Chapter VII

Findings, Conclusion & Recommendations

7.1. Introduction

The present chapter has summarised major findings on financial management practices followed by selected private sector life insurers in India. Based on findings, meaningful recommendations have been given for the stakeholders. The chapter has also presented summative statements, conclusion and SWOT analysis of companies, followed by practical implications and future scope for the study.

Evolution & Growth of private sector life insurance companies in India

Since 1818, life insurance industry has crossed many milestones. Life insurance industry has made substantial impact on growth of Indian economy. The journey of life insurance industry in India can be divided in three phases i.e., Pre-Nationalization Phase (Before 1956), Post Nationalisation Phase (1956 to 2000), and Post Liberalization Phase (2000 Onwards). Private life insurance sector has evolved from the year 2000, since then total life insurance business have been significantly grown up. The share of private sector in life insurance industry has grown to 30%. During the study period, industry witnessed growth in premium to the extent of 9 times. The number of branches and offices has also increased significantly. Private life insurance industry has grown in every aspects of operation which are summarised as under.

Table 7.1. Summary of Growth in Private Sector Life Insurance Industry

Sr. No	Particulars	2007-08 (In Lakhs)	2016-17 (In Lakhs)	Average (In Lakhs)	CAGR In %
1	No of Policies (Nos.)	239.70	377.53	376.07	6.31
2	First Year Premium (₹)	33,71,595	50,61,937	36,44,060	10.05
3	Renewal Premium (₹)	17,84,547	67,36,988	46,60,509	22.54
4	Commission (₹)	5,11,248	5,48,366	4,90,430	5.87
5	Operating Expenses (₹)	11,99,741	17,18,682	15,24,204	10.21
6	Benefits Paid (₹)	5,13,604	68,22,311	40,37,300	39.59
7	Income from Investment (₹)	6,60,252	48,21,417	26,61,266	34.55
8	Surplus (₹)	45,463	5,34,970	3,81,619	38.93
9	Assets Under Management (₹)	87,56,672	8,48,75,757	3,54,61,700	28.71

Private life insurance sector has observed two digits of CAGR in almost all major parameters of industry during the year 2007-08 to 2016-17. First year premium of private life insurance companies increased at a CAGR of 10% to reach Rs. 50,61,937 lakhs in the year 2016-17. On the other hand, renewal premium of industry has increased at a CAGR of 22.54% to reach Rs. 67,36,988 lakhs in the year 2016-17. However, substantial increase has been observed in income from investment, benefits paid, surplus and assets under management at CAGR of 34.55%, 39.59%, 38.93% and 28.71% respectively.

7.2. Findings

The primary objective of the research study is to analyse financial management practices of selected private life insurance companies in India. In order to attain the objective, a detailed study has been carried out as regards their operating efficiency, financial soundness, assets under management and risk management separately.

In following paragraphs, an attempt has been made to summarise major findings in respect of each of the above area of analysis.

7.2.1. Operating Efficiency

Analysis of operating efficiency is essential to understand financial management practices. It is the major contributor in financial performance of life insurance business. The present study has analysed growth of major parameters of business operation and operating efficiency, covering two sub-objectives of the study.

Objective 1: To analyse and evaluate overall growth of the business.

Overall growth of the business has been measured based on parameters such as New Business Premium, Renewal Premium, Expense of Management, Benefits Paid, Income from Investment, and Surplus/Deficit.

7.2.1.1 New Business Premium

Life Insurance companies have enhanced their business year on year in the form of new business premium. All selected companies have recorded increase in their premium income. However, due to regulatory changes and reforms in the private sector, fluctuations have been observed in premium income. SBI and ICICI have reported higher average collection of new business premium Rs. 6,43,691 lakhs and Rs. 6,20,131 lakhs respectively. HDFC has witnessed the highest CAGR of about 18%. Overall, selected eight companies have captured more than 80% of market share in private sector life insurance business with regards to new business premium.

Statistical observation

The result of Independent Samples Kruskal Wallis Test reveals a significant difference in new business premium among all selected companies. It also reveals that ICICI, SBI, HDFC and Bajaj have managed to enhance more premium as compared to that of other selected companies.

7.2.1.2 Renewal Premium

Maintaining the existing business is a very important task for life insurance companies along with increasing new business premiums.

ICICI has managed to maintain their business with highest average Rs. 9,81,270 lakhs. HDFC and SBI have managed to maintain their business successfully with the average Rs. 6,49,474 lakhs and Rs. 5,55,445 lakhs. Reliance has reported comparatively low average renewal premium. However, it has recorded highest CAGR of 44.97%.

Overall, selected eight companies have captured more than 81% of market share in private sector life insurance business with regards to renewal premium.

Statistical observation

The result of Independent Samples Kruskal Wallis Test reveals a significant difference in renewal premium among all selected companies. It also reveals that ICICI, SBI, HDFC and Bajaj have successfully maintained their business as compared to that of the other selected companies.

7.2.1.3 Expense of Management

Expense of management includes commission and operating expenses. None of the selected insurance companies have incurred expenses more than that of the limits prescribed by the IRDA. It has been observed that selected companies have increased their expense of management in proportion to their premium.

ICICI has experienced highest average management of expenses among selected companies with about 4% CAGR. Bajaj, Max, and HDFC have observed a relatively good amount of average management of expenses. However, Bajaj has reported negative growth in commission and operating expenses by -17.03% CAGR and -0.16% CAGR, respectively. Max has accelerated their commission expenses with about 15% CAGR and SBI has accelerated their operating expense with about 17% CAGR. Overall, selected companies have captured about 79% of market share in terms of commission and 70% of market share in terms of operating expenses in private sector life insurance business.

Statistical observation

The result of Independent Samples Kruskal Wallis Test reveals a significant difference in management of expenses among all selected companies. It also reveals that ICICI, SBI, HDFC and Bajaj have experienced higher amount of management of expenses as compared to that of the other selected companies.

7.2.1.4 Benefits Paid

Benefits paid means settlement of claims. During the period of study, a greater number of claims have been settled by all selected companies. ICICI has settled highest claims during the period under consideration and it has been confirmed with the average amount of Rs. 9,54,576 lakhs. Bajaj, SBI and HDFC have observed with average benefits paid of Rs. 5,18,972, Rs. 5,15,054, and Rs. 4,30,457 respectively. SBI has witnessed highest CAGR 52.20% during the study period.

