Health insurance is a type of insurance that pays for all or part of person’s health care bills. It can be defined as “any form of insurance whose payment is contingent on insured incurring additional expenses or losing income because of incapacity or loss of good health” (Phillip 2007). In the narrow sense, health insurance can be defined as an individual or group purchasing health care coverage in advance by paying a fee called premium. While in the broader sense, it can be defined as any arrangement that help to defer, delay, reduce or altogether avoid payment of health care incurred by an individual. It is also called disability insurance or medical expense insurance or health care insurance or sickness insurance. The credit for the origination of concept of health insurance goes to Hugh the Elder Chamberlen from the Peter Chamberlen family, who proposed it for the first time in the year 1694. In the late 19th century “Accidental Insurance” began which operated much like modern “Disability Insurance”. It was firstly offered by Franklin Health Assurance Co of US, which was founded in 1850. It provides coverage for the accident arising from rail, road and steamboat accident. (Source: http://en.wikipedia.org/wiki/Health_insurance assessed on 19th July, 2009).

As far as the status of health insurance in India is concerned, it found the new track of success and growth in the year 1999, when reforms in the insurance sector was initiated with passage of IRDA Bill in Parliament in Dec 1999. The Insurance Regulatory and Development Authority (IRDA), since its incorporation in April, 2000 has fastidiously stuck to its schedule of framing regulations and opening up of the insurance sector to private players, with the allowance of 26 percent Foreign Direct Investment (FDI) in the insurance sector. Beside this, several insurance regulations including provisions for Third Party Administrators (TPAs) was introduced to support the administration and management of health insurance product offered by insurance companies.

9.1 Need of the Study

In India, there is dire need to study the state of health insurance both in term of its performance as well as its prospects. The reason is attributable to the facts that firstly;
this is one of the recent origins in India and still it is at an embryonic stage, as the people of India are not much aware about it and very few part of the population is taking the advantages of it. Moreover, very few insurers are actively venturing in it and thereby making it difficult to construct inroads for health insurance. Secondly; this is one of the growing businesses now days as it is expected that by 2015, health insurance premium will touch Rs 35000 crores and by 2025, it will be Rs. 4,00,000 crores. Thirdly; it is the need of hour, as according to world bank report, various studies reveals that 85% of the working populations in India do not have Rs. 5,00,000 as instant cash; 14% have Rs. 5,00,000 instantly but will subsequently face a financial crunch; Only 1% can afford to spend Rs. 5,00,000 instantly and easily; and 99% of Indians will face financial crunch in case of any critical illness. Hence, the need for health insurance in India cannot be overlooked. Moreover, various studies provided that around 94 percent of the total work force is in un-organized sector and one of the major problems among them is the frequent incidence of illness and need for medical care and hospitalization. One of the solutions to this is to take health insurance, which is widely recognized mechanism to finance health care needs of an individual because he/she has to just make gradual contribution as premium and can get rid of all health worries. Keeping into mind such an important role being played by it, the present study is an effort in area of health insurance to evaluate its state in India, both in term of its performance as well as its prospects. For this purpose, on one side selection of general insurance companies providing health insurance was made, so as to come out with conclusive evidence with regard to performance of health insurance business. While on the other hand, customers were also included in the present study, because the real worth of the performance of the company can be evaluated only with the word-of-mouth of ultimate consumer. Thereby, customers’ perception with respect to health insurance was also studied, so as to get insight into their awareness, satisfaction and willingness to join and pay for it. Overall, we would be able to get conclusive evidence with regard to past and current status of public and private sector general insurance companies in relation to health insurance, as well as future of health insurance in India, both in terms of acceptance on the part of community and coverage on the part of providers.
One of the active forces, which are dominating the performance of health insurance business, is Third Party Administrators (TPAs). Basically, a TPA plays a triangular role as assigned by IRDA, of service integrator between the insurers, insured and health service provider. Keeping into mind such an important role being assigned by the IRDA, there is dire need to study the role actually played by them. Accordingly, one of the components of present study deal with TPAs, which will provide the parameters of parity and deviation between role defined by IRDA and role in practice played by TPAs.

Out of various schemes of health insurance, Community Health Insurance (CHI) is a best serve for the society, as various studies reveals that in India more than 80 percent of health care’s expenditure is borne by individuals themselves and thereby pushing them in to a vicious circle of poverty. In such a situation, Community Health Insurance (CHI) acts as ray in dark clouds to bring them out of the vicious circle of poverty. So there is also dire need to study, how they actually work and perform? Hence in the present study an effort was also made to examine the working and performance of Community Health Insurance (CHI) in India.

9.2 Objectives of the Study

The primary objective of the study is to analyze the performance and prospect of health insurance in India. To fulfill this following are the secondary and sub objectives of the study:

1. To evaluate the performance of health insurance business of general insurance companies in India.

The specific focus to evaluate the performance would be on following issues:

✓ To evaluate the efficiencies of health insurance business of general insurance companies.
✓ To determine the improvement space and improvement direction in order to render an inefficient company to be an efficient.
✓ To examine the productivity as well as change in productivity of health insurance business of general insurance companies.
To identify and explore the various derives behind such productivity change.

2. **To make a comparative study of health insurance plans offered by general insurance companies in India.**

   A comparative study of health insurance plans was exclusively made with reference to inclusion/coverage and exclusion/non coverage under these. Beside this, the following hypothesis were formulated and tested under this:

   - \( H_0: \) There is no significant difference in the inclusions/benefits/coverage scores of health insurance plans.
   - \( H_{01}: \) There is no significant difference in the exclusions/non coverage scores of health insurance plans.
   - \( H_{02}: \) There is no significant difference in the number of health insurance plans offered as far as the public and private sector general insurance companies are concerned.
   - \( H_{03}: \) There is no significant difference in the inclusion/coverage scores of public and private insurance companies.
   - \( H_{04}: \) There is no significant difference in the exclusion/non coverage scores of public and private insurance companies.

3. **To examine the working and performance of Community Health Insurance (CHI).**

   In order to have insight into the working and performance of community health insurance, the following hypothesis were formulated and tested:

   - \( H_0: \) There is no significant association between the age of CHI providers and scope/number of services provided by them.
   - \( H_{01}: \) There is no significant association between the type of CHI providers and scope/number of services provided by them.
   - \( H_{02}: \) There is no significant association between the linkage of CHI providers with insurance companies and scope/number of service provided by them.
   - \( H_{03}: \) There is no significant association between the assistance/subsidies received by CHI providers and scope/number of services provided by them.
There is no significant difference in the scope/number of services provided by the CHI providers with respect to their association/linkage with insurance companies.

There is no significant difference in the scope/number of services provided by the CHI providers with respect to assistance/subsidies received by them.

4. **To examine the role played by Third Party Administrators (TPAs) with reference to role defined by IRDA.**
   The specific focus to examine the role played by TPAs would be on following issues:
   - IRDA defined role for TPAs
   - Role played by TPAs
   - Parity between role defined and role played.
   - Deviation between role defined and role played.

