech. ltd.
3) There would be no significant relationship between Gross Value Added to Total Sale Turnover in Cipla ltd.
4) There would be no significant relationship between Net Value Added to Total Sale Turnover in Cipla ltd.
5) There would be no significant relationship between Gross Value Added to Total Sale Turnover in Reliance Industries ltd.
6) There would be no significant relationship between Net Value Added to Total Sale Turnover in Reliance Industries ltd.
7) There would be no significant relationship between Gross Value Added to Total Sale Turnover in TCS ltd.
8) There would be no significant relationship between Net Value Added to Total Sale Turnover in TCS ltd.
9) There would be no significant relationship between Gross Value Added to Total Sale Turnover in Tata Motors ltd.
10) There would be no significant relationship between Net Value Added to Total Sale Turnover in Tata Motors ltd.
11) There would be no significant relationship between Gross Value Added to Total Sale Turnover in Bharat Heavy Electricals ltd.
12) There would be no significant relationship between Net Value Added to Total Sale Turnover in Bharat Heavy Electricals Ltd.

13) There would be no significant relationship between Gross Value Added to Total Sale Turnover in Indian Oil Corporation Ltd.

14) There would be no significant relationship between Net Value Added to Total Sale Turnover in Indian Oil Corporation Ltd.

15) There would be no significant relationship between Gross Value Added to Total Sale Turnover in Infosys Ltd.

16) There would be no significant relationship between Net Value Added to Total Sale Turnover in Infosys Ltd.

17) There would be no significant relationship between Gross Value Added to Total Sale Turnover in Steel Authority of India Ltd.

18) There would be no significant relationship between Net Value Added to Total Sale Turnover in Steel Authority of India Ltd.

19) There would be no significant relationship between Gross Value Added to Total Sale Turnover in Oil & Natural Gas Corporation Ltd.

20) There would be no significant relationship between Net Value Added to Total Sale Turnover in Oil & Natural Gas Corporation Ltd.

**ALTERNATIVE HYPOTHESIS (H₁)**

1. There would be significant relationship between Gross Value Added to Total Sale Turnover in Wipro tech. ltd.

2. There would be significant relationship between Net Value Added to Total Sale Turnover in Wipro tech. ltd.

3. There would be significant relationship between Gross Value Added to Total Sale Turnover in Cipla ltd.

4. There would be significant relationship between Net Value Added to Total Sale Turnover in Cipla ltd.

5. There would be significant relationship between Gross Value Added to Total Sale Turnover in Reliance Industries ltd.

6. There would be significant relationship between Net Value Added to Total Sale Turnover in Reliance Industries ltd.
7. There would be significant relationship between Gross Value Added to Total Sale Turnover in TCS Ltd.
8. There would be significant relationship between Net Value Added to Total Sale Turnover in TCS Ltd.
9. There would be significant relationship between Gross Value Added to Total Sale Turnover in Tata Motors Ltd.
10. There would be significant relationship between Net Value Added to Total Sale Turnover in Tata Motors Ltd.
11. There would be significant relationship between Gross Value Added to Total Sale Turnover in Bharat Heavy Electricals Ltd.
12. There would be significant relationship between Net Value Added to Total Sale Turnover in Bharat Heavy Electricals Ltd.
13. There would be significant relationship between Gross Value Added to Total Sale Turnover in Indian Oil Corporation Ltd.
14. There would be significant relationship between Net Value Added to Total Sale Turnover in Indian Oil Corporation Ltd.
15. There would be significant relationship between Gross Value Added to Total Sale Turnover in Infosys Ltd.
16. There would be significant relationship between Net Value Added to Total Sale Turnover in Infosys Ltd.
17. There would be significant relationship between Gross Value Added to Total Sale Turnover in Steel Authority of India Ltd.
18. There would be significant relationship between Net Value Added to Total Sale Turnover in Steel Authority of India Ltd.
19. There would be significant relationship between Gross Value Added to Total Sale Turnover in Oil & Natural Gas Corporation Ltd.
20. There would be significant relationship between Net Value Added to Total Sale Turnover in Oil & Natural Gas Corporation Ltd.

3.9.2 Hypothesis for Analysis of Value Added Ratios

NULL HYPOTHESIS ($H_0$)

1. There would be no significant difference in Gross Margin Ratio between selected private sectors and public sectors corporate units.
2. There would be no significant difference in Fixed Assets Turnover Ratio between selected private sectors and public sectors corporate units.