Overall, selected companies have captured on average 85% market share in private sector life insurance business.

Statistical observation

The result of Independent Samples Kruskal Wallis Test reveals a significant difference in benefits paid among all selected companies. It also reveals that ICICI has settled a large number of claims and shown a significant difference with Max and Kotak. There is no other significant difference found between rest of the selected companies.

7.2.1.5 Income from Investment

In order to protect interest of policyholders, IRDA regulates investment policies of insurance companies. Income from investment is directly or indirectly related with market. All selected companies have increased their income from investment during the study period with fluctuations due to market situation. ICICI witnessed highest amount of average income from investment with Rs. 5,85,163 lakhs. SBI, Max and HDFC have accelerated their income from investment with 44% CAGR. Overall, selected private players have captured on an average 82% of market in terms of income from investment in private sector life insurance business.

Statistical observation

The result of Independent Samples Kruskal Wallis Test reveals a significant difference in income from investment among all selected companies. It also reveals that ICICI has managed to increase higher amount of income from investment. It has recorded a significant difference with that of Kotak, Reliance and Max. These three companies have observed significantly lower income from investments.

7.2.1.6 Surplus/Deficit

A surplus or deficit is the outcome of life insurance business operation. Almost all selected companies have reported deficit during the initial years of the study period. Thereafter, significant growth has been observed in all selected companies. ICICI has managed to enhance a large amount of average surplus of Rs. 1,00,629 lakhs with 22.95% CAGR during the period under consideration. On the other hand, a massive acceleration in Max with 83.31% CAGR and HDFC with 75.65% CAGR have been observed in respect of surplus.

Overall, selected companies have contributed about 1.3 times contribution in private sector life insurance business in respect of surplus.

Statistical observation

The result of Independent Samples Kruskal Wallis Test reveals a significant difference in surplus/deficit among all selected companies. It also reveals that ICICI has managed to enhance higher amount of surplus. It has created a significant difference with Kotak, and Reliance. These two companies have observed significantly lower amount of surplus comparatively.

Objective 2: To analyse relative operational efficiency.

In life insurance business, the ascertainment of profit is based on large numbers of estimation. Besides, it is the contract for more than 20 to 30 years. It is difficult to create present financial picture based on future estimation. Hence, it is advisable to concentrate on business in terms of maximization of premium income. The present objective focus on relative operational efficiency with regards to increase premium income. To justify present objective, DEA’s output-oriented CRS model and VRS model have been applied. DEA analysis provides evidence for improvement in operational efficiency under the period consideration.

Overall Technical Efficiency

Overall technical efficiency under CRS reflects technological change and adoption of new technology. With respect to average overall technical efficiency, of the eight selected companies 25% achieved 90% (0.9000) or more technical efficiency score. However, only 13% of companies from all 23 private companies acquired 90% (0.900) or more technical efficiency score. SBI has consistently maintained overall technical efficiency throughout the study period. However, Bajaj has exhibited an upward trend in the efficiency score during the study.

It is worthwhile to note that seven out of eight selected companies have operated with more than 50% (0.5000) overall technical efficiency. Reliance has reported average efficiency score less than 50% indicating lag in terms of adoption of new technology as compared to other selected companies.

Pure Technical Efficiency

As regards average pure technical efficiency, of the selected companies 25% achieved 90% (0.9000) or more technical efficiency score. However, only 17% of companies from all private companies acquired 90% (0.900) or more technical efficiency score. SBI and ICICI have successfully maintained pure technical efficiency throughout the study period. It is worthwhile to note that all selected companies have operated with more than 50% (0.5000) of average pure technical efficiency during the period of study.

Scale Efficiency

As regards average scale efficiency, 63% of companies from selected acquired 90% (0.9000) or more efficiency score. However, only 52% of companies from all private companies acquired 90% (0.900) or more scale efficiency score. SBI witnessed scale efficient by scoring 1 throughout the study period and lies on an efficient frontier curve. However, with respect to average scale efficiency, HDFC, Max, ICICI and Kotak scored more than 90% (0.9000). It is worthwhile to note that all selected companies have operated more than 71% (0.710) of average scale efficiency.

Selected companies have gradually increased use of technology in business operation. The performance of selected companies is more effective in terms of operating efficiency. Although, there is a scope for improvement in both technical efficiency as well as in scale efficiency.

Returns to Scale

During the first four years of the study, majority of selected companies have operated at CRS. By contrast, in remaining years, majority of selected companies have operated at DRS. Increased size of the business may be the reason behind it.

SBI has successfully operated business at CRS throughout the study period. However, Kotak is the only company that has not operated at CRS throughout the study period.

Average Slack in Premium Output %

As regards overall technical efficiency, SBI is the only efficient company that has generated higher amount of output with consumption of lower amount of input. As compared to the efficiency level of SBI the rest of the companies have generated slack in output. ICICI has generated about 12%, HDFC has about 30%, Bajaj has about 68%, and Kotak and Birla have about 75% average output slack for the period under consideration. At higher side, Max and Reliance have generated about 96% and 137% average output slack respectively during the study period.

As regards pure technical efficiency, SBI and ICICI are efficient companies that have consumed lower amount of inputs to generate higher amount of output. As compared to the efficiency level of SBI and ICICI the rest of the companies have generated slack in output. Bajaj has generated about 14%, HDFC has 25.84%, Birla has 54.88%, Kotak has 57.93% average output slack for the period under consideration. At higher side, Max and Reliance have generated about 91% average output slack during the study period.

Companies having slacks in output need to increase their premium output with maintaining same level of inputs i.e., management of expenses. Although, practical suggestions of maximizing premium income have been discussed in later part of this chapter.

7.2.2. Financial Soundness

Financial soundness is the outcome of prudent financial management. The present study has analysed the financial soundness of selected life insurers using financial soundness indicators in the form of CARAMEL framework and evaluated factors contributing to financial soundness covering following sub objective.

Objective 3: To identify and evaluate factors responsible for financial soundness.

The present objective has been achieved using CARAMEL framework to study financial soundness of the selected companies where in performance of companies have been analysed on the basis of capital adequacy, assets quality, reinsurance & actuarial issues, management soundness, earning and profitability and liquidity.

7.2.2.1 Capital Adequacy

Capital adequacy leads to increased risk bearing capacity of the company. It is considered as a buffer to protect insured and stimulate the financial soundness of the companies. There is no internationally accepted threshold for capital adequacy in insurance sector. IRDA regulations clarifies that Rs. 100 crores capital required for registration of insurers and maintenance of solvency margin of 150%. However, no specific regulations or criteria given by IRDA on capital Adequacy like in banking sector.