5. **To analyze the perception of the customers regarding health insurance.**
   While analyzing the perception followings were examined:
   - Firstly, it examines the respondents who are aware or not aware about health insurance as well as various sources of awareness;
   - Secondly, those who are aware have subscribed it or not;
   - Thirdly, those who have subscribed what are the various factors governing and contributing towards the selection of health insurance by them;
   - Fourthly, those who have not subscribed what are the reasons behind the same i.e. to examine and explore the various factors which act as barriers and ultimately obstruct the subscription of health insurance;
   - Fifthly, to determine are the non health insurance policyholders willing to join and pay for it? and also to explore and examine various factors having impact upon their willingness to pay for health insurance. Beside this, following hypothesis were formulated and tested:

| $H_{u4}$: | There is no significant association between the gender of respondents and their willingness to pay for health insurance. |
| $H_{u5}$: | There is no significant difference in the scope/number of services provided by the CHI providers with respect to their association/linkage with insurance companies. |
There is no significant association between the age of respondents and their willingness to pay for health insurance.

There is no significant association between the marital status of respondents and their willingness to pay for health insurance.

There is no significant association between the education level of respondents and their willingness to pay for health insurance.

There is no significant association between the occupation of respondents and their willingness to pay for health insurance.

There is no significant association between the income of respondents and their willingness to pay for health insurance.

9.3 Data Base and Research Methodology

For the purpose of present study two set of data were collected and used, which include both primary sources as well as secondary sources. The study is mainly based upon the use of secondary data, except to examine the customers’ perception regarding health insurance. The discussion of data base and research methodology applied for the achievement of objectives is given under following headings:

9.3.1 Data Base and Research Methodology for the Performance Evaluation of Health Insurance Business of General Insurance Companies in India

In order to achieve the above stated objective, the study was conducted with Indian general insurance companies and covered a period of 8 years from 2002-03 to 2009-10. Presently, more than 20 general insurance companies are operating in India out of which 10 (including 4 public sector insurance companies) were selected on the basis of base year 2002 i.e. the companies which are providing health insurance since 2002 are forming a part of the present study. The basic reason behind the selection of base year as 2002 lies in the fact that, this is the exclusive year in which general insurance companies have started the extension of health insurance products with the integration of Third Party Administrators (TPAs) in order to meet the requirement of IRDA (Third Party Administrator-Health Services) Regulation, 2001, which was introduced in order to
infuse a new management system and to regulate the health care services and costs. Accordingly, the companies under the scope of study include:

- Tata AIG General Insurance Company Limited;
- IFFCO Tokio General Insurance Company Limited;
- Reliance General Insurance Company Limited;
- Royal Sundram Alliance Insurance Company Limited;
- Bajaj Allianz General Insurance Company Limited;
- ICICI Lombard General Insurance Company Limited;
- United India Insurance Company limited;
- Oriental Insurance Company Limited;
- New India Assurance Company Limited; and
- National Insurance Company Limited.

Moreover, in order to achieve the above stated objective, the detailed information regarding health insurance was mainly drawn from the annual reports of the insurance companies under consideration. For this, the use of respective sites of the general insurance companies was made. Beside this, the use of statistical year book of IRDA and other publications related with the insurance was made for the collection of certain facts and figures necessary for the purpose of performance evaluation. The data collected was analyzed with the help of followings:

- Data Envelopment Analysis (DEA)
- Malmquist Total Factor Productivity Analysis (MTFPA)

All this was done with the help of DEAP software package.

**Data Envelopment Analysis (DEA):** It is a mathematical programming approach which estimates the frontier by solving a series of linear programming problems. The efficiency of each firm is measured with respect to distance from the frontier. Generally, the efficiency scores ranges from 0 to 1 and a firm having efficiency score equal to 1 referred as a fully efficient firm or a firm operating on the frontier and a firm having efficiency score less than 1 referred as inefficient firm or a firm operating away from the frontier. The firms or companies whose efficiency is measured with the help of DEA are called Decision Making Units (DMUs). DMUs efficiency is obtained by solving a set of linear programming problems *(Coehli T.J. 1996).*
In our study, efficiency is defined as technical efficiency. Further, only the measurement of technical efficiency is not enough, so we worked ahead and measured the technical efficiency both with Constant Return to Scale (CRS) as well as with Variable Return to Scale (VRS). The technical efficiency which is measured with VRS is also known as Pure Technical Efficiency. Besides this, scale efficiency has also been calculated for all the companies during the period under consideration.

(b) Malmquist Total Factor Productivity Analysis (MTFPA): Further, in order to measure the productivity as well as change in productivity of health insurance business of general insurance companies in India, the use of Malmquist Total Factor Productivity Analysis was made. It is a form of DEA, which helps in measurement of productivity as well as productivity change. In other words, DEA helps in the measurement of productivity with the use of Malmquist index summary. This summary provided with Efficiency Change (EC), Technological Change (TC), Pure Technical Efficiency Change (PTEC), Scale Efficiency Change (SEC) and Total Factor Productivity Change (TFPC). Overall, it provided with TFPC which comprises of EC, TC, PTEC and SECE. The growth of TFP has two major components: technological change/technical progress and efficiency change. Technological change/technical progress is represented by a shift in the production frontier, while efficiency change is based upon an index of a firm’s efficiency relative to past and future frontiers (Coehli T.J. 1996).

(c) Measurement of Inputs and Outputs: The result of Data Envelopment Analysis (DEA) and Malmquist Total Factor Productivity Analysis (MTFA) depends heavily upon the variable of the input and output specified. Therefore for the success of the study, an accurate selection of the variable of input and output is necessary. With the review of literature, it came into notice that researchers have general agreement on the selection of input’s indicators. Generally labor, capital and materials are selected as shown in Grace and Timme (1992), Gardner and Grace (1993), Cummins and Zi (1998). But as far as the variable of output is concerned wide diversity found in literature, because of the fact that defining and measuring outputs in the insurance industry is a challenging task. In various studies three commonly used outputs are: premium income, weighted sum of activities, and incurred benefits plus additions-to-reserves. In most of the previous studies net written premiums or net earned premiums have been used as proxies for outputs. They
consider premium as an appropriate indicator of output, assuming the product is homogeneous and competitive pressures compel all insurers to charge the same price. Moreover, Houston and Simon (1970) provided that premium to insurers is what income to manufacturers, and therefore premium can be regarded as an appropriate indicator of output.

Finally, we have selected two indicators of inputs as equity capital and labour (including commission, agents’ fee, referral and other expenditure); and one indicator of output as net health insurance premium, which is also in accordance with the assumption of DEA, that number of Decisions Making Units (DMUs) should be three time of number of inputs and outputs.

9.3.2 Data Base and Research Methodology for the Comparative Study of Health Insurance Plans Offered by General Insurance Companies in India

For the purpose of comparative study of health insurance plans, the companies under its scope are same as that used in first objective. In other words, the health insurance plans of all the general insurance companies taken above were considered for comparative study. Moreover, the study is entirely based upon the use of secondary data, which was mainly drawn from the respective sites of the general insurance companies under consideration. The comparative study of health insurance plans was exclusively done with reference to inclusion/coverage and exclusion/non coverage under these. As far as the analysis of data collected above is concerned, the use of content analysis was made. Beside this, the use of percentages, independent sample t-test and one-way ANOVA was made in order to draw the meaningful inference. This was done with the help of SPSS software package as well as use of MS-Excel 2007 was made.