3. There would be no significant difference in Capital Productivity Ratio between selected private sectors and public sectors corporate units.

4. There would be no significant difference in Gross Value Added to Total Revenue Ratio between selected private sectors and public sectors corporate units.

5. There would be no significant difference in Net Value Added to Total Revenue Ratio between selected private sectors and public sectors corporate units.

6. There would be no significant difference in Employee’s Benefit to Net Value Added Ratio between selected private sectors and public sectors corporate units.

7. There would be no significant difference in Government Share to Net Value Added Ratio between selected private sectors and public sectors corporate units.

8. There would be no significant difference in Payment to Shareholders to Net Value Added Ratio between selected private sectors and public sectors corporate units.

9. There would be no significant difference in Payment to Lenders to Net Value Added Ratio between selected private sectors and public sectors corporate units.

10. There would be no significant difference in Retained Earning to Net Value Added Ratio between selected private sectors and public sectors corporate units.

11. There would be no significant difference in Depreciation to Total Revenue Ratio between selected private sectors and public sectors corporate units.

**ALTERNATIVE HYPOTHESIS (H₁)**

1. There would be significant difference in Gross Margin Ratio between selected private sectors and public sectors corporate units.

2. There would be significant difference in Fixed Assets Turnover Ratio between selected private sectors and public sectors corporate units.

3. There would be significant difference in Capital Productivity Ratio between selected private sectors and public sectors corporate units.

4. There would be significant difference in Gross Value Added to Total Revenue Ratio between selected private sectors and public sectors corporate units.

5. There would be significant difference in Net Value Added to Total Revenue Ratio between selected private sectors and public sectors corporate units.
6. There would be significant difference in Employee’s Benefit to Net Value Added Ratio between selected private sectors and public sectors corporate units.

7. There would be significant difference in Government Share to Net Value Added Ratio between selected private sectors and public sectors corporate units.

8. There would be significant difference in Payment to Shareholders to Net Value Ratio between selected private sectors and public sectors corporate units.

9. There would be significant difference in Payment to Lenders to Net Value Ratio between selected private sectors and public sectors corporate units.

10. There would be significant difference in Retained Earning to Net Value Added Ratio between selected private sectors and public sectors corporate units.

11. There would be no significant difference in Depreciation to Total Revenue Ratio between selected private sectors and public sectors corporate units.

3.10 STATISTICAL TOOLS & TECHNIQUES OF ANALYSIS:

It divided in two major parts are used its following:

❖ PART-A

ACCOUNTING TECHNIQUES OF ANALYSIS:

I. Value Added Statement:

Value added is a basic and important to judge the performance of the enterprise. The Value added Statement is prepared into two stages:

1) Generation (Creation) of Value Added.

2) Application (Deposal) of Value Added.

II. Value Added Ratio:

There are many the well-known ratios and most widely used tools for measuring performance. Ratios can be defined as,

“Ratio are simply a means of highlight in arithmetical terms the relationship between figures drawn from financial statements.”

Following Ratios are used in this study:


2. Fixed Assets Turnover Ratio.


4. Gross Value Added to Total Revenue Ratio.

5. Net Value Added to Total Revenue Ratio.
6. Employee’s benefit to Net Value Added Ratio.
8. Payment to Shareholders to Net Value Added Ratio.
9. Payment to Lenders to Net Value Added Ratio.
10. Retained Earnings to Net Value Added Ratio.
11. Depreciation to Total Revenue Ratio.

PART B

STATISTICAL TOOLS OF ANALYSIS

1) Mean:

Measures of central tendency or Statistical average tool us the point about which items have a tendency to cluster. Such a measure is considered or the most representative figure for the entire mass of data. Measure of central tendency is also known as statistical average. Mean, Median and Mode are the most popular average. Mean, also known as arithmetic average, is the most common measure of central tendency and may be define as the value which researcher get by dividing the total of the values of various given item in a series the total number of items

$$\bar{x} = \frac{\sum x_i}{n} = \frac{x_1 + x_2 + \ldots + x_n}{n}$$

Where

- $\bar{x}$ = The symbol for MEAN.
- $\sum$ = Symbol for summation.
- $x_i$ = value of $i^{th}$ term.
- $i = 1, 2, 3, \ldots, n$
- $n$ = Total number of items.

2. INDEX

“An Index number is a numerical expression showing relative percentage changes in the value of a variable from one period to another”.