Capital adequacy of the selected companies are evaluated using capital to total assets ratio, capital to reserve ratio & solvency ratio.

As regards capital to total assets ratio, all selected companies have witnessed increase in capital to total assets ratio in the first three years of the study period. Later, assets base of most of the selected companies have been increasing over the period of time. It shows efficient utilisation of capital employed to create assets base.

During the period of the study, it has been observed that SBI, HDFC, ICICI and Kotak have less reliance on capital for their resources and for their liabilities. On the other hand, Max, Birla, Bajaj and Reliance have more than 10% of average ratio indicating relatively greater reliance on capital.

As regards Capital to Reserve ratio, almost all selected companies have observed significant downfall during the period of the study. It is worthwhile to note that ICICI and Bajaj have observed marginal decline in the given ratio from 159% to 136% and 114% to 102% respectively. Rest of the selected companies have declined their ratio significantly from four/five digits to three digits. All together average capital to reserve ratio of selected private companies gone down from 298.36% to 148.43% in ten years of the study period.

During the first three years of the study period, Companies have generated less amount of general reserve as compared to capital. Gradually all selected companies have increased their reserve during the period of the study. Year on year increase in reserve & surplus indicates fairly improving position of life insurance companies.

With respect to solvency ratio, life insurance companies have followed solvency margin criteria of 150% every year, although it has been measured quarterly. All selected companies have maintained healthy solvency margins with minimum variance. It is to be noted that Bajaj has shown high average solvency margin of more than 500% whereas rest of the companies have in the range of 200% to 400% average solvency margin.

Overall, in respect of capital adequacy, selected companies have maintained capital with increasing reserves & surplus and satisfactory maintenance of the solvency margin prescribed by IRDA.

7.2.2.2 Assets Quality

Asset quality is the most important criteria to determine overall financial soundness of insurance companies. It measures reliance on equity to build sound and quality assets portfolio of the company by calculating equities to total assets ratio.

All selected companies have reported downward trend in the equities to total assets ratio during the period of the study. The gradual decline in the ratio is the indicator of increased business year-on-year. As regards average equities to total assets, Bajaj has observed less reliance on equities by noting 0.50% ratio. All other selected companies have reported average equities to total assets ratio less than 13%. It is the indicator of healthy assets quality for life insurance business

7.2.2.3 Reinsurance and Actuarial Issues

Insurer can minimize their risk and maximize earning by prudent management of reinsurance and actuarial issues. Present study has used risk retention ratio and survival ratio with regards to reinsurance & actuarial issues.

The risk retention ratio reveals the overall underwriting policy of the insurer. It describes the extent of risk proportion passed onto the reinsurers. The outcomes of the ratio revealed that all the selected companies have the capacity to retain the risk. The life insurance sector is found to retain the major proportion of the risk and pass on a negligible proportion to reinsurers. In other words, the life insurers passed on to reinsurers only about 1 % of the total direct premium on an average.

As regards survival ratio, it reveals adequacy of technical reserves against net premium. All selected companies have enhanced their proportion of the reserves with increasing business in terms of net premium. Due to lower premium income, Bajaj and Reliance have observed higher average survival ratio 61.46% and 33.54% respectively. However, SBI and ICICI have observed consistent with 13.50% and 24.10% respectively. It is worthwhile to note that average industry ratio was 17.90% while average ratio of selected companies was 19.73%. The performance of selected companies with regard to reinsurance and actuarial issues is comparatively better than that of the industry.

7.2.2.4 Management Soundness

Management soundness signifies efficient operation of life insurance business, wherein premium and management of expenses play a vital role. First year premium to gross premium ratio and operating expense to gross premium ratio are considered as the indicator of management soundness.

First year premium to gross premium ratio reveals the efforts made by the companies in terms of new business. All the selected companies have reported average first year premium to gross premium ratio more than 35%. It can be said that selected companies have managed to earn an average 35% of gross premium in the form of first year premium on aggregate basis. SBI has a capacity to earn on an average 57.09% new business premium against the gross premium which is highest among the selected companies. During the period of study, HDFC, Kotak, Birla, Bajaj and Reliance have a capacity to earn on an average 40% to 50% of new business.

On the other hand, operating expense to gross premium revels required operating expense to generate premium income. All selected companies have expanded their business in terms of gross premium with optimum operating expenses over a period. SBI has successfully managed their business with low operating expenses comparatively by reporting average 8.61% during the study period. ICICI and HDFC have recorded near to average 15% whereas MAX, Kotak, Birla, Bajaj and Reliance have reported average ratio between 19% to 29% for the period under consideration.

7.2.2.5 Earnings and Profitability

‘Earnings & profitability’ evaluates the scope for earning to offset losses relative to capital or claims and asset portfolio. It highlights whether the company's profitability is effectively managed in terms of return on equity ratio and return on assets ratio.

Return on equity ratio reveals effective utilisation of equity capital to generate income for equity shareholders. All selected companies have managed to accelerate earnings in relation to equity. Bajaj has observed highest average ROE 499.49%, having low amount of capital base. Industry’s average ROE was 5.43%. All selected companies, except Birla and Reliance have observed ROE above industry average.

Overall, average ROE of selected companies has increased from -34.64% to 44.49% whereas average ROE of private sector increased from -38.89% to 20.47% during the study period.

ROA is an indicator of effective assets utilisation. It infuses the revenue in the business and helps to improve the financial efficiency of life insurance companies. All selected companies have increased their assets base in higher proportion during the study period. Industry average ROA has been noted -0.14% during the period under consideration. All selected companies except Reliance, Birla and HDFC have posted higher average ratio as compared to industry average.

Overall, companies under review have observed satisfactory performance of ROA in the last seven years. Average ROA of selected companies has increased from -3.54% to 0.94% whereas average ROA of private sector increased from -4.22% to 0.91% during the study period. It clearly indicates gradual increase in the return on assets ratio during the period under consideration. It reveals that companies have managed to utilise their assets effectively and generated profit.

7.2.2.6 Liquidity

A good liquidity helps an insurers to meet policyholder’s obligation promptly. It has been measured based on current assets to current liability.