(a) Content Analysis: It is a research tool used to determine the presence of certain words or concepts within texts or sets of texts. Researchers quantify and analyze the presence, meanings and relationships of such words and concepts, then make inferences about the messages within the texts, the writer(s), the audience, and even the culture and time of which these are a part. To conduct a content analysis on any such text, the text is coded or broken down, into manageable categories on a variety of levels--word, word sense, phrase, sentence, or theme--and then examined using one of content analysis' basic
methods: conceptual analysis or relational analysis conceptual analysis, a concept is chosen for examination and the number of its occurrences within the text recorded. Because terms may be implicit as well as explicit, it is important to clearly define implicit terms before the beginning of the counting process. Relational analysis, like conceptual analysis, begins with the act of identifying concepts present in a given text or set of texts. However, relational analysis seeks to go beyond presence by exploring the relationships between the concepts identified. In other words, the focus of relational analysis is to look for semantic, or meaningful, relationships. Individual concepts, in and of themselves, are viewed as having no inherent meaning. Source: Colorado State University site: (http://writing.colostate.edu/guides/research/content/pop2a.cfm assessed as on 17th April 2011).

(b) Independent sample t-test: The Independent samples t-test procedure compares means for two groups of cases. For t-test, the observations should be independent, random samples from normal distributions with the same population variance.

c) One-way ANOVA: It is a technique used to compare the mean of more than two populations, such as comparing the yield of crop from several varieties of seeds, the gasoline mileage of four automobiles, the smoking habits of five groups of company’s employees and so on. In such circumstances one generally does not want to consider all possible combinations of two populations at a time for that would require great number of test before we would be able to arrive at decision. This would also consume lot of time and money, and even then certain relationships may be left unidentified. Therefore, one utilizes the ANOVA technique and through it, investigates the differences among the mean of all population simultaneously. In other word the basic principle of ANOVA is to test the differences among the mean of the populations by examining the amount of variation within each of these samples, relative to the amount of variation between the samples (Kothari, 2004, pp. 256-258).

9.3.3 Data Base and Research Methodology to Examine the Working and Performance of Community Health Insurance (CHI)

In order to achieve the above stated objective, the use of past studies undertaken by the various researchers in respect of Community Health Insurance (CHI) in India was made. Besides this, various studies conducted by International Labour Organization
(ILO) have also provided a base for present study. According to one of the recent study conducted by ILO in 2009 has shown that more than 100 community health insurance schemes are operating in India. These schemes are initiated by Non-Governmental Organizations (NGOs), Community-Based Organization (CBO), Public Departments (PD), Health Providers (HP), Private Trusts (PT), Micro-Finance Institutions (MFIs), Public-Private Trusts (P-PT) and Trade Unions (TU). For the purpose of present study, we have taken 100 such schemes which are operating in India and the detailed list of all these is given in annexure II. The criteria behind the selection of schemes for the present study were availability of information regarding variable explaining and affecting their working and performance. The following variables and parameters such as: working with or without the linkage of insurance companies; working with owned fund or receiving assistance/subsidies; area of operation or working; and scope/number of services provided were considered for the purpose of inclusion of scheme for present study. Beside this, the information concerning present and potential coverage by the CHI schemes has also taken in to consideration. Hence, on the basis of availability of information regarding above stated variables, the selection of CHI were made for the purpose of present study. The information for the same is collected mainly from the respective sites of CHI providers as well as the use of various studies conducted by ILO and other researchers were also made.

As far as the analysis of data collected is concerned, the use of percentages, mean, standard deviation was made. Beside this, the use of cross-tabulation, chi-square, correlation and independent sample t-test has been made to draw the meaningful inference from the study. All this was done with the help of SPSS software package.

(a) Cross-tabulation: A statistical technique that describes the two or more variables simultaneously and the result in the table that reflect the joint distribution of two or more variables that have a limited number of categories or distinct value. In general, the margins of cross-tabulation show the same information as the frequency tables for each of the variables. Cross-tabulation tables are also called contingency tables and the cross-tabulation between two variables is also known as bivariate cross-tabulation. Because of two variables has been cross-classified, percentage can be computed either column wise, based on the column totals or row wise based on the row totals. The variable to be
considered in row or column depends upon which will be considered as dependent or independent variable (Malhotra, 2007, p. 278-279).

(b) Correlation: It quantifies the degree of association between two variables or the strength of linear relationship between two variables and also indicates the direction of the relationship. The correlation coefficient, r, measure the strength of linear relationship. The value of r is between +1 and -1. The values of r close to +1 or -1 represent a strong linear relation. The value of r close to 0 means that the linear association is very weak. It could be that there is No association at all, or the relationship is non linear (Tyrrell, 2009, pp. 64).

c) Independent sample t-test: The Independent samples t-test procedure compares means for two groups of cases. For t-test, the observations should be independent, random samples from normal distributions with the same population variance.

d) Chi-square: The Chi-square statistics is used to test the statistical significance of the observed association in a cross-tabulation. It assists us in determining whether a systematic association exists between two variables. The null hypothesis $H_0$ is that there is no association between the variables. The test is conducted by computing the cell frequencies that would be accepted if no association were present between the variables, given the existing row and column totals. These expected cell frequencies, denoted $f_{ei}$, are then compared to the actual observed frequencies $f_{o}$, found in the cross-tabulation to calculate the chi-square statistics. The greater the discrepancies between the expected and actual frequencies, the larger the value of the statistic. Assume the cross-tabulation has r rows and c columns and a random sample of n observation. Then the expected frequency for each cell can be calculated by using a simple formula:

$$f_e = \frac{n_r n_c}{n}$$

............... (1)

Where, $n_r =$ total number in the row; $n_c =$ total number in the column; $n =$ total sample size

Then the value of chi-square is calculated as follows:

$$\chi^2 = \sum_{all\, cells} \frac{(f_o - f_e)^2}{f_e}$$

............... (2)
To determine the systematic association exists, the probability of obtaining a value of chi-square as large as or larger than one calculated from the cross tabulation is estimated. An important characteristic of the chi-square statistics is the number of degrees of freedom (df) associated with it. In general, the number of degree of freedom is equal to the number of observations less than number of constraints needed to calculate a statistical term. In the case of chi-square statistic associated with a cross-tabulation, the number of degree of freedom is equal to the product of number of rows (r) less one and the number of columns (c) less one. That is, \( df = (r - 1) \times (c - 1) \). The null hypothesis of number of association between the two variables will be rejected only when the calculated value of the test statistics is greater than the critical value of chi-square distribution with the appropriate degree of freedom (Malhotra, 2007, pp.504-507).

9.3.4 Data Base and Research Methodology to Examine the Role Played by Third Party Administrators (TPAs) with Reference to Role Defined by IRDA

In order to achieve the above stated objective, a sound theoretical framework was developed on the basis of studies already undertaken in this area. In other words, the achievement of above objective was driven mainly by review process. Beside this, the use of regulation of IRDA for TPAs was made in order to examine the conditions, code of conduct/role theoretically defined by it. Thereafter, the analysis of role in practice played by TPAs was made on the basis of information extraction from earlier studies and from their respective sites. Further, evaluation was made, and that too theoretically, to examine the two fold aspects i.e. parity between the role defined by IRDA and role in practice played by TPAs; and deviation between role defined IRDA and role in practice played by TPAs.