“A series of index number is a series which reflects in its trend and fluctuations the movement of some quantity to which it is related.”

3. Coefficient of Correlation:-
“Karl Pearson’s coefficient of correlation is most widely used method of measuring the degree of relationship between two variables. This coefficient assumes the following.

- That there is linear relationship between the two variables.
- That the two variables are casually related which means that one of the variables is independent and the one is dependent
- A large number of independent causes are operating in both variables so as to produce a normal distribution.”

\[
\text{Karl Pearson’s coefficient of correlation}(r) = \frac{\sum (X-\bar{X})(Y-\bar{Y})}{\sqrt{\sum (X-\bar{X})^2 \sum (Y-\bar{Y})^2}}
\]

4 Student’s t Test (‘t’ Test):

The t-statistic was introduced in 1908 by William Sealy Gosset, a chemist working for the Guinness brewery in Dublin, Ireland, ("Student" was his pen name). Gosset had been hired due to Claude Guinness’s policy of recruiting the best graduates from Oxford and Cambridge to apply biochemistry and statistics to Guinness’s industrial processes. Gosset devised the t-test as a cheap way to monitor the quality of stout. He published the test in Biometrika in 1908, but was forced to use a pen name by his employer, who regarded the fact that they were using statistics as a trade secret. In fact, Gosset’s identity was known to fellow statisticians.

In case of simple correlation coefficient: Researcher use t-test and calculate the test statistic as under.

\[
t = r \sqrt{\frac{n-2}{1-r^2}}
\]

5. Analysis of Variance (ANOVA) (F-test).

Professor R.A. Fisher was 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. Later on Professor Snedecor and many others contributed to the development of this technique. ANOVA is essentially a procedure for testing the different graphs of data for homogeneity.

“The essence of ANOVA is that the total amount of variation in a set of data is broken attributed to specified causes.”\(^9\)
❖ **Analysis of variance Table for one-way ANOVA (F-test)**

Under the one-way ANOVA, only one factor is considered and then observes that the reason for said factor to be important is that several possible can occur within that factor.

➢ **Analysis of Variance Table for Two – Way ANOVA (F-test)**

For two-way classification the data are classified according to two different factors – between the years and companies classification the analysis of variance table.

3.11 **SIGNIFICANCE OF THE STUDY:**

Value Added Reporting is new concept and method in Indian corporate environment to evaluate the performance of corporate sector. Its significance not only for external purpose it is equally important for internal purpose also. Significance of value added reporting is explained with following views:

1) **Comparison of Performance:**

Value Added is an alternative performance measure to profit. Value Added is superior performance measure because it bounces attention on inputs controllable by the management changes in material prices are usually not controllable by the management and Value added by doubting material costs allows attention to be directed at more comparable items.

2) **Productivity Measurement:**

For the measurement of productivity value added provides better information e.g. Value Added per rupees of performance of capital employed, Value Added for rupees of employee: etc. to measure various type of ratio analysis denote productivity measurement.

3) **Resources Allocation:**

Recourses allocation decisions are normally based on the concept of maximum appropriate criterion because it incorporates the rewards to the employees as well as to providers of capital fund. For profit maximization ranking insure the allocation are based in contribution per units of the limiting factors and for value added maximization ranking would be a value added per units limiting factors.
4) Incentive schemes for the employee:

The value added reporting is found useful by many companies for explaining related corporate units results to employees the value added concept of profit is often an motivating and employees may well find the concept of creating wealth or adding value more acceptable one of the significant uses of the value concept is its incorporates in companies incentives schemes or bonus schemes. The schemes work by establishing a have ratio of value added to the pay roll and thereby creating a base index of favorable in later period a bonus is payable to share members.

3.12 OUTLINE OF CHAPTER:

[Chapter - 1]

Conceptual Framework of Corporate Social Responsibility & Value Added Reporting.

This chapter divided into two parts it as follows:

❖ **Part – A**

Conceptual Framework of Corporate Social Responsibility

Part-A includes following points:

Introduction, concept of social responsibility, meaning of social responsibility, need of social responsibility factors of social responsibility, social orientations of business, social responsibility of corporate sector towards different group responsibility, towards shareholders ,responsibility towards employees, responsibility, towards investors, responsibility towards lenders responsibility towards government and uses of social responsibility in India.

❖ **Part – B**

Conceptual Framework of Value Added Reporting.