This ratio indicates the ability of insurers in order to settle its current liabilities without prematurely selling long term investment or borrowing money. Industry's average ratio has been noted 0.91:1.00 for the ten years of the study period. In comparison with industry average all selected companies except SBI (1.53:1.00) and Birla (1.00:1.00) have reported lower average.

Overall, average liquidity of selected companies has increased from 0.73 to 1.17 times whereas average liquidity of private sector increased from 0.74 to 1.20 times during the study period. All companies are gradually improving safety margin to meet short term obligations.

Statistical observation

There are 11 attributes used in defining financial soundness under CARAMEL model. On the basis of objective and nature of data principal component analysis (PCA) has been used. There is no scope for reductions in dimensionality after applying PCA. Its value is statistically significant and Correlation matrix suits for the PCA. Kaiser-Meyer-Olkin (KMO) measures of sampling adequacy and Bartlett's test of sphericity confirms the same.

Based on correlation and percentage of variance four components have been extracted using PCA. These new four components are linear combinations of original eleven variables.

Component I comprise capital to total assets, operating expenses to gross premium and equities to total assets with component loading 28.88%. It has described as management of capital and expense of the company.

Component II includes survival ratio, solvency ratio, and ROE (net income to equity) with component loading 23.87%. It has recited as solvency and profitability of the company.

Component III incorporates only two variables i.e., first year premium to gross premiums and risk retention ratio with component loading 14.21%. It is related to new business and reinsurance.

Component IV consist of capital to technical reserves only with component loading 10.38%. It is narrated as contingencies.

All these four components together contribute 77% of variance indicating positive influence towards the financial soundness of the life insurers in India. However, ROA (net profit to total assets) and current assets to current liabilities influenced negative to financial soundness of the company.

Based on the correlation component matrix 9 out of 11 variables positively influenced the financial soundness in the following order. It is in decreasing order of importance.

No.	Variables	Extraction
1	Capital to Total Assets	.941
2	Operating Expenses to Gross Premium	.899
3	Survival Ratio	.890
4	Solvency Ratio	.853
5	ROE (Net Income to Equity)	.844
6	Equities to Total Assets	.811
7	First Year Premium to Gross Premiums	.754
8	Risk Retention Ratio (Net Premium to Gross Premium)	.746
9	Capital to Technical Reserves	.426

7.2.3. Assets Under Management

Assets under management (AUM) is a popular tool for measuring size and success of the business. The present study has analysed financial management practices with regards to investment pattern and yield on investment. The impact of financial management practices on shareholders wealth has also been assessed and evaluated considering AUM as a key factor. The present study has covered two sub-objectives of the study.

Objective 4: To Analyse and understand financial management practices as regards investment pattern and yield on investment.

Investment is the crucial part for the life insurance business, without proper handling it, companies cannot survive even. Insurers are not in position to pay off its huge policyholders' liabilities from their shareholders' fund and surplus only. However, shareholders' fund and surplus together contribute less than 10% to policyholders' liabilities. Companies need to plan for remaining 90% policyholders' liabilities. All the life insurance companies invest their funds in accordance with IRDA investment regulations issued time to time. Insurer shall invest and at all times keep invested assets equivalent to not less than the amount required to meet the liability of policyholders on account of matured claims.

As abide by the IRDA regulations, all selected companies have infused their life fund and pension & general annuity fund into government securities and approved investments. All companies have invested average more than 50% of the same in government or other approved securities.

IRDA is promoting the housing and infrastructural development by infusing 15% of life fund. All selected companies have instilled more than 15% of the same in to housing and infrastructural developments.

As regards linked fund, selected companies have infused more than 90% in approved investments.

Looking at the average yield on investments, almost all selected companies have reported about 7% to 8% with regard to life fund and pension & general annuity fund.

However, linked fund has posted average yield on investment between 7% to 11% in all selected companied for the period under consideration.

An identical pattern of investment has been observed in all selected companied during the study period.

Statistical observation

On the basis of sampling character, the present study has used One Way ANOVA for yield on life fund. Similarly, Kruskal Wallis Test is used for yield on pension & general annuity fund and yield on linked fund to compare more than two sample groups.

The statistical result confirms no significant difference in respect of yield on life fund, pension & general annuity fund and linked fund among all selected companies.

Similar investment pattern has been observed in all selected companies as prescribed by IRDA. All companies are abided by the stringent norms mandated by IRDA to protect the interest of policyholders.

Objective 5: To assess and evaluate the impact of financial management practices on shareholders' wealth.

In computing shareholders' wealth, assets under management has been considered as a key factor, which has been analysed in chapter V.

It is worthwhile to note that more than 30% of CAGR has been observed in all selected companies as regards life fund AUM. The absolute amount of AUM in the selected companies have increased from Rs. 14,372 crores to Rs. 1,55,499 crores during the period of the study.

The amount of average and CAGR shows overall growth in all selected companies with regards to AUM of pension and general annuity business. As regards growth in absolute amount of AUM, selected companies have increased the same from Rs. 3,045 crores to Rs. 50,302 crores and industry has increased from Rs. 3,518 crores to Rs. 63,754 crores during the period of the study.

It has been observed that large amount of investments after deducting administrative charges infused by the selected companies in linked funds as compared to life fund and pension & annuity fund. The absolute amount of AUM in the selected companies have increased from Rs. 58,288 crores to Rs. 4,72,422 crores during the period of the study.

On an average 75.60% market share captured by selected companies in Life fund AUM, 84.57% in pension and general annuity AUM and 84.18% in linked fund AUM.

All selected companies have managed more than 50% of their total business from ULIP. In all selected companies the proportion of linked fund is substantially higher than that of pension & annuity and life fund during the period of study. It indicates that all selected companies are operating their linked business on a large scale under the period consideration. It has also been observed that all selected companies except SBI have managed a negligible of business i.e., less than 7% from pension and annuity products.

Shareholders Wealth:

In order to address the limitations of existing available techniques to ascertain wealth of shareholders', the present study has devised a new formula to measure the wealth of shareholders in terms of per rupee investment in the company. This formula presents short term wealth created by the insurers every year for their shareholders.

Bajaj has created substantial average amount of Rs. 55.22 wealth per rupee of investment during the period under consideration.

SBI and ICICI have successfully created wealth about average Rs. 3 per rupee of investment whereas Kotak has created about average Rs. 2 per rupee of investment. SBI is the only company that has consistently increased the wealth of shareholders' year on year basis.