9.3.5 Data Base and Research Methodology to Examine the Customers’ Perception Regarding Health Insurance

For the purpose of above stated objective, the specified area was selected on the assumption that specific area based studies expected to give more meaningful and significant information. Accordingly, for the examination of customers’ perception regarding health insurance, the present study was done in Punjab. Further, it was planned to give true representation to three belts of Punjab, viz., Majha, Doaba and Malwa.
Hence, one district from each of three belts was selected. The districts included in sample were Amritsar from Majha, Jalandhar from Doaba and Ludhiana from Malwa. Thereafter selection of sample of respondents was made by following random sampling and on the whole a sample size of 600 respondents was planned from the general public. The general public was mainly considered, as it is expected to include existing customers as well as potential customers. In the view of fact that in the present study general public has been considered as unit of investigation, a sample framework consisting of equal number of respondents from each of the district was taken. In other words, the questionnaire were got filled from 600 respondents (200 respondents from each of the district), out of which 563 was found to be suitable for the purpose of analysis.

The data has been collected from the general public by administering self-structured, pre-tested questionnaire from them. The preliminary draft of the questionnaire was pretested on 50 respondents. This helped in improving the questionnaire and also gave an indication as to kind of responses that would be forthcoming; accordingly with few addition and deletion, the final questionnaire (given in annexure I) was developed and used for collection of information from respondents. The questionnaire for data collection contains questions relating to awareness level, sources of awareness, subscribed or not subscribed health insurance, reasons for same, type of policy, which factor motivate them to buy and obstruct them to buy, satisfaction level and services etc. The questions were open ended, dichotomous and offering multiple choice. Besides this, some questions required ranking or rating or alternatives.

The analysis of data collected above was carried out by using simple frequencies, multiple frequencies and percentages for multiple responses as well as Weighted Average Scores (WAS) has been calculated. Beside this, the use of factor analysis and chi-square was made to draw the meaningful inference from the study. All this was done with the help of SPSS software package.

(a) Weighted Average Scores (WAS): In the present study, WAS were calculated in order to find out the importance attached by respondents towards various reasons to opt for health insurance as well as for claim logged aspects.

(b) Chi-square: The Chi-square statistics is used to test the statistical significance of the observed association in a cross-tabulation. The null hypothesis $H_0$ of number of
association between the two variables will be rejected only when the calculated value of the test statistics is greater than the critical value of chi-square distribution with the appropriate degree of freedom (Malhotra, 2007, pp. 504-507).

(c) Factor Analysis: Factor Analysis is a general name denoting a class of procedures primarily used for data reduction and summarization. In research, there may be large number of variables, most of which are correlated and which must be reduced to manageable level. Relationship among set of many interrelated variables are examined and represented with the help of factor analysis. The approach used in the factor analysis is “Principle Component Analysis”. In this component analysis, the total variance in the data is considered. The diagonal of the correlation matrix consists of unities and full variance is bought in to factor matrix. It determines the minimum number of factors that will account for maximum variance in the data for use in subsequent multivariate analysis. The factors are also called principal components. Although the initial or unrotated factor matrix indicates the relationship between the factors and individual variables, it seldom results in factors that can be interpreted, because the factors are correlated with many variables. Hence the variance explained by each factor is redistributed by rotation. The method used for rotation in this study is “Varimax”. It is a method of factor rotation that minimizes the numbers of variables with high loading on a factor, thereby enhancing the interpretability of the factors (Source: Malhotra, 2007, pp. 639-649.)

Before the application of factor analysis, reliability of the scale items has been checked with the help of Cronbach’s alpha, which assess the internal consistency of entire scale.

9.4 Major Findings of the Study

9.4.1 Performance Evaluation of Health Insurance Business of General Insurance Companies in India

The foregoing analysis of evaluation of health insurance business of general insurance companies done with the help of Data Envelopment Analysis (DEA) and Malmquist Total Factor Productivity Analysis (MTFPA) is concluded as:
9.4.1.1 Analysis of Technical Efficiency (TE), Pure Technical Efficiency (PTE) and Scale Efficiency (SE): The analysis of various efficiencies obtained with the application of DEA has done by two ways: A. Company wise analysis; B. Year wise analysis.

A. Company Wise Analysis of Technical Efficiency (TE), Pure Technical Efficiency (PTE) and Scale Efficiency (SE)

- In India, two companies namely, New India Assurance Company Limited and National Insurance Company Limited are fully efficient companies during 6 out of 8 years of period under consideration. Their efficiency remain static up to 2007-08 or 2008-09, but thereafter its efficiency score shows decreasing trend which might be attributable to the fact that they have achieved the level of maturity and due to competition their position is gradually acquired by private sector insurance company.

- On the other hand, the study found three inefficient companies; two are from the private sector and one is from the public sector which does not lie on the frontier in any year. Tata Aig and Royal Sundram out of private sector and United India out of public sector are inefficient companies, as their efficiency score were not equal to 1 in any year. But if, we compare these three inefficient companies then it will provide insight that although, the private sector company namely, Tata Aig and Royal Sundram does not lie on the frontier in any year, yet its efficiency scores has improved over a period of time, which is not in the case of United India Insurance Company, which shows reverse trend during the period under consideration. This shows that public sector companies are gradually underperforming and their position is slowly and steadily taken over by the private sector companies with regard to health insurance. This can be regarded as good sign because it reflects the increasing competition in the market, which will enhance product choice for consumers with efficient quality of services.

B. Year Wise Analysis of Technical Efficiency (TE), Pure Technical Efficiency (PTE) and Scale Efficiency (SE)

The results provided that in almost all the year one or two public sector companies were found on the frontier. But gradually this is vanishing as in the year 2009-10 not even a single public sector company lies on the frontier due to its technical
efficiency scores less than 1. This can be attributable to the fact that companies are operating on decreasing to scale and their position is taken by private sector general insurance companies as only private sector insurance companies lie on the frontier with efficiency scores equal to 1.

9.4.1.2 Analysis of Mean of Technical Efficiency (TE), Pure Technical Efficiency (PTE) and Scale Efficiency (SE): The analysis of mean of TE, PTE and SE has done by two ways: A. Sector wise analysis; B. Overall analysis.

A. Sector Wise Analysis Mean of Technical Efficiency (TE), Pure Technical Efficiency (PTE) and Scale Efficiency (SE): According to the background of insurers in India, it can be separated in two groups: 1) Public Sector Insurers; 2) Private Sector Insurers. In the sector wise analysis, an effort was made to evaluate the mean of TE, PTE and SE of public sector as well as of private sector for the period under consideration.

- The mean of TE of private sector insurance companies has shown increasing trends over a period of time as it was 0.062 in the year 2002-03, which increased to 0.776 in the year 2009-10 except the year 2007-08 in which there is slightly decrease in the mean of TE, which might be attributable to change in the economies of scale. As far as the mean of TE of Public sector insurance companies are concerned, it was not reinforced throughout the study period i.e. it followed the diverse trend over a period of time. Numerically it is stated as 0.878, 0.796, 0.865, 0.920, 0.916, 0.724, 0.899 and 0.661. If we look at the two point of time of the study, then it will show the decrease in mean of TE of public sector. The reason can be attributable to the existence of PTE inefficiency and Scale inefficiency.

