Chapter – 3 Research Methodology

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Chapter -3 Research Methodology

3.1 Introduction:
An identified research problem when solved systematically then the process is called Research Methodology. Research methods mean the tools and techniques that are used to conduct the research but the process by which these tools are used effectively is called the Research Methodology. Research Methodology explains why one is using a particular method or technique and why one is not using others, so that the research results are capable of being evaluated by the researcher herself or by the others (Kothari 2008). So it is imperative that a researcher must not only know the different techniques but also know when and how to apply such techniques.

3.2 Research Design:
A research design is a blueprint for the collection, measurement, and analysis of data. It is a framework for investigating the conceived idea so as to find the answer of a research question. It gives an outline and how the investigator will proceed from writing hypotheses to the final analysis of data.

Empirical research includes direct or indirect observations or experiences. The data are collected normally so that a particular research questions can be solved. This data based research comes up with conclusions capable of being verified by statistical analysis. Review of literature leads to the development of theoretical framework which forms the basis for collecting and analyzing data. In this sense, hypotheses are developed during review of literature. A hypothesis is an expected relationship between variables based on causal relationships in the theoretical model which can be empirically tested.

Empirical research methods can be of two kinds:

1) Quantitative Research and
2) Qualitative Research

In Quantitative Research methods numerical data are collected and then analyzed the same using statistical methods.

Qualitative Research method is an array of interpretive techniques which seek to describe, decode, translate, and otherwise come to terms with the meaning, not the
frequency, of certain more or less naturally occurring phenomena in the social world (Maanen, 1979). The research starts with an understanding of researcher’s problem followed by gathering of data through interviews, focus group, case studies. In this thesis, action research has been used as the research idea in practice is evaluated using statistical tests.

Descriptive research was selected to be the research method of the present study. The purpose of this type of research method is to answer the questions who, what, where, when and why. The description is used for frequencies, averages and other statistical calculations. It deals with everything that can be counted and studied. It is used to obtain information concerning the current status of the phenomena to describe "what exists" with respect to variables or conditions in a situation.

Steps in Research Process: (Frame work for the research)

1. Formulating the Research Problem
2. Extensive Literature Review
3. Developing the objectives
4. Preparing the Research Design including Sample Design
5. Collecting the Data
6. Analysis of Data
7. Generalization and Interpretation
8. Preparation of the Report or Presentation of Results-Formal write ups of conclusions reached.

3.3 Title of the Research Study:

The present research was studied under the title:

“A STUDY OF ECONOMIC VALUE ADDED BASED PERFORMANCE MEASUREMENT OF SELECTED AUTOMOBILE COMPANIES IN INDIA”
3.4 Objectives of the Study:

The present study has the following objectives:

1. To examine whether Indian Automobile Industry has been able to generate value for its shareholders.

2. To compute the performance of the company by applying traditional performance indicator like ROI and new corporate performance measure EVA.

3. To study overall performance of Indian Automobile Industry.

4. To make suggestions for improving EVA.

5. To make suggestion for improving financial performance on basis of analysis through EVA.

3.5 Hypothesis:

Following hypothesis was framed by the researcher.

Ho: There is no significant generation of value for the share holders.

H1: There is a significant generation of value for the share holders.

Ho: There is no significant difference between EVA of the selected players.

H1: There is a significant difference between EVA of the selected players.

Ho: There is no significant difference between EVA and ROI.

H1: There is a significant difference between EVA and ROI.

3.6 Variables of the Study:

The details of variables in this study are as follows:

- Return on Investment (Net Worth)
- Return on Capital Employed
- Weighted Average Cost of Capital
- Economic Value Added
- Cost of Debt & Cost of Equity
3.7 **Collection of Data:**

The study is based on secondary data. The financial data of Indian Automobile Industry has been collected from published annual reports of the selected companies for the period of eight years, i.e. from 2003-04 to 2010-11. For the purpose, Capitaline-2000 database, other websites like,

- [www.bseindia.com](http://www.bseindia.com)
- [www.moneycontrol.com](http://www.moneycontrol.com)
- Different companies website has been used.