On the other hand, HDFC, Max, Reliance have created less than one rupee wealth on an average during the period of the study. Contrary, Birla has failed to create wealth during the period of the study.

Gradually selected companies have focused on their investment strategy, capital and operational structure and management ability. It has been reflected in the result of last two years of the study period. Almost all companies have created wealth more than a double per rupee invested in the last two years of the study period and it is expected to increase in future.

AUM as a multiple of share capital has been observed ×253.21 in Bajaj, ×54.91 in SBI, ×53.08 in ICICI, ×24.15 in HDFC, ×22.93 in Kotak, ×13.17 in Reliance, ×12.98 in Max, ×12.05 in Birla.

Impact of financial management practices on shareholders' wealth

Statistical observation

In life insurance business, financial management is measured in effective management of capital, MV of AUM, policyholders' liability, reserve & surplus, claims, Management of Expenses (MOE) and premium including first year single premium and renewal premium. The present study has made an attempt to find out the relationship of these variables on shareholders' wealth.

Correlation matrix

Pearson correlation matrix revealed that MV AUM (0.2767), Reserves & surplus (0.7733), and claims (0.259) have established a significant positive correlation on shareholders wealth whereas capital (-0.5515) has a negative significant correlation on shareholders wealth.

On the other hand, MOE (-0.0898), FYP (-0.0399) & RP (-0.0584) have established negative correlation and PHL (0.140) has established a positive correlation having no significant impact on shareholders' wealth.

Regression Analysis

The present study has used multiple linear regression as a predictive analysis to measure the relationship between a dependent variable and independent variables.

Final regression model from four alternative models has been established for seven selected companies and for the eight years with six independent variables such as capital, MVAUM, reserve & surplus, MOE, claims, and FYP.

Result of multiple linear regression has revealed that capital, MV AUM, and reserves & surplus have significant impact on shareholders' wealth. Further it has been observed that

1% additional capital is expected to result into a decrease in shareholders' wealth by Rs. -2.536.

Increase of 1% in MV AUM will lead to increase shareholders wealth by Rs. 1.734. Increased MV AUM in life insurance represents the investment efficiency of insurers, which is directly related to the wealth of shareholders.

1% increase in claim will lead to decrease in shareholders' wealth by Rs. -0.595. It signifies that if claims unexpectedly increase, shareholders' wealth will get affected negatively.

1% increase in reserves and surplus will lead to increase shareholders wealth by Rs. 0.781. Reserves and surplus have a direct relationship with the shareholders' wealth in case of life insurance companies.

As the value of management of expenses increases by 1%, the shareholders wealth is expected to increase by Rs. 0.654. The increase in management of expenses will tend to increase the business of insurance which has a direct and positive impact on shareholders' wealth. It will increase the capacity of insurer to identify and invest in profitable portfolios in order to increase wealth.

Negative coefficient in first year premium suggests that 1% increase in first year premium will lead to decrease in shareholders' wealth by Rs. -0.612. However, a sig. (p) value denotes that impact of first year premium is not statistically significant.

7.2.4. Risk Management

Risk management is a tool to identify potential losses, prioritize risks, and find appropriate solutions to mitigate or eradicate the risks. The present study highlights risk management concept in life insurance companies along with different risk management practices followed by the selected life insurance companies with respect to various risk exposures in the context of regulatory risk management prescriptions. The present study has covered one sub-objective of the study.

Objective 6: To Study risk management practices as regards various risk exposures in the context of regulatory risk management prescriptions.

In majority of selected life insurance companies risk management part is handled by the actuaries and risk management committee.

Significant synergy between the function of audit committee and the risk management committee has been observed.

The risk management committee and the audit committee work intently for internal control including risk register, risk prevention and risk mitigation strategy.

Selected companies have their own enterprise risk management framework with different strategies to avoid the risk using various techniques of risk avoidance, risk transfer, risk mitigation and risk acceptance.

HDFC has started separate Risk Monitoring and Controlling Unit (RMCU) to protect the interest of all stakeholders and to determine misconduct and fraud risks.

MAX has framed committee for the supervision of risk management activities named as Risk, Ethics and Assets Liability Management (REALM).

ICICI has established Board Risk Management Committee (BRMC), the Executive Risk Committee (ERC) and its supporting committees.

It has been observed that MAX and ICICI have used three lines of defence as Risk Management Framework.

Kotak has constituted Assets Liability Management Committee (ALM) and credit committee to identify and mitigate the risk in business.

Birla was the first insurance company in India to be certified against the BS25999 (British Standard Institution) standard and successfully got transitioned to ISO 22301(Globally Accepted Standard on Business Continuity) for support in innovation and provide solutions to global challenges.

SBI has been certified for Company’s Business Continuity Management System (BCMS) under ISO 22301 and Information Security Management System (ISMS) under ISO 27001 for smooth operation of business and mitigate the Information Technological and related risks. In the year 2015 Company won ‘Golden Peacock Award’ for Risk Management.

SBI is using Internal Capital Adequacy Assessment Process (ICAAP) document for Capital planning.

Bajaj has two major committee Risk Management Committee (RMC) and the Executive Risk Committee (ERC) for risk governance structure of the company.

Reliance has framed SAS based predictive analytical model for pro-active detection of fraudulent claims which contains regression analysis of 35 variables.

Reliance is to be rated ‘AAAefs’ by Brickworks rating, for the highest degree of Enterprise-wide Risk Management capabilities and financial strength to meet ongoing policyholder obligations. For Business continuity Reliance company has achieved - Business Continuity Management System (BCMS), ISO 22301:2012 certification and for information security management system (ISMS), ISO 27001:2013 certification.

Its Risk Management Framework is based on Committee of Sponsoring Organisations (COSO) ERM framework.

Selected companies have been exposed to various risks such as Operational Risk, Compliance/ Regulatory Risk, Strategy and Planning Risk, Insurance Risk, and Financial Risk/ Investment Risk (Market Risk, Liquidity Risk, Credit Risk, Assets Liabilities Mismatch Risk) which have been managed using ERM framework.

In the present study, four ratios namely conservation ratio, persistency ratio, claim ratio, and retention ratio have been analysed in respect of the selected life insurance companies for the period under consideration. These ratios are indicators of financial health and risk management practices.

All selected companies have observed average conservation ratio more than 60%. Max has reported highest average 80.60% average conservation ratio. HDFC, ICICI, Kotak, and SBI have observed average ratio between 70% to 80%. Birla, Bajaj and Reliance have observed average conservation ratio between 60% to 70%. However, conservation ratio is reported segment wise, and companies have strategic focus on selected segments in order to increase the revenue.