- The mean of PTE of both the private as well as public sector insurance companies has shown diverse trends over a period of time. The mean of PTE of private sector was 0.942 in the year 2002-03, which decreased to 0.893 in the year 2009-10. As far as the mean of PTE of public sector are concerned, it remains static for first 4 year of the study period and thereafter it shown diverse trends year after year. But if we look at two point of time then found that mean of PTE has decreased as it was 1.000 in the year 2002-03, which decreased to 0.978 in the year 2009-10.
The mean of SE of both the private and public sector insurance companies was reverse to each other. The mean of SE of private sector insurance companies has increased over a period of time, as it was 0.064 in the year 2002-03, which increased to 0.858 in the year 2009-10. On the other hand, the mean of SE of public sector insurance companies has shown decreasing trend over a period of time as it was 0.878 in the year 2002-03, which decreased to 0.675 in the year 2009-10. The reason might be attributable to the fact that private sector are taking much advantages of scale efficiencies, which results in more technical efficiency for the private sector.

**B. Overall Analysis Mean of Technical Efficiency (TE), Pure Technical Efficiency (PTE) and Scale Efficiency (SE)**

For the purpose of overall analysis, we have classified the mean efficiency scores into following categories: 0-0.3, 0.3-0.6, 0.6-0.9 and 0.9-1 and thereafter comparison of all the insurers have been made with respect to their efficiency scores in order to find out the range within which they fall. By following the same, we found that only in the year 2002-03 all insurers fall in the first category. Thereafter in subsequent years, all the insurers were found in the higher interval of 0.3-0.6 and 0.6-0.9. This might be because of all the insurers were operating on increasing return to scale or it was contributed by PTE and SE. Moreover, the results shown that the mean of TE of all the insurers has increased from 0.389 in the year 2002-03 to 0.730 in the 2009-10. By making comparison, it was found that all the insurers were also better at PTE, as that mean of PTE is more as compared with mean of TE in all the year. But this is also vanishing, if we make the comparison of mean of PTE of the year 2002-03, which was 0.965 with the mean of PTE of the year 2009-10, which was 0.927. This can be justified through scale economies, as most of the health insurers have strong increasing return to scale and also taking the advantages from the scale economies as it has increased from 0.390 in the year 2002-03 to 0.785 in the year 2009-10.

In nutshell, we can say that the Indian general insurers are carrying out health insurance business at an average technical efficiency of 73%, pure technical efficiency of 92% and scale efficiency of 78%. On the other hand sector wise performance analysis has indicated that technical efficiency of the private companies is 77% which is 10% more
than that of public sector Companies. This can attributable to the fact that private sector companies are operating on increasing return to scale and taking the advantages of pure technical efficiency and scale efficiency. While public sector companies are becoming mature, started operating on decreasing return to scale and due to competition gradually the position of public sector companies is taken over by private sector companies as it is shown in the study that improvement space and direction of private sector is showing positive sign as these are moving toward frontier, which is reverse in the case of public sector companies.

**9.4.1.3 Analysis of Return to Scale of Health Insurance Business of General Insurance Companies:** By DEA, we also got the information regarding scale of economies on which the various companies were operating. Overall, the results has shown that most of the private sector insurance companies were operating on increasing return to scale and very few 2 or 1 company out of private sector was operating under constant and decreasing return to scale. This is a good sign as the Indian private sector general insurance companies were carrying the health insurers still at early stage, and there is great potential for private sector health insurers to improve. As far as the public sector companies are concerned, it was found that atleast 2 companies were operating on the increasing return to scale for all the year under consideration with the exception of last two years, where the public sector companies were found operating under constant or decreasing return to scale. This shows that public sector insurers are becoming matures, there place is gradually taken over by the private sector insurers in the industry.

**9.4.1.4 Analysis of Improvement Direction and Improvement Space for Health Insurers:** The results of DEA provided diverse trends of improvement direction and improvement space over a period of time. For all the private sector health insurers, the improvement space is decreasing, which is a good sign for the private sector as it signifies that their distance from the frontier is becoming narrow and accordingly, they are directing toward frontier. As stated numerically, initially the improvement space was 95.9%, 80.2%, 97.1%, 96.7%, 96.8% and 95.9% for Tata Aig, Iffco, Reliance, Royal, Bajaj and ICICI, which decreased to 27.21%, 0%, 0%, 59.7%, 29.8% and 18.6% in the year 2009-10. This shows that companies in the private sector are expanding their
activities as well as outreach in order to survive and grow in the competitive market and consequently these are finding place on the frontier or coming near to frontier.

As far as the public sector companies are concerned, all are showing reverse improvement space and direction except Oriental Insurance Company Limited. The reason behind this lies in the fact that these are going out of the frontier as initially their improvement space was 6.1%, 0% and 1.9%, which increased over a time and became 43.7%, 41.3% and 21.5%. This shows that although, the public sector companies was on or near the frontier in the beginning of period of study, yet gradually this sector is underperforming and their position is slowly and steadily taken over by the privates sector companies.

9.4.1.5 Analysis of Direction of Productivity, its Change and Malmquist Index

Summary: Productivity change and Malmquist index was investigated in order to measure the productivity of health insurance business of general insurance companies in India as well as change in it. This change in the productivity has been analyzed and interpreted in two ways: A. company wise productivity change and Malmquist index summary and B. Year wise productivity change and Malmquist index summary.

A. Company Wise Analysis of Productivity Change and Malmquist Index Summary

The results of Malmquist Total Factor Productivity Analysis (MTFPA) has provided that Total Factor Productivity Change (TFPC) which is the results of Efficiency Change (EC), Technological Change (TC), Pure Technical Efficiency Change (PTEC) and Scale Efficiency Change (SEC) has improved in all the companies except two Public sector companies namely, Oriental Insurance and New India Assurance Company Limited. Numerically stated that initially the productivity change in case of Tata Aig, IFFCO Tokio, Reliance, Royal Sundram, Bajaj, ICICI, United India and National Insurance Company Limited was 1.026, 1.105, 0.976, 1.019, 0.744, 0.000, 0.618, 1.310 respectively, which increased to 1.028, 2.278, 1.007, 1.051, 1.044, 1.368, 1.255 and 1.318 respectively, in the year 2009-10. In other words, the results provided with the fact that there are only two public sector companies namely, Oriental Insurance Company Limited and New India Assurance Company Limited, which shown reduction in their productivity over a period of time. Overall, they are also good as their productivity
change is greater than one. But if we look at two extremes, then found that improvement in productivity has reduced as the initial productivity change in case of Oriental and New India Assurance Company Limited was 1.474 and 1.309, which decreased to 1.115 and 1.136. This can attributable to the fact that all the insurance companies except these two were taking the advantages of TC, EC, PTEC and SEC.