This chapter includes following points:

Introduction, the concept of Value Added, Meaning & Definitions of Value Added reporting.

⇒ Generation of Value Added

⇒ Application of Value Added

Methods of calculating value added, Meaning of value added statement, Assumption of the preparation of VAS, Factors of value added statement, Uses of
value added statements, Methods preparing value added statements, Objectives of value added statements.

Format of Value Added Statement:
- General form.
- Account form.
- Report form.

Advantages of value added statement, Disadvantages of value added statement, Difficulties in preparation value added statements, Meaning & Definitions of value added ratio, Objectives of ratio analysis, Limitations of value added ratio, Ratio based on value added.

[CHAPTER - 2]
ABOUT INDUSTRY

This chapter, researcher randomly selected ten corporate units in India it as following:

1) Wipro Technologies Ltd.
2) CIPLA Ltd.
3) Tata Consultancy Services Ltd.
4) Reliance Industries Ltd.
5) TATA Motors Ltd.
6) Bharat Heavy Electrical Ltd.
7) Oil and Natural Gas Corporation Limited (ONGC)
8) Indian Oil Corporation
9) Infosys Ltd.
10) Steel Authority of India Limited (SAIL)

[CHAPTER - 3]
RESEARCH METHODOLOGY

This chapter includes following points:

Introduction, Review of the literature, Identification of the research problem, Objectives of the study, Scope of the study, Period of the study, Sources of the data, Significance of the study, Selection of Sampling Design, Hypothesis of the study, Statistical tools & Techniques of analysis, Outline of study, Further scope for the study, references:
[CHAPTER - 4]

Data Analysis-I

ANALYSIS & INTERPRETATION OF VALUE ADDED REPORTING

This chapter denote as following:

Analysis & Interpretation of Value Added Reporting.

This chapter includes following:

The researcher tried to analyze the value added statement of the selected corporate units and interpret them in the desired manner. For their purpose the table of generation of value added and application of value added has been prepared.

This chapter correlation between Sale and Gross Value Added, secondly Sale and Net Value Added classification through “t” test has been calculated to test the hypothesis.

[CHAPTER - 5]

Data Analysis-II

ANALYSIS OF VALUE ADDED RATIOS.

This chapter includes following points:

Meaning of value added ratio, its concept objectives of value added ratio.

This chapter the attempt has been made to discuss and analyze value added ratios like:

1) Gross Margin Ratio.
2) Fixed Assets Turnover Ratio.
3) Capital Productivity Ratio.
4) Gross Value Added to Total Revenue Ratio.
5) Net Value Added to Total Revenue Ratio.
6) Employees Benefit to Net Value Added Ratio.
7) Government Share to Net Value Added Ratio.
8) Payment to Shareholders to Net Value Added Ratio.
9) Payment to Lenders to Net Value Added Ratio.
10) Retained Earnings to Net Value Added Ratio.
11) Depreciation to Total Revenue Ratio.

For above various ratios, the researcher has used one – way and two – way F- test analysis.

[CHAPTER - 6]
FINDINGS, CONCLUSION AND SUGGESTIONS.

This chapter deals with the findings and conclusions based on the analysis of value added statement and the analysis of value added ratio carried out and point out the variations if any from the literature. Besides, it also gives concrete suggestions for enhancing social performance towards difference groups like shareholders, employees, lenders and government and inter - farm comparison for cost of bought in material & services reduction and control each selected corporate sectors.

3.13. LIMITATIONS OF THE STUDY:

Every living and non living thing has its own limitation which restricts the usability of that thing. The same rule applies to this research work. The main limitation of the study is as under:

1) This research work is a micro nature research based in the samples selected ten corporate units.
2) This study is based on secondary data derived from published annual reports of the selected units. The reliability and finding are contingent. Upon the data published in annual report.
3) This research work is based on the 5 years financial performance of the sample selected corporate units from 2005-06 to 2009-10.
4) The present study is based on value added statement and value added has its own limitation which also applied to this study.
5) The ratio analysis has its own limitation. The same also applies to the present study.
References

1) Research Methodology & Statistical Techniques. Pg. 2-7
3) C.R. Kothari. by “Research Methodology (Methods & Techniques)”
   P.p.59
4) Michel V.P, “Research Methodology”.
6) C.R. Kothari. by “Research Methodology (Methods & Techniques)”
   P.p138-40
8) Donald L. Harnett and James L. Murphy, by “Introductory statistical analysis”
   p. 376