Selected companies have reported average 13-month persistency ratio more than 70% except in case of Bajaj and Reliance. Bajaj has reported 64.24% whereas Reliance has recorded 59.38% average persistency ratio of 13 months. All the selected companies have faced competition during the study period. However, companies have also gradually improved their service and product portfolios during the period of study. It is difficult to maintain a business with consistency over a period of time. Underwriters are constantly facing market risks. Claim ratio is directly related with underwriting risk. HDFC, Max, ICICI, Kotak, Birla and SBI have observed less than 60% average ratio. However, Max has reported lowest 26.11% average claim ratio. On the other hand, Bajaj and Reliance have reported more than 65% average claim ratio indicating high underwriting risk.

Selected companies have capacity to retain their business. Selected companies have retained about 99% of the business and only 1% of the business is passed on to reinsurers in respect of average total direct premium. It can be said that reinsurance risk is lower in all selected companies. Overall, all selected companies have been observed efficiently managing their risk with using different risk management framework.

7.3. Conclusion

Financial management is concerned with procurement, allocation and control of financial resources to maximize profit and wealth. Life insurance business is quite different in which production cycle is reversed, and payment is received before a service is provided. Life insurers procure funds mainly from the premium collection. Companies can maximize their profit by increasing their premium income. The present study has analysed relative operating efficiency to understand optimum use of resources in the business operation so as to increase premium income. It has been observed that private sector has attained maturity and have started operating in efficient manner by managing their claims and management of expenses. As a result, there has been a significant increase in premium income and investment income. Even the comparatively less efficient companies have successfully created surplus and are now gradually moving towards optimum performance level. As life insurance contracts are long term and unpredictable in nature, it is difficult to estimate its performance in terms of profit. Therefore, the present study emphasises that the companies should focus more on study of maximization of premium income by maintaining same level of inputs (MOE) rather than profit.

DEA is a tool that measures technical efficiency as well as reflects technological change and adoption of new technology whereas scale efficiency reflects whether the firm operates at the optimal scale. In this context the study revealed that new technological interventions, product innovation and customer satisfaction are prominent in private life insurance industry. All selected companies have scope for improvement in both technical efficiency as well as in scale efficiency.

After procuring funds insurers allocate it in operation, create surplus, make reserves and invest in the securities that results in maximization of shareholders' wealth. Life insurers invest their assets in life funds, pension and general annuity and linked fund. It has been found that selected companies have made investment in identical pattern. They are generating almost same rate of return from investment because of stringent regulatory norms of IRDA for the protection of policyholders. More allocation of funds has been observed in government and approved securities in line with IRDA prescriptions.

All the selected companies have made efforts to increase AUM in respect of life funds, pension & general annuity fund and linked fund. AUM is a powerful tool that recognises success of investment management, size of operation of the business and maximization of the wealth of shareholders. The present study has devised a new formula to measure the wealth of shareholders in terms of per rupee investment on the basis of AUM. All selected companies have created wealth more than double per rupee invested in the last two years of the study period and it is expected to increase in future. The study reveals that MV AUM, capital and reserves & surplus have significant impact on shareholders wealth.

In financial management, along with procurement and allocation of fund, exercise control over finances is also an important task. It is very pertinent to analyse financial soundness and risk management practices to control of financial resources.

With reference to financial soundness, evaluation of CARAMEL framework revealed that companies have successfully maintained solvency margin as prescribed by IRDA. All selected companies have managed to enhance their business by increasing asset base and reserves for future contingencies. Asset quality revealed less reliance on equities and more assets base. Selected companies have developed capability to handle the business risk and attain accuracy in underwriting business. During the period of study, all companies have successfully brought new business by managing their expenses. It has been observed that in last two years companies have improved their profitability and liquidity.

PCA is a statistical procedure that allows to reduce attributes. Using the procedure, four factors that are responsible for financial soundness of the selected companies have been identified. These four major contributing factors are managing capital & expenses, solvency & profitability, new business & reinsurance and contingencies. However, ROA (net profit to total assets) and liquidity ratio (current assets to current liabilities) have negatively influenced financial soundness of the company.

As regards risk management practices, each selected company has their own enterprise risk management framework with different strategies like risk avoidance, risk transfer, risk mitigation and risk acceptance to avoid risk. They have framed different committees for the same. Selected companies were commonly exposed to operational risk, regulatory risk, strategy and planning risk, insurance risk, and financial risk. Practice of risk management by selected companies have been assessed using conservation ratio, persistency ratio, claim ratio and retention ratio. With the help of analysis and interpretation of these ratios, it can be concluded that all selected companies have managed to sustain their business by handling their underwriting and actuarial risk.

7.4. SWOT Analysis Company wise

On the basis of analysis carried out by the present study a brief SWOT analysis has been framed to help the insurers in their strategic planning, decision making, and improvement in their business performance. It is pertinent to identify strength, weakness, opportunities and threat for prudent financial management practices.

HDFC Standard Life Insurance Co. Ltd

Strength

1. Healthy growth in new business premium
2. Technically sound
3. Skill development and workforce retention by increasing MOE
4. Large size of business in Life fund with regard to AUM
5. Business growth in pension & general annuity with respect to AUM
6. Strong brand backing of HDFC and Standard Life
7. Robust risk control framework
8. High conservation ratio

Weakness

1. Low penetration in rural area
2. Low Technical reserve and return on assets.
3. High operation expense

Opportunities

1. Potential to expand business with strategic initiatives
2. Potential to expand investment income by strategic fund allocation
3. Better opportunities in the growing rural market and semi-urban areas

Threats

1. Economic instability and global crisis
2. Potential entry of new competitors in the market e.g., NBFC and other private players
3. Dominance of public sector insurers in the market

Max Life Insurance Co. Ltd

Strength

1. Growth in new business premium
2. Large size of business in Life fund with regard to AUM
3. Customer retention by achieving higher conservation ratio

Weakness

1. Inadequate reserves and reflecting poor quality of assets
2. Relatively excess growth of commission as compared to the business growth
3. Low penetration in rural area
4. Small Size of business in case of pension & general annuity

Opportunities

1. Leverage technology for profitable growth
2. Potential to expand investment income by strategic fund allocation
3. Explore potential market for pension & general annuity business
4. Better opportunities in the growing rural market and semi-urban areas