3.8 **Sample Size, Duration of the Study:**

Following players of the Indian Automobile Industry have been selected on the basis of their performance, capital and turnover representing various segments of the industry.

1. Maruti Suzuki India Limited
2. Tata Motors Limited
3. Mahindra & Mahindra Limited
4. Hero Honda Motors Limited (Now, Hero MotoCorp Limited)
5. Kinetic Motor Company Limited
6. TVS Motors Company Limited.

**Duration of the Study:**

The duration of this study is Eight years. (From 2003-2004 to 2011-2012)
3.9 Economic Value Added:

Economic Value Added is a tool widely used as a corporate performance measurement in the current scenario and there has been a paradigm shift in setting corporate objectives and performance measurement. This shift happened with the changes in corporate mindset and the advent of professional management. It is now well-recognized fact that the aim of every business entity should be to maximize shareholders wealth and the activities of firm to achieve the objectives.

EVA is a term developed and used by a US based consulting firm named Stern Stewart & Co. This measure is its registered trademark. It has done much to popularize and implement this measure of residual income. But the concept of residual income has been around for some time and many companies that are not Stern-Stewart clients use this concept to measure and reward manager’s performance (Brealey and Myers 2000). Economic Value Added is a measure of economic profit. It is calculated as the difference between the Net Operating Profit after Tax and the opportunity cost of invested Capital. This opportunity cost is determined by the Weighted Average Cost of Debt and Equity Capital (WACC) and the amount of Capital employed.

3.10 Computation of EVA:

Computation of EVA involves calculation of three figures, (i) Net Operating Profit Before Interest After Tax, (ii) Capital Employed and (iii) Weighted Average Cost of Capital based on CAPM. To compute market return long run averaged annualized daily return has been considered. The long run period should represent all cycles and abnormalities of the capital market.
3.11 Calculation of Eva:

Net sales XXX

(-) Operating expenses XXX

Operating profit (EBIT) XXX

(-) Taxes XXX

Net Operating Profit after Tax (NOPAT) XXX

(-) Capital Charges (invested capital X cost of capital) XXX

Economic Value Added XXX

3.12 Weighted Average Cost of Capital (WACC):

The Weighted Average Cost of Capital (WACC) represents the rate a company and is expected to pay in financing its assets. The WACC calculates the company’s cost of capital by proportionately weighing the categories of capital, each of which would be in the form of debt or equity. The WACC for a company is the minimum that the company must earn on its assets to satisfy its owners and creditors.

\[ WACC = (Ke \times We) + (Kd \times Wd) \]

Where,

\[ Ke = \text{Cost of Equity} \]
\[ We = \text{Proportion of Equity} \]
\[ Kd = \text{Cost of Debt} \]
\[ Wd = \text{Proportion of Debt} \]
3.13 Cost of Capital Calculation:

Cost of equity capital is the discount rate at which present value of expected future dividends per share is equal to the net proceeds (or current market price) per share. The cost of equity capital (Ke) is calculated as follows.

$$Ke = \left(\frac{\text{Dividend}}{Po-f}\right) + g \times 100$$

Where,

- $Ke$ = Cost of equity capital
- Dividend = Expected dividend per share
- $Po$ = Price of Share
- $f$ = Flotation cost
- $g$ = Growth Rate

3.14 Limitations of the study:

1. The research was carried out in the selected units of automobile industry only. This research work does not cover all the units of the industry.

2. Only six units of the industry have been selected and hence it does not represent the picture of the entire industry.

3. The study was based on secondary data collected from various sources. Hence, the accuracy of the result is based on the accuracy of the data collected from the various secondary sources.

4. Various accounting and statistical tools and techniques which have used for analysis and interpretation of data have their own limitations and hence the interpretation was done keeping in mind these limitations.

5. Due to time and resource constraints, the study was limited to the period of 8 years.

6. Kinetic Motors Ltd. has not appropriate data available. So, it has not been evaluate properly and get the conclusion appropriate way.
3.15 Outline of Chapter Plan:

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