**B. Year Wise Analysis of Productivity Change and Malmquist Index Summary**

For the purpose of year wise analysis, three categories of Total Factor Productivity Change (TFPC) was made as: less than 1 TFPC, 1-2 TFPC and more than 2 TFPC. Further, the analysis has shown that in almost all the year the TFPC was lies between first two categories i.e. either less than 1 or 1-2, except for the year 2004-05 to 2005-06, 2005-06 to 2006-07 and 2008-09 to 2009-10. Because during these years the TFPC lies in third category i.e. the TFPC was even more than 2.

**9.4.1.6 Analysis of Drivers behind Productivity Change and Malmquist Index Summary:** The drivers behind the productivity change and malmquist index summary has been analyzed and interpreted in two ways: A. company wise analysis of drivers behind productivity change and malmquist index and B. Year wise analysis of productivity change and malmquist index.

**A. Company Wise Analysis of Drivers behind Productivity Change and Malmquist Index Summary**

The drivers behind the productivity change can be change in technical efficiency or technical progress/technology change. The results has provided with the fact that the productivity change in the companies under consideration was basically derived by either technical efficiency or technical progress/technology change. Whereas in very few cases the change in productivity was attributable of both technical efficiency and technical progress/technology change.

**B. Year Wise Analysis of Drivers behind Productivity Change and Malmquist Index Summary**

The results shown that in almost all the years, the drives behind the productivity change and malmquist index was change in technical efficiency of the insurers, except
9.4.2 **Comparison of Health Insurance Plans of General Insurance Companies with Reference to Inclusion and Exclusion**

The following are the major findings of the study in relation to comparative study of health insurance plans:

- On the whole 61 total health insurance plans are provided by the various public and private sector insurers under consideration. Out of which maximum plans belonged to public sector companies i.e. more than 50% of plans are provided by the public sector insurance companies. Having in-depth analysis of this it was found that out of public sector companies, maximum number of plans i.e. 12 were offered by the National Insurance Company Limited, whereas out of private sector general insurance companies, maximum numbers of plans i.e. 8 were offered by Bajaj Allianz General Insurance Company Limited and the least numbers of plans i.e. 3 were offered by Reliance General Insurance Company Limited and Royal Sundarm Alliance General Insurance Company Limited.

- The inclusion/coverage of health insurance plans were analyzed in terms of eight sub variables (Medical expenses; Hospitalization coverage; Non hospitalization coverage/domiciliary hospitalization; Day care expenses; Ambulance charges; Compensation for death; Total disablement/partial disablement/injury; and Additional benefits/discounts etc.) has provided with the fact that maximum numbers of plans i.e. 62.3% of plans are providing hospitalization coverage, whereas 49.2% of plans are extending coverage for medical expenses and additional benefits, and 36.1% of plans are providing coverage for disablement/injury due to an accident. Alternatively, very few i.e. 11.5% of plans are providing for non hospitalization/ domiciliary coverage.

- The exclusion/non coverage of health insurance plans were also analyzed in respect of eight sub variables: Pre-existing illness; Dental treatment; Disease within 30 days; Disease within 90 days; Disease within 120 days; HIV/AIDS; Suicide/Attempt to suicide; and Natural calamities, war, perils. The results of
analysis has provided with the fact that HIV/AIDS, Natural disasters/war perils and suicide/attempt to suicide are the variables which are excluded from all the health insurance plans under consideration. Beside this, maximum numbers of plans i.e. 93.4% are not providing for dental treatment followed by 78.7% and 65.6% of health insurance plans are not extending coverage for pre-existing disease and disease within 120 days of insurance policy. Moreover, 21.3% and 3.3% of health insurance plans are not providing coverage for disease within 30 and 90 days of insurance policy.

➤ Thereafter, an effort was made to test the various hypothesis formulated. But before the test of hypothesis, the inclusion/coverage and exclusion/non coverage scores of various health insurance plans of insurance companies under consideration were calculated with the help of content analysis. The use of content analysis was made to determine the number of time the sub variables appearing in the policy wording of health plan of insurance companies under consideration. Further, on the basis of which the inclusion/coverage and exclusion/non coverage scores of health plans was calculated. These inclusion/coverage and exclusion/non coverage scores were further utilized in hypothesis testing.

➤ Further, an analysis and testing of hypothesis with the help of one-way ANOVA and independent sample t-test has provided that there is no significant difference:- in the inclusion/benefits/coverage scores of health insurance plans; in the number of health insurance plans offered as far as the public and private sector general insurance companies are concerned; and in the inclusion/coverage scores of public and private insurance companies. The reason might be attributable to the fact all the insurance companies are offering health insurance plans by considering inclusion/coverage of benefits offered under health insurance plans of their competitors in the market. Moreover, due to competition almost all the companies are providing coverage and benefits at par with that of their competitors.

➤ Alternatively, significant difference exists: - between the exclusion/non coverage scores of health insurance plans; in exclusion/non coverage scores of public and
private insurance companies. The reason might be attributable to the fact that exclusion/non coverage under each plan of insurance companies depends upon health of the person availing it, which entirely differ from that of other and leads to significant difference in exclusion/non coverage of health insurance plans of insurance companies.

9.4.3 Working and Performance of Community Health Insurance (CHI)

The following are the major findings of the study in relation to working and performance of CHI:

- The results provided that most of the providers of CHI schemes fall in the age category of 3-5 and 6-10 years and there are very few i.e. 14% of providers which are having experience of more than 10 years in the area of operations.

- Non Government Organizations (NGOs) are the main provider of CHI, as its share is 43 percent, which is more than that of other providers. On the other hand, least role is played by the Micro-Finance Institution (MFI), Private Trust (PT), Health Provider (HP), Public-Private trust (P-PT) and Trade Union in the initiation of community health insurance as their percentage share in the initiation is even less 10%.

- While analyzing the linkage of CHI schemes with insurance companies, it was found that there are 39% of the schemes which are working without the linkage of any insurance company. Alternatively, 61% of schemes are operating with the association/linkage of insurance companies. Further, by splitting this 61% share, it was found that 25% of schemes are operating in connection with public sector insurance companies, 33% of schemes was found to have association with the private sector insurance companies, whereas only 3% of schemes are operating in connection with both the public and private sector insurance companies.

- Further, the analysis of assistance and subsidies received provided that 36% of schemes are purely selves financed i.e. not receiving any sort assistance or subsidies to carry out the financing of its activities. Whereas, remaining 64% of schemes are operating not only with their own fund rather also receiving
additional funds in the form of direct or indirect assistance from central or state government; from national or international donors.

- As far as area of operation is concerned, it was found that 94% of schemes are falling in the category of 1-5 states i.e. these have confined their area of operation only upto 5 states. Only 1% of schemes fall in the category of 6-10 i.e. carrying operation in more than 5 states subject to the maximum of 10 states. Whereas, very few i.e. 5% of schemes are covering more than 10 states.

- Moreover, the results provided that the services provided by the community health insurers can include: primary, secondary, territory, critical illness and maternity and there is not even single CHI scheme, which extends comprehensive coverage and provide all these services to the community in one package.

- Further, the analysis of present and potential coverage provided that a significant portion of CHI providers (32) are just covering individuals and families up to 20% of potential coverage (total coverage capacity). On the other hand there are very few providers, which are utilizing their maximum potential coverage by covering the large number of people, as the results shown that only 7 providers are fall in the category of 81%-100% i.e. providing services to individuals and families with utilization of more than 80% of their potential coverage. On the whole, it was found that maximum numbers of providers are just extending services to 20% of their potential coverage.