Threats

1. Economic instability and global crisis
2. Potential entry of new competitors in the market e.g., NBFC and other private players
3. Dominance of public sector insurers in the market

ICICI Prudential Life Insurance Co. Ltd

Strength

1. Operationally efficient with good premium growth
2. Technological edge
3. Financially sound and efficient use of capital
4. Large size of life business and linked business in terms of AUM
5. Controlling underwriting risk persistently
6. Higher yield on diversified portfolio
7. High shareholders wealth per rupee of investment

Weakness

1. Low penetration in rural area
2. Small Size of business in case of pension & general annuity

Opportunities

1. Potential to expand business with strategic initiatives
2. Increase in income by minimizing MOE
3. Better opportunities in the growing rural market and semi-urban areas
4. Explore potential market for pension & general annuity business

Threats

1. Economic instability and global crisis
2. Potential entry of new competitors in the market e.g., NBFC and other private players
3. Dominance of public sector insurers in the market

Kotak Mahindra Old Mutual Life Insurance Limited

Strength

1. Effectively maintained solvency margin
2. Improving Earning and profitability
3. High shareholders' wealth per rupee of investment

Weakness

1. Low penetration in rural area
2. Relies more on reinsurers
3. Small amount of business regard to AUM of all funds
4. Sluggish growth in business operation
5. Slack in operating efficiency

Opportunities

1. Leverage technology for profitable growth
2. Potential to expand investment income by strategic fund allocation
3. Better opportunities in the growing rural market and semi-urban areas
4. Explore potential market for Life, pension & annuity, and linked business

Threats

1. Economic instability and global crisis
2. Potential entry of new competitors in the market e.g., NBFC and other private players
3. Dominance of public sector insurers in the market

Birla Sun Life Insurance Co. Ltd

Strength

1. Improvement in growth of new business premium
2. Effective control of MOE
3. High liquidity in business

Weakness

1. Relies more on reinsurers
2. Unable to increase or maintain the reserves
3. Unable to generate profit from existing resources
4. Negative shareholders wealth per rupee of investment
5. Small Size of business in life fund in respect of AUM
6. Low penetration in rural area

Opportunities

1. Leverage technology for profitable growth
2. Potential to expand investment income by strategic fund allocation
3. Better opportunities in the growing rural market and semi-urban areas
4. Explore potential market for Life business

Threats

1. Economic instability and global crisis
2. Potential entry of new competitors in the market e.g., NBFC and other private players
3. Dominance of public sector insurers in the market

SBI Life Insurance Co. Ltd

Strength

1. Industry best practices with constant returns to scale
2. Technologically efficient
3. Operational excellence with robust premium growth
4. Wholesome financial soundness with good liquidity
5. Management soundness by generating large new business with optimum use of resources
6. Robust risk control framework
7. Large investment of assets in pension & general annuity business in respect of AUM
8. High shareholders wealth per rupee of investment

Weakness

1. Low penetration in rural area

Opportunities

1. Use capital raised by FDI to expand the business in rural area
2. Growing rural market with bank assurance and better opportunities in the semi-urban areas with the help of largest network of SBI branches
3. Online marketing and brand placement

Threats

1. Economic instability and global crisis
2. Potential entry of new competitors in the market e.g., NBFC and other private players
3. Dominance of public sector insurers in the market

Bajaj Allianz Life Insurance Company Limited

Strength

1. High solvency margin & survival ratio
2. Healthy reserve base with low capital
3. Unique product design and strong support from parent company
4. Effective control of MOE
5. Effective utilisation of equity and assets to generate income for shareholders
6. Large size of business in Life fund with regard to AUM
7. Customer centric and claim initiator
8. Highest shareholders' wealth per rupee of investment

Weakness

1. Negative growth rate of new business premium
2. Low conservation ratio
3. Lack of persistency in renewal business
4. Low penetration in rural area
5. Small Size of business in case of pension & general annuity

Opportunities

1. Improve customer retention policies
2. Lucrative scope for expansion of business with infusion of fresh capital
3. Leverage technology & new product innovation
4. Better opportunities in the growing rural market and semi-urban areas

Threats

1. Conservative approach: Lack of aggression in business expansion
2. Economic instability and global crisis
3. Potential entry of new competitors in the market e.g., NBFC and other private players
4. Dominance of public sector insurers in the market

Reliance Life Insurance Company Limited

Strength

1. Customer centric business model
2. Good risk management framework
3. Retain the major proportion of the risk

Weakness

1. Sluggish growth in business operation
2. Slack in operating efficiency
3. Small amount of business regard to AUM of all funds
4. Negative earning and profitability
5. Low conservation of new business
6. Lack of persistency in renewal business
7. Week alliance

Opportunities

1. Leverage technology for profitable growth
2. Improve customer retention policies
3. highest degree of Enterprise-wide Risk Management capabilities and financial strength
4. New products & emerging market with growing prosperity
5. Explore potential market for Life, pension & annuity, and linked business

Threats

1. Economic instability and global crisis
2. Potential entry of new competitors in the market e.g., NBFC and other private players
3. Dominance of public sector insurers in the market

7.5. Recommendations

Based on findings and conclusion of the present study following recommendations are offered to insurers, policyholders, investors, regulators, and other users for better understanding of the financial management practices of private life insurance companies in India. The recommendations have been summarised as regards operating efficiency, financial soundness, assets under management and risk management separately.

7.5.1 Operating Efficiency

As revealed from Independent Sample Kruskal Wallis test, working pattern of selected companies with respect to premium income, surplus generation, income from investment, benefits paid, and management of expenses are not same. It has been observed that selected companies have operated with higher growth rate in management of expenses than that of new business premium. In order to increase profitability, insurers need to strictly adhere the rules and regulations framed by IRDA regarding management of expenses. Insurers can control their management of expenses by selling right policy to right policyholders. It will positively enforce the business of insurance companies.

As revealed from DEA analysis, selected companies need to increase their premium output with maintaining same level of inputs i.e., Commission and operating expenses. Selected companies have created average slack in premium was about 71% with regard to overall technical efficiency and about 56% with regard to pure technical efficiency. In order to improve operating efficiency, insurers need to improve penetration by developing attractive products that would lead to increase the premium income.

In order to maximize the premium, companies should focus on their plans (policies) and formulation of strategy. Following are certain factors by improving or focusing these, companies can maximize their premium.

<u>For short term perspective:</u>

Companies can provide top up plans to save commission expenses and maximize their premium.

Companies can offer innovative products with single premium and thereby save commission expense, increase premium, and investment capacity.

Companies may focus on limited premium endowment plans rather than term plans, which recovered commission in shorter period, maximize the premium and investment capacity.

<u>For long term perspective:</u>

Service quality, ease of claim settlement process will lead to expansion and retention of customer base.

Out of total insurable public in India, only 42% are insured and thus there are lucrative opportunities to increase the insurance business in India.

Companies should focus more on product innovation, technological innovation, and multiple channels of distribution. The distribution of a new insurance policy may increase with a pocket friendly premium.

All private companies have concentrated more on urban areas and given less focus on rural market. Tapping rural market with appropriate product profile and pricing may help in maximizing top line in the long run.

It is advisable to use a scientific tool like DEA to measure the operating efficiency in life insurance industry in India. It will help the insurers to set the realistic performance target in respect to inputs to be used for producing an output(s).

Best operational strategies adopted by efficient insurer(s) can be replicated by relatively less efficient insurers. This may eliminate or reduce destructive competitive practices within private sector insurance companies and lead to healthy competition. Overall, it will be helpful and productive for the industry as well as economy as a whole.

7.5.2 Financial Soundness

The financial soundness is the outcome of prudent financial management. An assessment of financial soundness takes into account all major quantitative factors related to financial position of the company to achieve an acceptable degree of reliability. Analysis of CARAMEL framework in selected companies revealed that companies can increase their solvency by restructuring their capital portfolio. Although, IRDA is working on risk-based capital adequacy and it is the need of the industry, which requires companies to underwrite business as per their capital strength.

Insurers should be more stringent towards regulation of MOE and control over their management expenses.

Insurers need to maintain required quantum of technical reserves to support unexpected claims and manage risk.

Insurer should increase their liquidity position by maintaining minimum working capital. A sound cash management strategy will help to resolve the liquidity issue.

In the line with capital infusion in the banking sector, policymakers and regulators will have to identify financial instruments which are in the nature of equity, to expand the capital base of life insurance companies. With the help of such expanded capital, life insurance companies will be able to expand their asset base in diversified manner.

The result of PCA reveals new four components with linear combinations of eleven variables which influence on financial soundness of the private life insurance companies in India. These four components are Managing Capital & Expenses, Solvency & Profitability, New Business & Reinsurance, and Contingencies. Companies need to focus more upon the above four components in order to improve financial soundness.

The extracted four components contain nine ratios. These nine ratios are Capital to Total Assets, Operating Expenses to Gross Premium, Survival Ratio, Solvency Ratio, ROE (Net Income to Equity), Equities to Total Assets, First Year Premium to Gross Premiums, Risk Retention Ratio (Net Premium to Gross Premium), and Capital to Technical Reserves. It influences financial soundness of private life insurance industry in decreasing order of importance. Therefore, companies that focus more on capital to total assets, operating expense to gross premium and survival ratio will be in a better position to improve their financial soundness.

7.5.3 Assets Under Management

AUM is the most important tool to measure investment efficiency and size of the life insurance business. Fund wise analysis of AUM revealed that large amount of assets have been instilled in linked fund to maintain liquidity in all selected companies. However, in order to increase the size of the business and profitability in real sense insurers need to increase their pension and general annuity business. This business provides an opportunity to hold and invest funds for long period of time, which may increase the revenue for the insurers. Insurers need to design innovative pension products for the policyholders.

As revealed from the test of significance, insurers generate almost similar returns on investment in line with the investment guidelines prescribed by IRDA. Insurers will have to explore the area of diversification for their investments. The Regulator (IRDA) needs to give relaxation in some specific funds to provide far-reaching choices in investment.

The present study has devised a new formula to measure the wealth of shareholders in terms of per rupee investment in the company. It will help the insurers to know short term wealth created by the insurers every year for their shareholders. This tool will make it easier for potential investors to know and estimate the business directed by the insurers.

On the other hand, insurers need to focus more on AUM, capital, and reserve & surplus to increase the shareholders wealth per rupee of investment.

The present study provides multiple linear regression model to measure the impact of financial management practices on wealth of shareholders. Companies by using the values of their Capital, MVAUM, Reserves & Surplus, Claim, MOE and first year premium of their own in these models, can get reasonably fair idea in advance about the wealth of shareholders per rupee of investment. This will provide the guidelines for improvement in financial management practices of private life insurance companies in India.

7.5.4 Risk Management

Risk management is a tool to identify potential losses, prioritize risks, and find appropriate solutions to mitigate or eradicate the risks. Actuaries and underwriters are in the root of life insurance business. Policy making, pricing decisions and maintenance of the existing customers are the key challenges of actuaries and underwriters.

In the present study, insurers revealed underwriters' risk and actuarial risk in maintaining the existing business as well as new business. Companies need to work on their customer retention policies.

Policymakers have to frame the policy in such a way that it will attract the customers for taking more life products and provide allied benefits to retain with the company.

Insurers need to control the amount of claim by prudent management of surrenders and withdrawal policies.

Insurers should concentrate on customer loyalty and post sales service to survive in the long run. It will retain the customers and decrease the underwriting and actuarial risk in the business.

Regulators need to upgrade risk management framework in line with bank risk management framework and solvency regime of European Union for strengthening risk management capability.

7.6. Future Scope for further study

Present study has analysed financial management practices with procurement, allocation and control of financial resources in selected private sector life insurance companies in India to maximize income and wealth considering limited study period of ten consecutive years from 2007-08 to 2016-17.

1. An in-depth study can be carried out to investigate productivity aspects, investment efficiency aspects, operational efficiency aspects separately.
2. As life insurance sector in India is preparing to embrace risk-based capital adequacy approach, an analytical study of existing capital structure and its impact on financial soundness of the company shall help devising appropriate capital structure strategies in future.

3. Based on formula of shareholders' wealth per rupee derived in present study, a unique predictive model for the business shall be framed with using different variables affected in life insurance sector in India.
4. A comparative evaluation of financial strategies adopted by parent companies with their Indian subsidiaries/associate company shall prove to be useful for managerial policy framing.
5. An analysis of segment wise financial performance of private sector vis a vis public sector companies shall prove to be helpful for strategic planning.
6. Impact study of Solvency II Model is adopted by European union: the same model can be studied in the context of life insurance companies for probable adoption in India.