- The results of Chi-Square provided that although, the scope/number of services provided by CHI providers are not at all associated with their age and assistance received them, yet these are associated with the type of providers and their linkage with the insurance companies. The reason might be attributable to the fact that those who are operating with linkage of insurance companies can certainly provide clients with the more number of services as compared to those who are not operating with linkage. Beside this, each provider has its own governing forces which differ from other and ensure its effective and efficient functioning including the increased number of services.
Moreover, the result of t-test has provided with the fact that although there is variation in the number of services provided with respect to providers’ linkage with insurance companies and subsidies received by them, yet this variation is not significant. The reason might be attributable to the fact that those operating with the linkage of insurance companies or receiving assistance/subsidies from the government are also bound to pay them back in consideration, which can be in the form of premium and loan component, which will exactly offset the enhanced benefits received by associating with the insurance companies or receiving assistance from government and other.

9.4.4 Role Played by Third Party Administrators (TPAs) with Reference to Role Defined by IRDA

The following are the major findings of the study in relation to role played by TPAs with reference to role defined by IRDA:

- The results of the study provided that parity exist between role defined by IRDA and role in practice played by TPAs in case of followings:
  - Providers of services as and when need;
  - Streamline and simplifies the claim process;
  - Automatic development of information system;
  - Ensured services of qualified registered medical professional;
  - Value added services; and
  - No extra burden on insured.

- Alternatively, deviation exist between role defined by IRDA and role in practice played by TPAs in case of followings:
  - Lack of knowledge about coverage and exclusion in policies;
  - Failure to meet the expectations of parties involved;
  - Delay in settlement of claims;
  - Failure to meet the service responsibility;
  - Indirect cost to consumer; and
  - Cost of healthcare and management increases.
9.4.5 Customers Perception Regarding Health Insurance

The following are the major findings of the study in relation to customers’ perception regarding health insurance:

- The results provided that, a significant proportion of the sample was male members. Majority of the respondents belonged to the age groups of 30-40 years and were married and living in nuclear families. Maximum respondents were graduate followed by higher education and post graduation and were employed. As far as level of income is concerned, a major percentage of the respondents fall in the annual income category of less than Rs. 50000 and Rs.50000-100000.

- Although, the health insurance is not a new concept and the people are also getting aware about it, which mainly comes from TV followed by newspaper, agents, friends etc, but this awareness has not yet reached the level of subscription. As the results shown that just 19.4% are being covered by some form of health insurance and large chunk of the population is still financing health care expenditure without health insurance.

- While analyzing the reasons for having health insurance, it was found that most of the governing reasons were risk coverage against future illness and to avail good quality medical treatment as its weighted average scores is 4.40 and 4.18, which is more than that of other cases, followed by employers’ contribution, travelling abroad, tax planning measures and existing illness.

- The results provided that maximum number of respondents was opted for private insurance company. Group health insurance policy is mainly taken and has himself seeked the insurance agents for the subscription of health insurance.

- The results with regards to claim logged aspects provided that Hassle-free claim settlement and Hassle-free claim application process are mostly experienced by the respondents while logging the health insurance claim with insurance company, as its weighted average score is 4.38 and 4.24. Whereas, the least weighted average score is in the case of Claim settled with limited terms and
conditions and Claim logged fully settled. This shows that in no case the claim is fully settled and that too settled with maximum terms and conditions.

- Further, the analysis of perceived level of satisfaction provided that approximately 62% of the health insurance policy holders are of the view that services provided are delivered effectively by the insurance companies; 48% of policy holders were having 100% chance of renewing the same and 66.1% of the policyholders are even willing to pay more if additional services added with the existing policy.

- The results of factor analysis provided that there are 7 key factors by clubbing the related variables namely, Ease of Services to Obtain; Minimum Consideration; Availability of Funds (whether in hand or from outside); Intermediaries’ Outreach and Capabilities; Multiplicity of Benefits with Extensive Promotional Activities; Goodwill and Linkage of the Company with Third Party Administrators (TPAs); and Operating with Customers’ Oriented Modern Technology are main factors, which are considered by an individual while selecting or buying health insurance.

- Similarly, it was observed that there are 7 key factors by clubbing the related variables under it which are acting as barrier and ultimately obstruct the subscription of health insurance. These are Lack of Funds to Meet Costly Affair; Lack of Awareness and Willingness to join; Lack of Intermediaries’ Outreach and Capabilities; Lack of Reliability and Comprehensive Coverage; Lack of Availability and Accessibility of Services; Narrow Policy Options; and Prefer Other Mode to Invest (followed by friends, relatives etc).

- Further, the analysis of non health insurance policyholders provided that those who are ready to buy shown preference for private insurance company, for group health insurance policy, with the possible age of insurance 40-50 years followed by 50-60 years. As far as premium payment is concerned, maximum number of respondents preferred for monthly premium payment.

- Alternatively, the results of analysis of willingness to join and pay for health insurance provided that a very few percentage i.e. 11.9% of non health insurance policy holders are ready to buy health insurance without any conditions and 19.8% are willing to buy only if certain conditions will fulfill. Remaining is not
ready to buy, still need some time or not provided with any response. As far as the ranking of conditions of buying are concerned, 1 rank is assigned to “if comprehensive coverage provided with least cost” as its weighted average score is 3.36 is more as compared with all other conditions. Whereas 2 rank is assigned to “if some contribution will employer made”, followed by “If available with least formalities”, “If friends and relatives buy”, “If someone suggest about it”.

The results also provided that on the one hand significant association exist between the gender; age; education; occupation; income of respondents with their willingness to pay for health insurance. On the other hand no significant association exists between the marital status of the respondent with their willingness to pay for health insurance.

9.5 Suggestions

In the view of above following are the suggestions:

- The public sector insurance companies should restructure or reorganize their health insurance business as the results shown decrease in their efficiency and productivity for the period under consideration. Moreover, due to fast increasing competition their position is gradually taken over by the private sector general insurance companies. So, in order to stay in health insurance business they have to comply with the strategies adopted by private insurers and for this they need to reorganize their health insurance business.

- No doubt, the private sector companies are operating at increasing return to scale and also taking the advantages of pure technical efficiency and scale efficiency, which signifies that there is scope of much more improvement in this sector, but gradually due to market forces the increasing return will not applicable forever i.e. as the new entrant will come this increasing return will vanish. Accordingly, the private sector general insurance companies should try to focus not only on health insurance business rather on standalone health insurance business. Thereby, they can reap the fruit of master of health insurers in the insurance market.

- Both the public and private sector insurance companies should divert their focus from the extension of more numbers of health insurance plans towards the quality and worth of services provided under these plans both in terms of
inclusion/coverage and exclusion/non coverage. Moreover, whenever introduction of new health insurance plans is made the requirement of the particular segment of the society should be taken care of, as the requirements differ from person to person and place to place.

The CHI is made to meet the requirement of particular segment of the society i.e. poor people. But there are lot of barriers faced by their members in terms of availability and accessibility because these are not operating in all the states as the poor people is not just restricted to a particular place. Accordingly, CHI schemes should operate all over instead of some selected states and districts. Beside this, CHI schemes should also extend comprehensive coverage to the community in one package; only then their ultimate introduction will be justified.

9.6 Implications of the Study

The implications of the present study categorized into followings:

9.6.1 Implications for Government of India: The study listed some of the implications for the government of India:

One of the main objectives of the government of India is to achieve socio-economic development, which is heavily dominated by the health of the community. In other words, health and socio-economic development of community are related with each other in such a way that it is impossible to achieve one without other i.e. one cannot be achieved in isolation. A human being in a society can manage to live without good education…without splendid car…without opulent house…but no one can manage to live without good and excellent health that too when he/she is living below the poverty line. The reason behind this is “how the same can approach the good hospitals like Fortis and other to get good quality treatment and how the same can contribute toward the development of a nation”? All this lead to a never ending vicious circle of poverty, because an individual without good health could not be able to work, no work means no earnings and the same could not be able to get good quality treatment as well as could not be able to contribute toward the development of the
nation. So, the person should have first access to good health care services and that too at low cost.

- Moreover, to a large extent the health index of a country is determined with reference to the ways with which its health care gets financed. Although, in India the total health care expenditure is increasing steadily, but the mix of public and private spending is a major area of concern. As the various studies reveal that in India more than 80 percent of health care’s expenditure is borne by individuals i.e. health care financing is mainly in the form of out-of-pocket which gradually pushing them in to a vicious circle of poverty and CHI is one of the ways to bring them out of the vicious circle of poverty. Moreover, the result of the study provided that although there is variation in the number of services provided by CHI with respect to assistance/subsidies received by them from government, yet this variation is not significant. The reason might be attributable to the fact that those receiving assistance/subsidies from the government are also bound to pay them back in consideration, which is in the form of loan component, and will exactly offset the enhanced benefits received by assistance from government. So, the government should come forward to subsidies the health care mechanism with more in the form of assistance and lesser in the form loan component. The government should also extend necessary intervention for the effective and efficient functioning of CHI schemes in India.

**In nutshell, if the government of India wants to achieve socio-economic development, then the first agenda should be on health care and health insurance that too at low cost.**

9.6.2 Implications for Insurance Companies: The study listed some of the implications for insurance companies in India as:

- The public sector insurance companies should restructure or reorganize their health insurance business as the results shown decrease in their efficiency and productivity for the period under consideration. Moreover, due to fast increasing competition their position is gradually taken over by the private sector general insurance companies. So, in order to stay in health insurance business they have
to comply with the strategies adopted by private insurers and for this they need to reorganize their health insurance business.

- No doubt, the private sector companies are operating at increasing return to scale and also taking the advantages of pure technical efficiency and scale efficiency, which signifies that there is scope of much more improvement in this sector, but gradually due to market forces the increasing return will not applicable forever i.e. as the new entrant will come this increasing return will vanish. Accordingly, the private sector general insurance companies should try to focus not only on health insurance business rather on standalone health insurance business. Thereby, they can reap the fruit of master of health insurers in the insurance market.

- Both the public and private sector insurance companies should divert their focus from the extension of more numbers of health insurance plans towards the quality and worth of services provided under these plans both in terms of inclusion/coverage and exclusion/non coverage. Moreover, whenever introduction of new health insurance plans is made the requirement of the particular segment of the society should be taken care of, as the requirements differ from person to person and place to place.

- The study provided a scope for improvement for the public sector general insurance companies, by identifying the reasons for deterioration in their performance. As the main reasons of deterioration in their performance is that they are not taking the advantages of pure technical efficiency and scale efficiency. So they can overcome this by resolving the issue, which came into light with the help of study.

- Moreover, the study highlighted the factors which act as barrier and ultimately obstruct the subscription and extension of health insurance. Accordingly, the insurance companies can take remedies to overcome those barriers for the extension of health insurance business. Alternatively, the results of analysis provided that 19.8% are willing to buy only if certain conditions will fulfill. As far as the ranking of conditions of buying are concerned, 1 rank is assigned to “if comprehensive coverage provided with least cost” as its weighted average score is
3.36 is more as compared with all other conditions. Thereby, the study provided with a base for the extension of their health insurance business by fulfilling those conditions.

➢ The study also highlighted the factors which are considered by an individual while selecting or buying health insurance. Accordingly, the insurance companies whenever framing new health insurance products or modifying existing health insurance products should considered these factors from the perceptive of their clients.

9.6.3 Implications for IRDA: The study listed some of the implications for IRDA which is the main regulator of insurance business in India:

➢ The study provided that public sector insurance companies are gradually weakens their market share as regard health insurance is concerned, as their efficiency and productivity is declining gradually. Accordingly, IRDA should focus on this area, with the extension of some additional benefits for public sector insurance companies, so as to save them from the stiff competition provided by private players.

➢ Moreover, some companies in the general insurance business want to carry out health insurance business as stand-alone business. So the study provided a base to the IRDA for the grant of license to act as stand-alone health insurer to those general insurance companies, who are more efficient and productive in this area and also has further scope to enhance productivity.

➢ The study provided the parameters where deviations exist between role defined by the IRDA and role in practice played by the TPAs. So IRDA can attempt to amend current regulations so that sources of malpractice could be stemmed and parameters of deviations between role defined and role played could be removed. Beside this, the study provided a framework to IRDA which focused upon the more stringent procedure, with external expertise to evaluate the various aspects of TPAs’ as well as insurance companies’ functioning. The appointment of
external auditors by IRDA will certainly place check on various insurance companies and TPAs with regard to health insurance.

- The study highlighted the factors which act as barrier and ultimately obstruct the subscription and extension of health insurance. Beside this, also highlighted the factors which are considered by an individual while selecting or buying health insurance. Accordingly, the IRDA should frame and implement norms with due consideration to all these factors.

9.7 Limitations of the Study

Research being never ending process makes ground for further researchers. Obviously, all studies and researchers have their own limitations and this study is no exception as such despite its theoretical and practical relevance the study does suffer from limitations. These limitations are as:

- The study is confined to some selected general insurance companies in India, while the inclusion of other may differentiate and would provide more appropriate results.

- Though utmost care has been taken while selecting the variables of inputs and outputs for performance evaluation, still the inclusion of some other variables might influence the results.

- The approach of the study in relation Community Health Insurance (CHI) is narrow, as it is just based on the availability of information on certain variables with respect to these. Alternatively, the inclusion of other variables explaining and affecting their working and performance can be considered for better generalization of findings.

- The study is also based on primary data collected with the help of predesigned questionnaire suffer from basic limitation of lack of honest and true response. Moreover, the primary data is collected only from the major cities of Punjab. Hence, the study suffers from regional bias and results derived from primary survey may not be applicable to other part of the country.

- Further, an increased sample size and multi-city sampling can be considered for further research for better generalization of findings.
9.8 Scope of Further Research

Further research can be carried out to cover the following areas:

- Comparative study of general insurance companies and life insurance companies with respect to health insurance.
- Perception of insurers regarding health insurance products and services.
- Perception of Third Party Administrators regarding health insurance.
- To analyze the perception of customers towards health insurance in the rural sector.